9.4.1. Decisions of multinational corporations

A useful way of considering the impact of corporation taxes on flows of capital and profit is first to describe a simple approach to understanding the choices of multinational firms. The model described here is a simple extension of the basic model of horizontal expansion of multinational firms, drawing specifically on Horstman and Markusen (1992). Many extensions are examined by Markusen (2002), but it is not necessary to address them in any detail here.

To understand the effects of tax, it is useful to consider a simple example. Suppose a US company wants to enter the European market. It helps to think of four steps of decision-making. First, a company must make the discrete choice as to whether to enter the market by producing at home and exporting, or by producing abroad. To make this discrete choice, the company must assess the net post-tax income of each strategy. Exporting from the US to Europe will incur transport costs per unit of output transported. Producing in Europe will eliminate, or at least reduce, transport costs, but may incur additional fixed costs of setting up a facility there. The choice therefore depends on the scale of activity, and the size of the various costs. The scale of the activity would depend on the choices made in stages 2 to 4 below.

What is the role of corporation taxes in this decision? If production takes place in the US, then the net income generated would typically be taxed in the US. If production takes place in a European country, then the net income generated will generally be taxed by the government in that country. There may be a further tax charge on the repatriation of any income to the US. Taking all these taxes into account, the company would choose the higher post-tax profit. Conditional on a pre-tax income stream, the role of tax is captured by an average tax rate—essentially the proportion of the pre-tax income which is taken in tax.

If the company chooses to produce abroad, the second step faced by the company is where to locate production. The company must choose a specific location within Europe to produce, for example within the UK or Germany. This is a second discrete choice. The role of tax is similar to that in the first discrete choice, and can be measured by an average tax rate.

The third step represents the traditional investment model in the economics literature, and the one considered by the Meade Committee: conditional on a particular location—say the UK—the firm must choose the scale of its investment. This is a marginal decision. The company should invest up to the point at which the marginal product of capital equals the cost of capital. As such the impact of taxation should be measured by the influence of the tax

on the cost of capital—determined by a marginal tax rate. Under a flow-of-funds tax, such as proposed by the Meade Committee, this marginal tax rate is zero; the tax therefore does not affect this third step in decision-making.

In a slightly different model, this third step might play a more important role. Suppose that the multinational firm already has production plants in several locations. If it has unused capacity in existing plants, then it could choose where to generate new output amongst existing plants. The role of tax would again be at the margin, in that the company need not be choosing between alternative discrete options. However, note that this is a different framework: in effect, it implies that the firm has not already optimized investment in each plant up to the point at which the marginal product equalled the cost of capital.

The fourth step in the approach described here is the choice of the location of profit. Having generated taxable income, a company may have the opportunity to choose where it would like to locate the taxable income. Multinationals typically have at least some discretion over where taxable income is declared: profit can be located in a low tax rate jurisdiction in a number of ways. For example, lending by a subsidiary in a low-tax jurisdiction to a subsidiary in a high-tax jurisdiction generates a tax-deductible interest payment in the high-tax jurisdiction and additional taxable income in the low-tax jurisdiction. Hence taxable income is shifted between the two jurisdictions. The transfer price of intermediate goods sold by one subsidiary to the other may also be very difficult to determine, especially if the good is very specific to the firm. Manipulating this price also gives the multinational company an opportunity to ensure that profit is declared in the low-tax jurisdiction rather than the high-tax jurisdiction.

Of course, there are limits to the extent to which multinational companies can engage in such shifting of profit. (If there were no limit, then we should expect to observe all profit arising in a zero-rate tax haven, with no corporation tax collected elsewhere.) Indeed, companies can argue that complications over transfer prices may even work to their disadvantage: if the two tax authorities involved do not agree on a particular price, then it is possible that the same income may be subject to taxation in both jurisdictions.[7]

Broadly, one should expect the location of profit to be determined primarily by the statutory tax rate. It is plausible to suppose that companies take advantage of all tax allowances in any jurisdiction in which they operate.

[7] On the other hand, operating in jurisdictions with different rules regarding the measurement of revenues and deductions also provides multinational companies with scope to structure financial arrangements so that some revenues may not generate tax liability anywhere and some expenses may be deductible in more than one country.

Having done so, their advantage in being able to transfer a pound of profit from a high-tax jurisdiction to a low-tax one depends on differences in the statutory rate.[8] However, many of the complications of corporation tax regimes have been developed precisely to prevent excessive movement of profit; so there are many technical rules which are also important.

There is growing empirical evidence of the influence of taxation on each of the four steps outlined here. For example, Devereux and Griffith (1998) presented evidence that the discrete location decisions of US multinationals within Europe were affected by an effective average tax rate rather than an effective marginal tax rate. Similar evidence has been found by subsequent papers.[9] The estimated size of the effects of taxation on the allocation of capital across countries is typically much larger than the estimated size of the effect of taxation on the scale of investment in a given country.

There is also a large empirical literature that investigates the impact of tax on the location of taxable income. This literature has three broad approaches: a comparison of rates of profit amongst jurisdictions; an examination of the impact of taxes on financial policy, especially the choice of debt and the choice of repatriation of profit; and other indirect approaches have also been taken, including examining the choice of legal form, the pattern of intra-firm trade, and the impact of taxes on transfer prices. Much of the literature has found significant and large effects of tax on these business decisions.

The four-stage problem outlined above involves three different measures of an effective tax rate. The first two discrete choices depend on an effective average tax rate. The third stage depends on an effective marginal tax rate. And the fourth depends on the statutory tax rate. This makes the tax design problem complicated. It is possible to design a tax system which generates a zero effective marginal tax rate, and this is what the Meade Committee proposed. But this clearly does not ensure neutrality with respect to all of the four decisions outlined here. Eliminating tax from having any influence on these decisions could only be achieved if the effective marginal tax rate were zero and the effective average tax rate and the statutory tax rate were the same in all jurisdictions. This would clearly require a degree of international cooperation which is beyond reasonable expectation. However, while achieving complete neutrality with respect to the location of capital and profit would be beneficial from a global viewpoint, as noted above, this may not be true from the view point of any individual country.

[8] It may also depend on withholding taxes and the tax treatment of the parent company.

[9] Earlier papers used measures of average tax rates, but did not do so explicitly with the intention of testing the effect of tax on discrete choices; typically they were used as a proxy for effective marginal tax rates.

9.4.2. Tax competition

Tax competition can clearly result from a situation in which governments do not cooperate with each other. In that case, governments may seek to compete with each other over scarce resources.

The factor most commonly considered as a scarce resource in the academic literature is capital—the funds available for investment. In a small open economy, the post-tax rate of return available to investors is fixed on the world market. Any local tax cannot change the post-tax rate of return to investors, but must raise the required pre-tax rate of return in that country; this would generally be achieved by having lower capital located there. Strategic competition would be introduced in a situation where there were a relatively small number of countries involved in attempting to attract inward investment. In this case the outcome of such competition would depend on the degree to which capital is mobile across countries and the cost to the government of raising revenue from other sources. In line with the discussion above, such competition may be over average tax rates for discrete choices, over marginal tax rates for investment, and over statutory tax rates for the shifting of profits. Overall, governments may be competing over several different aspects of corporation taxes.[10]

Several empirical papers, largely in the political science literature, attempt to explain corporation tax rates with a variety of variables, including political variables, the size of the economy, how open it is, and the income tax rate. Some of these papers start from the premise of competition. However, we know of only two papers which attempt to test whether there is strategic international competition in corporation taxes.[11] These papers find empirical support for the hypothesis that tax rates in one country tend to depend on tax rates in other countries; there is support for the hypothesis that other countries follow the US, but also for more general forms of competition.

What role does competition play in the design of corporation taxes? Essentially it acts as a constraint. In a closed economy, in principle, a flow-of-funds tax could be levied at a statutory rate of 99% and still have no distorting effect on investment; the effective marginal tax rate—which affects investment in such a setting remains zero even with a very high tax rate.[12] However, in open economies, competition would almost certainly rule out a very high

[10] Haufler and Schjelderup (2000) and Devereux et al. (2008) analyse the case of simultaneous competition over the statutory rate and a marginal rate; there have been no studies attempting to model competition also over an average rate.

[11] Altshuler and Goodspeed (2002) and Devereux et al. (2008).

[12] This abstracts, of course, from other domestic activities that might be influenced by a high statutory tax rate, such as managerial effort or the diversion of corporate resources.

statutory rate, and might also constrain the choice of effective marginal and average tax rates. This might affect the design of the tax system. If there were a specific revenue requirement, and an upper limit on the statutory tax rate, for example, the revenue might be achieved only by broadening the tax base—which in turn implies increasing the marginal tax rate and hence distorting investment decisions. This creates a trade-off in competition for capital and competition for profit, although governments can in principle use the two tax instruments of the rate and base to compete for both simultaneously.

9.4.3. Debt versus equity

The Meade Report recognized the differing tax treatment of income accruing to owners of debt and equity as a source of economic distortion, and recommended alternative methods of taxing business returns—utilizing the R, $R + F$, and S bases as discussed earlier in the chapter—aimed at removing the influence of taxation from the debt–equity choice. Under each of these tax bases, the returns to marginal investment financed by debt and equity each would be taxed at an effective rate of zero, so in principle neither the investment decision nor the financial decision would be distorted.

In the years since the Meade Report, several developments have shaped consideration of how to reform the tax treatment of corporate debt and equity. First, empirical research has clarified the strength of the behavioural response of corporate financial decisions to taxation. Second, financial innovation has raised questions about the ability of tax authorities to distinguish debt from equity, highlighting the potential problems of tax systems seeking to distinguish between debt and equity. Indeed, as will be discussed, such problems might arise even under the Meade Report's reformed tax bases in spite of their apparently neutral treatment of debt and equity.

Taxation and the debt–equity decision

With a classical tax system that permits the deduction of interest payments but, until 2003, offered no offsetting tax benefits for the payment of dividends, the US has taxed equity and debt quite differently and therefore offers an opportunity to consider the behavioural response of corporate financial decisions. But uncovering corporate financial responses to this disparate treatment is not straightforward, given that the US corporate tax rate has changed relatively infrequently over time and that essentially all corporations face the same marginal tax rate on corporate income. The major identifying

rate on all capital income, while keeping a progressive labour income tax. If the dual income tax were imposed solely at the corporate level, then it would have exactly the same structure as the CBIT.

However, the original proposals differ in the tax rate which they envisage on capital income. Tying the CBIT rate to the highest rate of personal income tax has the advantage of minimizing distortions to organizational form: businesses would be indifferent to paying income tax or a CBIT corporation tax. However, a high tax rate is likely to discourage inward flows of capital and profit. By contrast, proponents of the dual income tax point to the need to encourage inward international capital flows as a reason for keeping a low tax rate on capital income. In a pure version of the system, the corporate income tax rate is matched to the lowest marginal personal income tax rate so that only labour income above a certain level is taxed at a higher rate. That, though, raises the problem of distortions to organizational form: an owner-manager would rather take his return in the form of capital income than labour income.[27] (Although this problem is not unique to the dual income tax; it applies whenever capital income and labour income are taxed at different rates.)

A further difference from the CBIT is an important distinction in implementation. Instead of levying a single tax rate on all corporate income, dual income taxes tend to give relief for interest paid at the corporate level, as with a conventional corporation tax, and instead tax it at the personal level, possibly using a withholding tax, typically set at a lower rate for non-residents. However, this means that interest paid to non-residents is typically taxed at a lower rate than interest paid to residents. That reintroduces a distinction between debt and equity which is avoided under the CBIT.

9.6.2. Residence-based taxation

In general, identifying a residence country is more straightforward than identifying a source country. However, unfortunately this does not imply that residence-based taxes would be more straightforward to administer. There are two possible forms of residence: the residence of the ultimate individual shareholder, and the residence of the legal corporation. We discuss these in turn.

[27] To prevent such income shifting, Norway has introduced a personal residence-based tax on that part of the taxpayer's realized income from shares which exceeds an imputed rate of interest. This is in principle neutral, since it exempts the normal return from tax. At the margin, the total corporate and personal tax burden on corporate equity income is close to the top marginal tax rate on labour income. See Sørensen (2005b).

Residence-based shareholder tax on accrued worldwide profit

Although the legal residence of some individuals may be open to debate, for the vast majority of individuals, their country of residence is easy to identify. Moreover, the vast majority of individuals remain relatively immobile. Levying a tax on corporate source income at the level of the individual shareholder therefore has important conceptual advantages. In particular, since the tax base would not depend on where capital or profit were located (i.e. where the source country is), then the location of capital and profit would not be distorted by this tax.

Moreover, the effective incidence of a residence-based tax can be expected to be quite different from that of a source-based tax. A tax levied on the residents of a small open-economy country will reduce the post-tax rate of return they earn on world markets: it will not affect the pre-tax rates of return. Hence the effective incidence of the tax would be on the investors. As discussed in Section 9.5, this is what underlies the economic argument favouring residence-based taxes over source-based taxes for small open economies.

Such a tax, in its pure form, is unworkable. Any individual country would be seeking to tax corporate income accruing to its residents from throughout the world; either the company or the shareholder would have to provide details of that income. The government would have no jurisdiction over companies which were otherwise unconnected with that country. The shareholder might own shares in a large number of companies worldwide: it would be extremely costly to collect and provide detailed information on all of them. For companies which the investor continued to hold, it would be necessary to identify the portion of the profit generated, and a tax return based on the home government's taxable income definitions would need to be drawn up. For companies which the investor had sold, it would be necessary to identify dividends and capital gains earned during the period in which shares were held.

There would also be a problem of liquidity: it might be necessary to sell part of the asset in order to meet the tax liability. Of course, some of these problems would be eased if the tax were levied only on income received from foreign investments: but that would be a very different tax, which could be avoided by not returning the income to the owners, but allowing the investment to accumulate abroad.

Of course, these problems exist only to the extent that UK residents have direct portfolio holdings of foreign securities. In the past, this would not have been of such great concern as international portfolio diversification lagged well behind what economists might have expected given its apparent

risk-pooling advantages. But international diversification has been growing, as illustrated above in Figure 9.7. This limits the attractiveness of residence-based shareholder taxation as an option for the future.

Residence-based corporation tax on accrued worldwide earnings

An alternative notion of residence is the residence of the company which is the ultimate owner of a multinational. Of course, a form of residence-based corporation tax is currently common: the UK and the US, for example, both seek to tax flows of foreign dividend income paid by foreign subsidiaries to parent companies. However, the notion of residence here is rather less clear-cut. To prevent tax avoidance, countries that seek to tax such income typically have rules to determine whether or not the company is resident for tax purposes; these rules are usually based on the notion of whether the multinational company is managed from that location.

The notion of residence-based corporation tax which we aim to discuss here, though, is one that taxes the worldwide earnings of the multinational as it accrues, rather than as it is repatriated to the parent company. As with a residence-based shareholder tax, taxing only repatriations may generate a strong incentive for the company to reinvest abroad, without returning retained earnings to the parent. Even when countries attempt to implement a tax on repatriations, they typically give credit for taxes paid abroad. There are various ways of giving such credit, but the net effect is that skilled tax managers can arrange the group's financial affairs to prevent significant liabilities to such home country tax.[28] Thus, application of the 'residence principle' to corporations, in practice, bears a strong resemblance to source-based taxation.

In principle, true residence-based corporate taxation, that is, a residence-based, accruals-based corporation tax, has one significant advantage. The home country tax authorities need only identify the worldwide taxable income of the multinational company. There would be no need to identify 'where' the profit was made; all that would matter would be the aggregate for the whole multinational. As a consequence—if all countries adopted such a tax—there would be no incentive for companies to shift profits between subsidiaries in different countries to reduce tax liabilities. Nor would the tax affect the location of capital investment.

However, there are also two significant problems with such a hypothetical corporation tax. The first is feasibility. In this respect, some of the

[28] The recent US experience of a temporary reduction in such taxes provides evidence that this is partly due to simply leaving the funds abroad.

problems of the residence-based shareholder tax are also relevant. A multinational company may have hundreds, or even thousands, of subsidiaries and branches around the world. Correctly identifying—and where necessary, checking—the taxable income in each of these locations would be challenging, even if ultimately the taxable income is consolidated into a single measure.[29]

Second, as discussed in Section 9.5, unlike shareholders, the ultimate holding company of a multinational company is, in principle, mobile. There have certainly been instances of holding companies moving location to take advantage of more favourable treatment elsewhere.[30] The rules mentioned above are relevant here: the original country of residence may not recognize that the holding company has actually moved unless its management and control has moved. But the mobility of the holding company raises a question of legitimacy. Suppose there is a holding company residing in the UK which earns profit throughout the world. Suppose also that the relevant economic activity does not take place in the UK, the shareholders do not live in the UK, and the consumers of the final products do not live in the UK. What right would the UK have to tax the worldwide profit of that company? It is hard to think of a convincing rationale. And in any case, if the UK attempted to impose a high tax rate then it seems very likely that the holding company would move to another location.

In short, while true residence-based taxation, at either the individual level or the corporate level, offers potential advantages, neither system is feasible to adopt. The partial approach currently practiced in the UK, which focuses on the corporate level and lies somewhere in between residence- and source-based taxation, lacks obvious advantages other than its feasibility.

9.6.3. Destination-based taxation

In our view, there are significant problems in attempting to tax corporate income on a source basis or a residence basis. Although the international tax system is intended to be based on a combination of source- and residence-based taxation, in many cases it is not clear what 'source-based' taxation is. What is clear is that the existing tax system creates considerable inefficiencies in the way it is implemented.

[29] Of course, such problems exist even under the current approach to residence-based taxation to the extent that foreign profits are taxed immediately (as is true in the US for foreign branches).

[30] See, for example, Desai and Hines (2002).

We therefore now turn to a more radical proposal: a destination-based tax.[31] The term 'destination-based' taxation is taken from the literature on indirect taxes, which has debated the merits of destination-based taxes, based on where the final consumer lives and purchases a good or service, compared to an origin-based (i.e. source-based) tax, based on where the good or service is created.[32]

Corporate cash flow tax

Given the difficulties in implementing taxes on a source or residence basis which are both feasible and non-distorting, it is worth considering whether a tax on corporate income could be levied on a destination basis. If that were possible then the tax would avoid distorting the location of capital and profit.

However, while it is clearly possible to identify final sales taking place in a country, those sales may be based on imported goods. The cost of producing those imported goods would have been borne elsewhere. A crucial issue is how costs can be set against income. Further, clearly a single plant in one country, say A, could supply final goods to a large number of other countries: how can the costs borne in A be allocated against income generated elsewhere? One option would be to take a simple formula: say to allocate costs to foreign countries in the same proportion as the value of final sales across those countries. This would effectively be a form of formula apportionment, as discussed above in the context of source-based taxes, where the formula was based only on final sales. This, and other possibilities, would require a significant degree of cooperation between tax authorities in identifying the size of costs and the value of goods sold in possibly a large number of other countries.

A more plausible alternative would be to organize the tax in the same way as a destination-based VAT. Indeed, value added as measured by VAT is equal to the sum of economic rent and labour income. In a closed economy, a VAT which also gave relief for labour costs would be equivalent to an R-based cash flow tax. All real costs, including labour costs, but not financial costs, would be deductible from the tax base. In an open economy, a destination-based VAT which also gave relief for labour costs would be a destination-based,

[31] This was first proposed as a form of corporation tax by Bond and Devereux (2002), who analyse the impact of the tax on location and investment decisions, although many of the business tax issues were analysed in the broader context of consumption taxation by Grubert and Newlon (1995, 1997).

[32] See Crawford, Keen, and Smith (Chapter 4) for related discussion in the context of VAT.

R-based, flow-of-funds tax. Since it would be equivalent to an R-based tax, it would not affect financial policy, nor would it affect the scale of investment. And since it would be levied on a destination-basis, it would not affect the location of capital or profit.

How would such a destination-based cash flow tax allocate costs between countries? It would relieve those costs in the exporting country in which they were incurred. Just as for VAT, an exporting company would not be taxed on its exports (although the import would be taxed in the destination country). Any VAT a company had already paid on intermediate goods would be refunded. A destination-based cash flow tax would need additionally to give a refund to reflect the cost of labour. A company which exported all its goods would therefore face a negative tax liability, reflecting tax relief for the cost of its labour.

On the face of it, this does not seem very feasible. Although countries would not be subsidizing exports (since the export price would be unaffected), they might face negative tax payments in the case where domestic costs (including labour costs) exceed domestic sales, for example for companies which predominantly export their output. Offsetting that, of course, is the fact that they would be taxing imports. The country's overall revenue position would therefore depend on the balance of trade in any given year. However, there are administrative ways of avoiding negative tax payments, if these are seen as problematic. One is to make offsetting adjustments to other taxes, for example payroll taxes withheld: instead of paying a rebate, the amount repayable could be set against the company's other tax liability. A second approach would be to enact the tax by increasing the rate of VAT: but since this would be a tax on labour income as well as economic rent, an offsetting reduction to taxes on labour income would be needed.

It should be clear that such a combination of taxes would not distort the location of capital or profit, while an origin-based tax, without border adjustments, would. It is worth noting, however, that the economic literature on VAT has identified conditions under which a destination-based VAT and an origin-based VAT would in other respects have exactly the same real effects. This raises the question of how similar origin-based and destination-based cash flow taxes would be with respect to other real decisions. Under certain conditions, these taxes would have similar incentive effects. These conditions include that there must be a single tax rate on all goods and no cross-border shopping or labour mobility between countries, conditions that are not met in practice.[33] Further, even if these conditions hold, the two taxes

[33] See, for example, Lockwood (2001).

also differ with respect to the wealth effects working through the impact on the owners of domestic and foreign assets.[34] We return to this difference below.

A destination-based cash flow tax would thus have desirable properties: the scale and location of investment, and the use of different forms of finance, would all be unaffected by the tax. There would also be no incentive to shift profits to low tax-rate jurisdictions, an advantage which applies even if the above conditions for equivalence hold. Offsetting this is the underlying need for the source country to give relief for the cost of labour, even if the final good is exported and hence not taxed in that jurisdiction.

A characteristic of the destination-based corporate cash flow tax is that it relinquishes the claim to domestic location-specific production rents. By imposing a tax based on destination, a country foregoes any attempt to tax rents that accrue to companies as a result of operating in its jurisdiction (source-based rents) as well as rents that might accrue as the result of residence. The corporate cash flow tax, like a VAT, is a tax on domestic consumption. (Since labour income is not taxed, it differs from VAT in being a tax on domestic consumption from non-labour income.) It therefore imposes no burden on the consumption of those abroad who benefit from local rents. On the other hand, it does impose a tax on the location-specific rents at home and abroad that accrue to domestic consumers. Thus, a country with considerable location-specific rents might lose by adopting a destination-based tax, but even in this case the loss might be offset by the advantages already discussed.

Potential problems with implementing this proposal arise in transition. As noted above, the distinction between old and new investment is a general problem in moving towards a tax based on economic rent, whether a flow-of-funds tax or an ACE. A related concern arises with the destination-based tax. That is, the transition could generate important valuation effects. Compared to a source-based tax, a destination-based tax alleviates tax on exports and imposes a tax on imports. With flexible exchange rates, such border adjustments should lead to a revaluation of the domestic currency, thereby creating positive windfalls for foreign owners of domestic assets and negative windfalls for domestic owners of foreign assets.[35] With fixed exchange rates or within a

[34] See Auerbach (1997), Bond and Devereux (2002).

[35] If the home country's international asset position is in balance, net windfalls will equal zero but the distributional effects will remain. These wealth effects are closely related to those already discussed that affect existing domestically owned domestic assets. To see this, note that the international accounts identity implies that the capital and current accounts balance. Thus, a deduction for exports and a tax on imports is equivalent to a tax deduction for foreign investment and a tax on gross investment income earned abroad plus a tax on inbound investment and a tax deduction

common currency area, such revaluations would still occur in the presence of fully flexible prices, through an increase in the relative domestic price level. The situation would become more complicated with fixed exchange rates and sticky prices, with the destination-based tax potentially providing an output stimulus via a reduction in the real exchange rate.

A further question is whether a destination-based flow-of-funds tax would be creditable against any tax levied by a capital-exporting country. Since a destination-based tax appears less similar to a conventional corporate profits tax than a source-based flow-of-funds tax, then arguably it is even less likely to be creditable. Suppose the UK introduced a destination-based flow-of-funds tax, but no other countries followed suit. A foreign-owned company which operated in the UK but which exported all its output would have no positive UK taxable income (and, indeed, would probably have a UK taxable loss). The UK tax regime itself would be neutral with respect to the location decision of the multinational; while source-based taxes in other countries would generate an advantage to the UK. But a residence-based tax in the residence country of the multinational might outweigh this advantage.[36]

It is also worth commenting on the likely overall revenue implications of implementing this tax. We have discussed above the likely costs of introducing an R-base on a conventional source basis. Compared to this, a destination-based tax would give relief for exports, but would tax imports. Over the long run, we might expect the balance of trade to balance: in this case, the revenue implications would be the same as for the source-based tax. Clearly, though, in the shorter run, revenues would be higher or lower depending on whether the trade balance was in deficit or surplus.

Taxing financial income

Like Meade's R-base flow-of-funds tax, a VAT-style destination-based flow-of-funds tax would not tax financial income. If only real flows were included in the tax base, then economic rent generated through an interest rate spread would be excluded.

However, Meade's R+F base does tax the economic rent generated on the interest rate spread.[37] As outlined in Section 9.2, the R+F base includes

for gross domestic earnings repatriated by foreign owners. Hence, border adjustments amount to the imposition of a positive cash flow tax on outbound investment and a negative cash flow tax on inbound investment, leading to taxes on existing domestically owned capital abroad and subsidies of existing foreign-owned domestic capital.

[36] It is even possible that the 'taxable loss' arising in the UK would become taxable in the residence country, further diminishing the benefit of the destination-based flow-of-funds tax.

[37] A 'generalized' version of the R+F base, along the lines of the ACE system, is analysed by Bond and Devereux (2003).

flows of debt finance in the tax base. Specifically, inflows of debt and interest receipts are taxed, while debt repayments and interest payments receive tax relief. In effect, this is therefore a tax on the net present value of net lending by the corporate sector. As such, it should in principle be neutral with respect to real and financial decisions.

It would be possible to introduce the R + F base on a destination-basis, in a similar way to introducing the R-base on a destination-basis. This would mean that only domestic transactions would be included in taxable income: border adjustments would apply to transactions with non-residents. For example, borrowing from a foreign bank would not generate taxable income; neither would its repayment be relieved from tax. Conversely, lending to a foreign company would also not generate tax relief, and the return from such lending would not be taxable. This mirrors the exemption of exports in that sales of goods to non-residents would also not be taxed. However, tax would be levied on the economic rent generated by domestic borrowing and lending by banks.

Introducing such a destination-based R + F tax raises three issues worth discussing.

First, there is again a similarity to VAT. In most countries, financial services are exempt VAT. Under the credit-invoice system, effectively a final tax is paid by banks on their inputs. No further charge is levied on transactions with the banks' customers. The resulting distortions have been the subject of a wide literature, including a literature on how VAT could be levied on financial services.[38] The most well-known proposals for doing so are effectively a destination-based R + F base, as described here, applied to financial companies: the main difference from that proposed here is simply that for a VAT, labour costs would not be deductible. Variants on the pure R + F base have been proposed which are very similar to the ACE: instead of an immediate tax on borrowing, the tax charge could be carried forward with an interest mark-up to offset against the eventual relief on the repayment with interest.[39]

Second, the R + F base requires the tax system to make a distinction between debt and equity. (Of course, the R-base requires a distinction between real and financial flows.) The distinction is much less important than under conventional corporation taxes, though, because only the economic

[38] See, for example, Hoffman, Poddar, and Whalley (1987), Merrill and Edwards (1996), and Poddar, and English (1997). De la Feria (2007) provides a description of the current state of play in the EU.

[39] This is the 'truncated cash-flow method with tax calculation account' of Poddar and English (1997).

rent arising from debt transactions would be taxed. However, as already discussed, there would be an incentive for a company to issue equity and debt to related parties and to make deductible payments to debt rather than non-deductible payments to equity. Care would also be required to impose appropriate tax treatment for hybrid instruments, such as equity which could be converted into debt. Issuing equity would not yield a tax charge (unlike issuing debt), but repaying the investment as debt, with interest, would receive tax relief. In this instance, the appropriate treatment of such a hybrid instrument would be that the act of conversion from equity to debt would be taxable.

The third issue concerns the UK in particular: currently the UK generates considerable revenue from corporation tax levied on the profits of resident financial companies. Part of this stems from the international activities of financial companies resident in the UK. A destination-based R + F base would raise revenue only on economic rent generated on lending within the UK. Introducing such a tax may therefore have a negative impact on UK taxable income.

Destination-based income taxation

Given the advantages of a destination-based corporate tax over a source-based tax, it is worth considering whether a similar approach might be taken in the context of an income-based tax, rather than a flow-of-funds tax. To rely on the previous analysis as much as possible, consider the conversion of a destination-based flow-of-funds tax into a destination-based income tax, accomplished by providing only a fractional deduction for the purchase of investment goods.[40] The company's tax base would be higher than under a pure flow-of-funds tax, as expected, but it would now also have an incentive to understate the prices of investment goods produced by a subsidiary, foreign or domestic, since it would get to deduct only part of the cost of the investment. It is unclear how big a problem this is. To the extent that most capital expenditures are at arm's length, then a destination-based approach to income taxation might be feasible, but, feasibility aside, it is not clear under what circumstances it would be desirable to impose an income tax on a destination basis. That is, one would need to consider why a country might wish to tax on a destination basis the capital income (as opposed simply to economic rent) associated with its domestic activities.

[40] This is the approach suggested in the domestic context by Auerbach and Jorgenson (1980).

9.7. CONCLUSIONS

This chapter has considered the design of taxes on corporate income. We began with the proposals of the Meade Committee (1978) for a flow-of-funds tax, and analysed how these proposals fare thirty years later, in the light of important developments in economies and economic thought.

We considered two principal dimensions in the choice of a tax on corporate income. The first dimension is the base of the tax. Here we compared a standard corporation tax, levied on the return to shareholders with two alternatives: a tax on economic rent, as proposed by the Meade Committee, and a tax on the return to all capital, such as under the comprehensive business income tax and the dual income tax. The second dimension is geographic: where should the income be taxed? Here we contrasted the typical approach of source-based taxation to the alternatives of residence and destination bases.

The 'optimal' tax system depends partly on why the tax is levied. If it is intended to be a substitute for taxing the capital income of domestic residents, then its form could be very different from that in which it is intended to capture the location-specific rent earned by non-residents. Given the increasing cross-ownership of shareholdings across countries, using a source-based tax on corporate income as a substitute for a residence-based tax on shareholders seems increasingly problematic. In open economies, much domestic economic activity is owned and controlled by non-residents; conversely, much of the accretion to wealth of residents takes place abroad. The argument for taxing source-based economic rent depends on the extent to which that rent is location-specific. At one extreme (equivalent to a closed economy) all rent is location-specific and can therefore be captured in tax without distorting investment. But at the other extreme, it is possible that little or no rent is location-specific: companies could earn equivalent profit by locating their activities elsewhere. In the latter case, a source-based tax on rent (such as proposed by the Meade Committee) could divert economic activity abroad, where it could face a lower tax rate.

One important aspect of the Meade proposals was to avoid a distinction in the tax system between debt and equity. Meade considered two proposals, each of which effectively eliminated the distinction. Avoiding this distinction has since become an even more important issue, as the boundaries between the two forms of financial instrument have become increasingly blurred. That consideration points to a tax which falls either on the whole return to investment, or only on economic rent. However, this is not straightforward either, since in either case the tax base still requires that distinctions be made either between real and financial income flows or between debt and equity. There

10

International Capital Taxation

*Rachel Griffith, James Hines, and Peter Birch Sørensen**

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EXECUTIVE SUMMARY

Globalization carries profound implications for tax systems, yet most tax systems, including that of the UK, still retain many features more suited to closed economies. The purpose of this chapter is to assess how tax policy should reflect the changing international economic environment. Institutional barriers to the movement of goods, services, capital, and (to a lesser extent) labour have fallen dramatically since the Meade Report (Meade, 1978) was published. So have the costs of moving both real activity and taxable profits between tax jurisdictions. These changes mean that capital and taxable profits in particular are more mobile between jurisdictions than they used to be. Our focus is on the taxation of capital and our main conclusions may be summarized as follows.

Income from capital may be taxed in the residence country of its owner, or it may be taxed in the source country where the income is earned. Ideally one would like to tax capital income on a residence basis at the individual investor level, exempting the normal return to saving as measured by the interest rate on risk-free assets that savers require to be willing to postpone consumption. Such a tax system would not distort people's behaviour as long as individuals did not change their country of residence in response, and as long as one could correctly identify the 'normal' rate of return. However, imputing corporate income and in particular the income from foreign corporations to individual domestic shareholders is widely seen as infeasible, given the large cross-border flows of investment.

An alternative might be to levy residence-based taxes on capital at the firm level, taxing firms on their worldwide income in the country where they are headquartered. But such taxes are complex and are likely to be rendered ineffective as companies would find it relatively straightforward to shift their headquarters abroad to avoid domestic taxation. For these reasons, and because they want to tax domestic-source income accruing to foreigners, governments rely mainly on the source principle in the taxation of business profits. Unfortunately source-based capital taxes also distort behaviour since they can be avoided by investing abroad rather than at home.

International cooperation could reduce these tax distortions, but extensive cooperative agreements are unlikely to materialize in the near future, for several reasons. First, national governments are jealously guarding their fiscal sovereignty vis-à-vis the OECD and the EU. Second, the analysis in this chapter suggests that the potential gains from international tax coordination are likely to be rather small and unevenly distributed across countries. Third, while it might be thought that the European Court of Justice could help to

ensure a more uniform taxation of cross-border investment in Europe, recent court rulings do not suggest that its practice will necessarily make EU tax systems less distortionary.

Against this background this chapter discusses what the UK could do on its own to make its tax system more efficient and robust in a globalizing world economy. As far as the taxation of business income is concerned, we argue for a source-based tax which exempts the normal return from tax. This can be implemented by allowing firms to deduct an imputed normal return to their equity, just as they are currently allowed to deduct the interest on their debts. The case for such an 'ACE' (Allowance for Corporate Equity) system is that, in the open UK economy, imposing a source-based tax on the normal return to capital tends to discourage domestic investment. This reduces the demand for domestic labour and land, thereby driving down wages and rents. Exempting the normal return to capital from tax would increase inbound investment, thus raising real wages and national income in the UK.

Our proposal for a source-based business income tax implies that UK multinational companies would no longer be liable to tax on their dividends from foreign subsidiaries. This would allow abolition of the system of foreign dividend tax credits for UK multinationals. It would also improve the ability of UK companies to compete in the international market for corporate control, since most OECD governments already exempt the foreign dividends of their multinationals from domestic tax. With an ACE to alleviate the double taxation of corporate income, the existing personal dividend tax credit should likewise be abolished to recoup some of the revenue lost. Dividend income would then be taxed at the personal level like other savings income.

Since one of the purposes of the personal income tax is to redistribute income, it should be levied on a residence basis to account for all of the taxpayer's worldwide income. In practice, a residence-based tax is not easy to enforce because of the difficulties of monitoring foreign source income. We argue that this problem may be reduced if Britain offers to share the revenue from the taxation of foreign source income with the governments of foreign source countries when they provide information to the UK tax authorities that helps to enforce UK tax rules. Nevertheless, in a world of high and growing capital mobility there is a limit to the amount of tax that can be levied without inducing investors to hide their wealth in foreign tax havens. In part because of the threat of capital flight, but for a number of other reasons as well, we argue that personal capital income should be taxed at a relatively low flat rate separate from the progressive tax schedule applied to labour income, along the lines of the Nordic dual income tax.

Our proposal for a UK dual income tax assumes that the UK government will wish to continue levying some personal tax on the normal return to capital. If policy makers prefer to move towards a consumption-based personal tax, the equivalent of such a system could be implemented by exempting the normal return to saving from tax at the personal level, just as the ACE allowance exempts the normal return at the corporate level. Specifically, a consumption-based personal tax system could be achieved by exempting interest income from personal tax, and by allowing shareholders to deduct an imputed normal return on the basis of their shares before imposing tax on dividends and capital gains. Exemption for interest income would reduce the problem of enforcing residence-based taxation. Owners of unincorporated firms would be allowed (but not obliged) to deduct an imputed return to their business equity from their taxable business income, in parallel to the ACE allowance granted to corporations. The residual business income would then be taxed as earned income.

10.1. INTRODUCTION

This chapter assesses the role of international considerations in tax design, emphasizing issues related to capital taxation. Globalization carries profound implications for tax systems, yet most tax systems, including that of the UK, continue to retain many features that reflect closed economy conceptions. The purpose of the chapter is to review the tax policy implications of economic openness, assessing how tax provisions may be tailored to reflect the changing international economic environment. The chapter also considers the role of international tax agreements.

Institutional barriers to the movement of goods, services, and factors of production, and the costs of moving both real activity and taxable 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, and cross-border flows of portfolio investment have increased substantially. These changes mean that both tax bases and factors of production are more mobile between jurisdictions. The political landscape has also changed. The extent to which national governments can unilaterally enact reform is constrained in a number of ways. As a member of the European Union, the UK is bound by the Treaty of Rome and the rulings of the European Court of Justice, and the large network of tax treaties fostered by the OECD also limits the extent to which individual countries can act

on their own. Moreover, since the publication of the Meade Report theoretical advances have deepened our understanding of the strategic interactions between governments in tax setting behaviour, and empirical work has helped to highlight which of these theoretical considerations are most important.

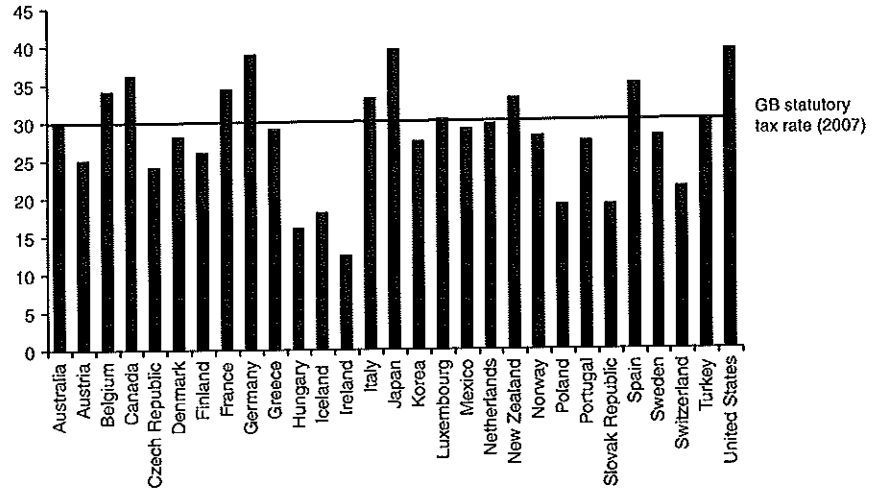
Our focus is on the taxation of capital, which is widely held to be the most mobile factor. We start in Section 10.2 by taking a quick look at the current UK system of capital income taxation, seen in international perspective. In Section 10.3 we summarize some fundamental distinctions and results in 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 tax policies. We also consider how these policies have evolved in recent decades. While Sections 10.2 and 10.3 pay much attention to international market pressures on capital income taxes, Section 10.4 surveys various forms of international tax cooperation that may also constrain UK tax policy in the future. Against this background, Sections 10.5 and 10.6 discuss how the UK system of capital income taxation could be reformed to make it more robust and efficient in an integrating world economy.

10.2. THE UK TAX SYSTEM IN INTERNATIONAL PERSPECTIVE

The UK is a relatively open economy. Trade flows and inward and outward investment are large and growing and multinational firms account for a substantial amount of economic activity. Around 25% of domestic employment is currently in multinationals, with foreign-owned multinationals making up almost half of that, and about 50% of the shares in UK-resident corporations are now owned by foreigners (see Griffith, Redding, and Simpson (2004) for further discussion of the importance of foreign firms in the UK).

In this section we focus on three aspects of the UK tax system that are particularly important from an international perspective—the level of the statutory corporate tax rate in the UK compared to that in other countries, the taxation of the foreign earnings of UK-resident corporations, and the taxation of income earned in the UK by foreign investors. We also consider the role played by the network of bilateral tax treaties that Britain has signed.[1]

[1] In the UK the most important form of taxation of capital is the corporate income tax system, and that is our main focus here. There are also other forms of capital taxation, which include business rates, and at the individual level the council tax (a tax on property), taxes on financial assets (including pensions), capital gains tax, and taxes on inheritance. These are covered in other chapters of this volume. Auerbach, Devereux, and Simpson, Chapter 9, provides a detailed description of the



Source: OECD Tax Database.

Figure 10.1. Statutory corporate income tax rates, 2006–07

10.2.1. Corporate tax rates

In line with trends in other major economies, 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 (Figures 10.1 and 10.2).

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 so well, see Figures 9.3, 9.4, and 9.5 in Chapter 9.

The use of intangible assets created through R&D is a main activity of many multinational enterprises. As an exception to the trend towards reduced reliance on special allowances, the UK introduced an R&D tax credit for large companies in April 2002 which allows a 125% deduction of R&D expenditure from taxable profits.[2]

UK tax treatment of corporate income, and recent reforms. In this section we focus on those aspects of the corporate income tax system that are particularly relevant from an international perspective. It is worth noting that the provisions covering the taxation of international capital income are extremely complex and it is not possible for us to address their full complexity here.

[2] 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.

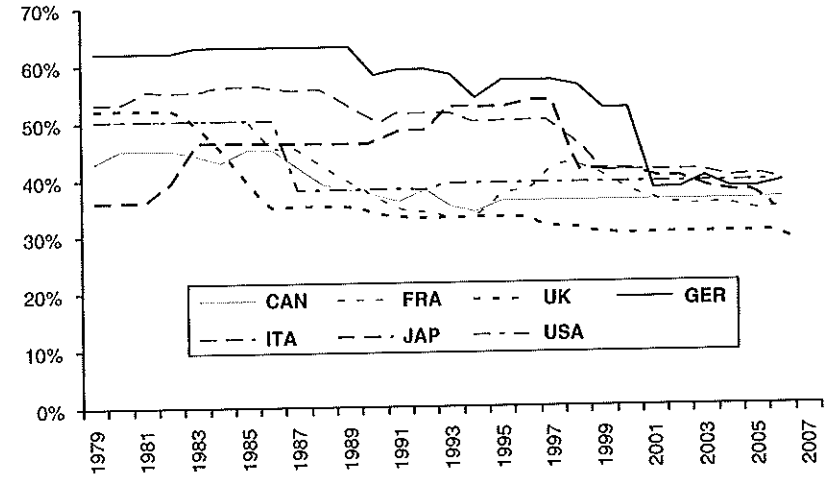


Figure 10.2. Statutory corporate income tax rates, G7 countries, 1979–2006

10.2.2. The tax treatment of foreign earnings of UK-resident corporations

The UK operates a worldwide system of corporate income taxation, which means that UK-incorporated companies are taxed on the total earnings from activities both in the UK and overseas. To avoid double taxation, UK companies are allowed to credit foreign taxes against their domestic tax liabilities. For example, if a UK firm has an investment in Ireland, it will pay corporate tax in Ireland at the Irish rate of 12.5%. When the profit is distributed as a dividend from the Irish subsidiary to its UK parent, the profit gross of the Irish tax is liable to UK corporation tax of 28%, but the UK gives a credit for the 12.5% paid in Ireland, so the tax bill due in the UK is 15.5%. The foreign tax credit is limited to the amount of liable UK tax on the foreign income, so if the foreign tax rate exceeds the UK rate, companies effectively pay the foreign tax on their foreign earnings.

Whereas the UK (along with the US and Japan) operates a credit system, most EU countries simply exempt dividends from foreign subsidiaries from the taxable income of domestic parent companies. Under an exemption system the foreign profits are thus only taxed in the foreign source country.

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. The CFC rules mean that the retained profits of subsidiaries that are located in countries where the corporation tax is less than three-quarters of the rate applicable in the UK can be apportioned back to the UK and taxed as income of the parent.

Income from foreign subsidiaries may also take the form of interest or royalties. Since these items are normally deductible expenses for the foreign subsidiary, they are subject to UK tax in the hands of the UK parent company, with a credit for any withholding taxes paid abroad.

The CFC regimes in most OECD countries distinguish between 'active' business income and 'passive' income from financial investments. Typically the CFC rules are only applied to passive investment income retained abroad. By contrast, the UK CFC regime is based on an 'all-or-nothing' approach, applying to all of the income ('active' as well as 'passive') of the foreign subsidiaries falling under the CFC rules. The UK rules are seen by many observers as being fairly strict. In June 2007 the UK Treasury published some ideas for a reform of the regime for taxing foreign income, in part spurred by a recent ruling by the European Court of Justice on the UK CFC rules. In Sections 10.4.7 and 10.5.4 we shall return to this issue.

10.2.3. The tax treatment of UK earnings of foreign investors

Like many other countries, Britain imposes tax on income earned by foreign investors on capital invested in the UK. The profits of UK branches and subsidiaries of foreign multinational companies are thus subject to the UK corporation tax, and interest, dividends, and royalties paid to non-residents may be subject to UK withholding tax. However, withholding tax rates are constrained by EU tax law and by bilateral tax treaties. In particular, as a consequence of the EU Parent-Subsidiary Directive and the Directive on Interest and Royalties, no withholding taxes are levied on dividends, interest, and royalties paid to direct investors (controlling a certain minimum of the shares in the UK company) residing in other EU countries. In general, withholding tax rates on foreign portfolio investors tend to be higher than those on direct investors, but bilateral tax treaties frequently reduce withholding taxes to very low levels, indeed often to zero.

The average level of UK withholding tax rates on non-residents have tended to vanish in recent years. This is in line with a general international trend, illustrating the difficulty of sustaining source-based taxes on the normal return to capital in a world of growing capital mobility; a theme to which we shall return.

10.2.4. Tax treaties and the allocation of taxing rights

The UK has one of the world's largest networks of bilateral tax treaties with its trading partners. The benchmark for the negotiation of tax treaties is the *OECD Model Tax Convention on Income and Capital* which provides guidelines for the allocation of the international tax base between source and residence countries with the purpose of avoiding international double taxation. Since tax treaties typically reduce withholding tax rates on cross-border income flows significantly below the levels prescribed by domestic tax laws, a country with a wide-ranging network of tax treaties tends to become more attractive as a location for international investment.

The potential for international double taxation arises because national governments assert their right to tax income earned within their borders as well as the worldwide income of their residents. An investor earning income from abroad may therefore face a tax claim both from the foreign source country and from the domestic residence country. As far as active business income is concerned, tax treaties modelled on the OECD Convention assign the prior taxing right to the source country. According to the Convention, the residence country should then relieve international double taxation either by offering a foreign tax credit or by exempting foreign income from domestic tax. Importantly, residence countries using the credit method usually only commit to granting a credit for 'genuine' income taxes paid abroad. For example, the US government has signalled that it is not prepared to offer a foreign tax credit for cash flow type taxes paid abroad by US multinationals. Such a restriction on foreign tax credits may seriously reduce the incentive for foreign companies to invest in a country adopting a cash flow tax, thereby reducing the value of that country's network of tax treaties. In practice, this may be an important constraint on the options for tax reform available to the UK government.

A major issue in the assignment of taxing rights is how to allocate the worldwide income of multinational firms among source countries. According to UNCTAD, about one-third of international trade takes place between related entities in multinational groups, and the pricing of these transactions will determine how the total profit of the group is divided between source countries. The OECD Model Tax Convention prescribes that multinationals should apply 'arm's length' prices in intra-firm trade, that is, the prices charged should correspond to those that would have been charged between unrelated entities. The Convention leaves it to the domestic tax laws of the contracting states to detail how arm's length prices should be calculated. A main problem is that arm's length prices are often unobservable,

since the specialized transactions within multinational groups frequently do not have a direct counterpart in the open market. For these situations the OECD has developed guidelines for setting transfer prices that will result in an 'appropriate' allocation of taxable profits between the related entities. However, these guidelines are often difficult to apply, and OECD member states do not always use identical formulae for calculating transfer prices. Moreover, when the tax authorities in one country have adjusted a transfer price that was deemed inappropriate, the authorities in the other country involved in the transaction do not always undertake an offsetting transfer price adjustment to ensure that profits do not get taxed twice, even though the OECD Model Tax Convention envisages such automatic adjustment, and the EU Arbitration Convention prescribes arbitration in the absence of agreement.

Because of the difficulties of defining arm's length prices, including appropriate arm's length royalty charges on intangible assets, multinationals will often have some scope for shifting profits from high-tax to low-tax countries by manipulating their transfer prices. At the same time the uncertainty whether tax administrators will accept a given transfer price adds to the investor risk of doing international business, and growing demands on multinationals to document how they calculate their transfer prices raise the costs of tax compliance. For these reasons transfer pricing problems are a major concern for taxpayers as well as tax administrators. The issue is particularly important for Britain as the home and host of so many multinational enterprises. Against this background Sections 10.5.5 and 10.5.6 will discuss some reform proposals involving reduced reliance on arm's length transfer pricing in the allocation of the international tax base.

10.3. THE EFFECTS OF CAPITAL TAXES IN AN OPEN ECONOMY: THEORY AND EVIDENCE

10.3.1. Some fundamental distinctions

What are taxes on capital and who pays them?

Capital taxes include taxes on (the return to) business assets as well as taxes on saving such as those falling on interest, dividends, and capital gains on the various assets held by households. Most tax systems, including that of the UK, make a distinction for tax purposes between capital held by individuals and capital held in the corporate sector. For example, in the UK property

that is owned by individuals is usually subject to council tax, while property that is owned by an incorporated firm is subject to Non-domestic (or Business) Rates.

A distinction to be made when considering any tax, which is particularly important when considering capital taxes, is between who the tax is *levied* on and who the tax is *incident* on. The incidence of all taxes ultimately falls on individuals in their capacity as capital owners, workers, and consumers. For a variety of reasons it may be preferable to levy the taxes at the corporate level (for example, it may be administratively cheaper to collect), but this does not tell us who ultimately pays the tax. For example, in the UK personal income taxes are generally collected from employers via the PAYE system, but we think of the incidence of this tax as falling on the workers, not the owners of the firm.

It turns out to be very difficult to identify which individuals capital taxes are incident on. Work dating back to the seminal paper by Harberger (1962) has tried to estimate the incidence of the different taxes. The idea developed by Harberger was that, in order to work out who bears the burden of a tax, we need to have an economic model that describes how the tax will affect factor and product prices, and how different individuals will respond to these changes in price.

Harberger showed that in a closed economy with both individually owned and corporate owned capital, a tax levied on corporate income is borne by all capital (both that owned by individuals and that owned by incorporated firms). This is because, in response to the tax capital migrates from the corporate sector to the non-corporate sector until the returns in the two sectors are equalized. Thus, the tax on corporate income does not fall on shareholders, but on all owners of capital.

This work was based on a number of assumptions that have since been relaxed in the literature. A recent paper by Auerbach (2005) provides an excellent summary of this literature. For our purposes here one of the key assumptions to be relaxed was that the economy was closed. The challenge that globalization and increased mobility poses for the UK tax system is that corporate income can arise in the UK that is derived from any combination of UK or foreign-resident individuals holding shares (or debt) in UK or foreign-resident firms that operate in the UK, abroad, or in a range of countries. In addition, tax changes in one location will lead individuals to move real and financial capital between locations and can affect where they report income from capital.

We return below to what the literature tells us about tax incidence, and thus optimal tax setting behaviour by governments, when we take these

considerations into account. But before we do so, it is useful to make a few more fundamental distinctions.

Source and residence based taxes

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.

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 compensate investors fully for the imposition of the source tax. Thus the incidence of a source-based capital tax falls entirely on the immobile domestic factors of production (land and labour). 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 capital income tax (based on the residence of the individual taxpayer) will reduce the after-tax return available to domestic savers, thereby discouraging savings, but will leave the before-tax returns unaffected. Since a residence-based tax has no impact on foreign-located investors it will not raise the cost of domestic investment finance, so domestic investment will be unaffected. This means that the incidence of the tax is on the owners of capital. With unchanged investment and lower domestic saving, net capital imports will have to increase.

Types of neutrality

One of the guiding principles of taxation is neutrality: a well-designed tax system should not distort decisions (except where intended to do so). When

we are confronted with the complexity of the global economy an important question becomes—what forms of neutrality are we most concerned about?

A pure source-based tax gives us *capital import neutrality* (CIN)—investment into the UK is treated the same for tax purposes regardless of the country of origin. CIN is achieved when foreign and domestic investors in a given country are taxed at the same effective rate and residence countries exempt foreign income from domestic tax.

A pure residence-based tax gives us *capital export neutrality* (CEN)—investments from the UK are treated the same for tax purposes regardless of the destination. While consistent residence-based taxation ensures CEN, this type of neutrality may also be attained even if source countries tax the income from inbound investment, provided residence countries offer a full credit for foreign taxes against the domestic tax bill.

So far we have treated the residence of the corporation and residence of the shareholder as synonymous. However, cross-border investment has increased dramatically over the past few decades, and in most OECD countries a large fraction of the domestic capital stock is now owned by foreign investors.

Ownership may have important implications for the assets (in particular intangible assets) that are used, and thus the productivity of firms. From this perspective it is important that the tax system satisfies Capital Ownership Neutrality (CON), that is, that it does not distort cross-country ownership patterns. As we explain in Section 10.5.1, CON can be achieved if *all* countries tax on the residence principle (i.e. tax worldwide income) and use the same tax base definition *or* if they *all* exempt foreign income from domestic tax.

In Section 10.5 we return to discuss the choice between alternative methods of international double tax relief and their implications for the various types of neutrality.

Normal returns and rents

Another fundamental distinction is the one between taxes on the *normal return* to capital and taxes on *rents*. Rents are 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, which will vary with the level of risk, and for equity it is the required market rate of return on stocks in the relevant risk class.

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). However, according to the traditional view a tax on pure rents will in principle be non-distortionary in a closed economy.

This view assumes that investors can vary the capital stock in a smooth and continuous manner. In such a setting taxes on infra-marginal profits, or rents, have no impact on investment levels. As long as there are positive profits to be earned, investors will continue to invest. Recent analysis, however, has considered the possibility of 'lumpy' investments where investors must either commit a large chunk of capital or none at all (Devereux and Griffith (1998, 2002)). In these models taxes on pure rents may affect both the composition and level of investment.

In an open economy a source-based tax on rents may also 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. It is therefore important to distinguish *firm-specific* or *mobile* from *location-specific* or *immobile* rents. A source-based tax is non-distortionary only if it falls on *location-specific* rents. Location-specific rents may be generated by the exploitation of natural resources, by the presence of an attractive infrastructure, or by agglomeration forces (see Baldwin and Krugman (2004)), whereas firm-specific rents may arise from the possession of a specific technology, product brand, or management know-how.

10.3.2. Optimal tax setting behaviour

One of the best-known results in the literature on optimal tax setting behaviour states that in the absence of location-specific rents, a government in a small open economy should not levy any source-based taxes on capital.[3] As already noted, a small open economy faces a 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

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

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.

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

First, if firms can earn location-specific rents 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, it may seem that the incentive for national governments to levy source-based capital taxes is strengthened, since they can export part of the domestic tax burden to foreigners whose votes do not count in the domestic political process (see Huizinga and Nielsen (1997)). Mintz (1994) and others have suggested that increases in foreign ownership may be an important reason why governments choose to maintain source-based capital income taxes.

A second point is that 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.

A third 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.

10.3.3. 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.[4] 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 10.5.1, the productivity of the assets used by multinational companies may depend on who owns them. If inter-jurisdictional tax differentials distort the pattern of ownership, they may therefore reduce 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)

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

all find evidence of significant tax-induced profit-shifting between the US 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 whether individual governments cut their own tax rate in response to tax-rate cuts abroad. Devereux, Lockwood, and Redoano (2002) 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, for example, 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.[5]

Tax exporting

As discussed above, a government seeking to maximize 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

[5] 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 Pinkse (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.

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 twenty-one 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 1% raises the average corporate tax rate by between a half and 1%. However, as this is the only study that we know of that reports this result, it remains to be seen how robust it is.

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.[6]

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 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

[6] 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).

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.

How can the buoyancy of corporate tax revenues be reconciled with the tendency for average effective corporate tax rates to fall? 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. The evidence presented by de Mooij and Nicodème (2006) suggests that part of the increase in the corporate share of total profits reflects tax-induced income-shifting from the non-corporate to the corporate sector.

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.

10.4. 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 section 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.

10.4.1. 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 focused 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 maximizing 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.[7]

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 minimize 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 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

[7] 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.

Section 10.3.2, 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 exactly to 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 rates. By contrast, if the incentive for tax exporting dominates, there is a case for an internationally coordinated cut in corporate tax rates.[8]

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

10.4.2. 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

[8] 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 (2004, section 3)). 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.

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 maximize 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-maximizing 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 and political preferences, tax coordination threatens to undermine the benefits that such choices may offer.

10.4.3. 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 maximization 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 maximize the population-weighted average social welfare for the EU, taking the policies of the rest of the world (mainly the US) 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% of GDP per annum. The gain would be somewhat higher for the Nordic countries and for the UK where the initial effective capital income tax rates are estimated to be relatively high,[9] whereas it would be smaller for continental Europe where initial effective capital income tax rates are low. The US would also gain some 0.1% of GDP

[9] This is based on the backward-looking effective tax rates of the type proposed by Mendoza et al. (1994). The relative tax rates for the UK and, say, Germany basically reflect the differences in revenue collected from corporate income taxes, rather than differences in the statutory tax rates, which as Figure 10.1 shows are higher in Germany than in the UK.

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 (2004b) 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 underprovision 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 harmonization of corporate tax bases and/or corporate tax rates in the EU-25. Owing 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 harmonization 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 10.1, the capital allowance rates and the statutory corporate tax rates are assumed to be fully harmonized across the EU-25, at levels corresponding to their GDP-weighted average values in the EU in 2004. In most countries corporate tax harmonization implies a change in total tax revenue. In Table 10.1 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 10.1 shows that complete harmonization 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%. 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% 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.

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 harmonized, 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 harmonization is therefore not sufficient to equalize the marginal productivity of different types of investment across the EU.

Although the aggregate effects of corporate tax harmonization are quite modest at the EU level, the effects on individual countries are often much larger and rather divergent, as indicated in Table 10.1. At the individual country level, the effects are driven mainly by the change in the overall level of

Table 10.1. Effects of harmonizing 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 harmonized at their GDP-weighted average levels in 2004. The harmonized corporate tax rate is 32.6%. Government budgets are balanced by adjusting income transfers.
Source: Brochner et al. (2006).

taxation implied by corporate tax harmonization. In rough terms, 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 harmonization. On the one hand, harmonization 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 harmonization creates losers as well as winners. As long as decisions on EU tax harmonization 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 harmonization, 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 harmonization can hardly be absorbed without a noticeable impact on the internal distribution of income and welfare within EU countries. Presumably, this makes tax harmonization 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 EU are likely to be rather modest, amounting perhaps to 0.1–0.4% 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 harmonization since they do not account for the reduction in compliance and administration costs that would follow from a harmonization of corporate tax rules across the EU. Moreover, the alternative harmonization scenarios considered by Brøchner et al. (2006) indicate that the overall gain from tax harmonization would be more evenly distributed across countries if changes in corporate tax revenues were offset by changes in labour income taxes, or if harmonization 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 harmonization 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 10.2 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 harmonization of corporate taxes, so full harmonization 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.

10.4.4. 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 thirty wealthiest countries that also offers guidance on economic policies, including fiscal affairs.

In 1998 the OECD 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 forty-seven 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, thirty-three 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,[10] but the vast majority of the world's tax

[10] These tax havens are Andorra, Liberia, Liechtenstein, the Marshall Islands, and Monaco.

havens rely on low tax rates and other favourable 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 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.

The type of tax coordination being considered here differs from that of the previous section. The main objective for many jurisdictions is to fight evasion and potential round tripping transactions. This has not been an issue of as much concern in the UK as in many continental European countries such as Germany, France, and Italy. In part this may be because the fairly strict CFC regime in the UK deals with this problem, or because the UK operates a credit system for taxing foreign source income, while the other countries operate exemption systems.

10.4.5. 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 gentlemen's 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.[11] 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) generalize 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 probable that a restriction on tax preferences granted to foreign investors reduces the intensity of tax competition and raises overall tax revenue.

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.

10.4.6. 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

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

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% for the first three years of operation of the system, 20% for the next three years, and 35% thereafter. The withholding tax must be deducted from interest payments by the payer (whether a bank or other entity), and 75% 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 US, 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% to be imposed after the first six years and the requirement that 75% 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 harmonization. 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 and Singapore 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 (Teather (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 avoid 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.

There are several other ways of avoiding the tax in addition to those mentioned above.

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 whose income was probably already sheltered from the effects of the tax (through trusts, foundations, companies, etc.). 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.

10.4.7. The European court of justice: implications for member state tax policies[12]

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 influence on the evolution of capital income taxation in the EU. Under the EU 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 EU 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

[12] This section draws heavily on Bond et al. (2006).

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 capitalization 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 capitalization 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 income of overseas subsidiaries located in low tax regime countries on a current basis, that is, without deferring tax until the foreign income is 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 12 September 2006, the ECJ concluded that the EU 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. Nevertheless, on the occasion of the so-called Franked Investment Income case brought before the ECJ, the Advocate General appointed by the Court expressed a non-binding Opinion in April 2006 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. However, the ruling on 12 December 2006 of the ECJ in this case indicates that the UK can apply different methods of double tax relief to dividends received from domestic and foreign subsidiaries, provided these different methods result in comparable tax charges. The case has been referred back to the UK High Court to decide whether or not this applies. The uncertainty regarding the compatibility of the current UK foreign tax credit system with EU law has prompted the UK government to consider possible reforms to the

taxation of foreign profits. One option for radical reform would be to replace the credit system with an exemption system. In Section 10.5.3 we discuss the arguments in favour of the latter system.

10.5. TAXING INTERNATIONAL INVESTMENT: SOME OPTIONS FOR REFORM

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 and how the worldwide profits of multinational enterprises can be allocated among the different source countries in a manner that avoids the transfer pricing problems described in Section 10.2.4.

This section of the chapter addresses these issues from a UK perspective, taking account on the international constraints on UK policy formation described in Section 10.4. We start by discussing the choice between alternative methods of international double tax relief and then proceed to discuss possible solutions to the transfer pricing problem.

10.5.1. International double tax relief: which form of tax neutrality is more desirable?

Section 10.3.1 explained the concepts of Capital Export Neutrality (CEN) and Capital Import Neutrality (CIN) in relation to the taxation of income from cross-border investments. If effective capital income tax rates were completely harmonized across countries, both CEN and CIN would prevail. When tax rates are not harmonized, 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 equalization 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 equalize the marginal productivities of capital across countries, as required for maximization of world income.[13]

[13] 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

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 maximize 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).[14] 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, and so on 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 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 may be attained if all countries in

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 Piekkola (1997).

[14] 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.

the world practise worldwide income taxation with unlimited foreign tax credits and if they all apply the same definition of the tax base. Under such a regime of worldwide income taxation multinationals will acquire the assets that maximize their pre-tax returns in the different countries, since this acquisition policy will also maximize 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, that is, by those companies that can utilize the assets most productively. However, the same result may be obtained if all residence countries *exempt* foreign income from domestic tax and if they apply the same rules regarding the deductibility of financing costs or writing-off of cross-border acquisitions. 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 point is that if global ownership neutrality is the policy goal, the exemption system (also referred to as a *territorial* tax system) is just as attractive as a system of worldwide taxation with foreign tax credits. Moreover, if optimization 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 practises 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 those 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.[15]

Thus a policy of exemption will maximize the after-tax profitability of domestic multinationals. A country seeking to maximize 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

[15] As already mentioned, this assumes that the home countries of foreign multinationals do not offer special tax advantages that reduce the costs of acquisitions. In practice this assumption may not always hold. For example, it seems that one of the reasons why Spanish firms have outbid other companies in recent years is their ability to write off goodwill for tax purposes.

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.[16] 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 maximizing 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.

The above discussion of neutrality in the taxation of foreign source income assumes that recorded company profits represent a return to capital. The perspective on tax neutrality changes if a major part of company profits is really a reward for entrepreneurial creativity and effort and thus a form of labour income. In that case a main challenge for tax policy is to design the company tax such that entrepreneurial labour income earned in the corporate sector gets taxed in roughly the same way as labour income earned outside the sector.

Economists have long struggled to explain the so-called equity premium puzzle; that is, the huge difference between the average return to corporate assets and the risk-free interest rate. For example, in the US the average corporate profit rate has historically hovered around 9% whereas the real interest rate on Treasury Bills has averaged around 1.5%. If the difference between these two rates of return simply represents the risk premium required by corporate investors, it would seem to imply an implausibly high degree of risk aversion. Gordon and Hausman (Commentary on this chapter) argue that

[16] Becker and Fuest (2007) demonstrate that in these circumstances the exemption system is in fact optimal from a national perspective.

the equity premium mainly reflects the return to the efforts and innovative talents of corporate entrepreneurs. This group may include owner-managers as well as many other high-level corporate executives who hold shares in the company for which they work.

Part of the equity premium may indeed constitute a return to the labour of corporate entrepreneurs, but it seems unlikely that the equity premium puzzle can be fully explained by this hypothesis. For example, conventional asset pricing models suggest that plausible degrees of risk aversion would imply an equity risk premium of around 2%. With a risk-free real interest rate of 1.5%, the total real required return on corporate assets would then be 3.5%, leaving a difference of 5.5% between the observed 9% corporate profit rate and the required return to capital. If this 5.5% differential is really labour income accruing to corporate entrepreneurs and top executives, such entrepreneurial income would absorb between 11% and 17% of total corporate value-added in the realistic case where the ratio of corporate assets to value-added is between 2 and 3. This income comes on top of the wages and salaries and the various forms of stock compensation granted to corporate executives, since these expenses are deductible from corporate profits and are therefore not included in the recorded 9% average corporate profit rate mentioned above. Hence it seems to us that if one interprets the observed equity premium as mainly the labour income of corporate entrepreneurs, one will have to assign an implausibly high share of total corporate value-added to these individuals.

Against this background we believe that the main part of the observed equity premium is in fact a return to capital, at least in the large public corporations accounting for the bulk of the activities of multinational enterprises. However, in small closely held companies a large part of recorded company profit may well be a return to the labour of corporate entrepreneurs. The proposals for personal income tax reform presented in Section 10.6 are designed with this fact in mind, including provisions that will prevent corporate owner-managers from transforming high-taxed labour income into low-taxed capital income.

10.5.2. Obstacles to capital export neutrality and the effects of deferral

While the exemption system and the worldwide system with a foreign tax credit are in principle 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. Many credit countries limit their credits on a country-by-country basis ('credit by source'), but some countries, like the UK and 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 governments 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.

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. On the basis of US data, Desai, Foley, and Hines (2001, 2002) estimate that 1% lower repatriation tax rates are associated with 1% 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. Provided parent companies do not change their country of residence, abolition of deferral would reduce distortions to real investment decisions,

eliminate the distortion to repatriation decisions, and reduce the incentives for international income shifting through transfer pricing and thin capitalization.[17]

However, in a world where most countries rely on territorial taxation, a country practising worldwide income taxation does not achieve national ownership neutrality, as already explained. Moreover, if the UK were to abolish deferral, UK-based multinationals would have a strong incentive to move their headquarters to countries offering credit with deferral or tax exemption of foreign income, in order to maintain their international competitiveness. The outcome might be a substantial UK loss of corporate headquarters and a resulting drop in the incomes of the less mobile UK factors of production. For these reasons we do not recommend a UK move towards worldwide income taxation without deferral.

10.5.3. The case for a 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 still 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.

[17] Distortions to real investment and incentives for income shifting would not be fully eliminated as long as foreign tax credits remain limited to the amount of domestic tax liable on foreign source income.

a further layer of anti-avoidance provisions to the plethora of anti-avoidance measures targeted at financing costs.

10.5.5. A common consolidated tax base for EU multinationals?[25]

Over the years the European Commission has made many proposals for coordination or partial harmonization of the corporate tax systems of EU member states. Although member states have adopted the 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.

As mentioned in Section 10.2.2, current international tax law obliges the individual entities in a multinational group to calculate their taxable profits on a separate accounting basis, using different national tax rules, and to price intra-group transactions 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 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,

[25] 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.

whereas at other times the uncoordinated rules leave gaps in the international tax base.

Under a CCCTB, 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 capitalization.

However, the introduction of a CCCTB raises a large number of technical issues which are currently being scrutinized 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 US 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 CCCTB raises a number of difficult technical and political issues.

10.5.6. Home state taxation versus a common consolidated tax base[26]

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

[26] This section draws on Sørensen (2004c).

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 harmonization. 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 harmonization 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.

10.5.7. Improving the current separate accounting regime

Realizing that Home State Taxation or a Common Consolidated Tax Base with formula apportionment may not be (politically) viable options for company tax reform, the European Commission has also taken some less ambitious initiatives to improve the working of the current system of tax base allocation based on separate accounting and the arm's length principle. Thus the Commission has persuaded EU member states to sign the Arbitration Convention designed to settle double taxation disputes relating to transfer price adjustments. As mentioned in Section 10.2.4, when the tax administration of one country adjusts a transfer price to increase taxable profits within its jurisdiction, the other country involved in the transaction between the affiliated firms does not always approve the new transfer price since the adjustment will typically reduce its tax base. Hence the multinational group may face some amount of double taxation of its total income. In such cases where member states fail to agree on a transfer price adjustment, the EU Arbitration Convention dictates a mandatory arbitration procedure. Unfortunately the Convention has not fulfilled expectations in the sense that relatively few cases reach the arbitration process. Hence there is a need for steps to make the arbitration procedure faster and less costly for taxpayers.

Partly in response to this need the European Commission has created the Joint Transfer Pricing Forum (JTPF), a consultative expert group established in 2002. One task of the JTPF was to propose measures that will make the Arbitration Convention work more smoothly. Another task has been the development of guidelines to promote so-called Advance Pricing Agreements whereby multinationals can obtain official approval of (methods of calculating) transfer prices before they engage in transactions. Finally, the JTPF has developed a Code of Conduct on Documentation intended to reduce the compliance burden for companies in relation to the documentation of their transfer prices. Overall the hope was that the JTPF could help to promote procedural changes and simplifications to the current transfer pricing regime that member states could adopt without the need for legislative initiatives, but so far progress in this respect has been slow.

An initiative that could potentially reduce the compliance burden for firms and the administrative burden for tax collectors would be the creation of a