

## International Capital Taxation

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

Rachel Griffith is a Deputy Research Director at the IFS and Professor of Economics at UCL. Her research interests are in the area of empirical microeconomics and firm behaviour. She is a Director of the *Review of Economic Studies*, on the Council of the Royal Economic Society and the European Economic Association, and a Research Associate of the Centre for Economic Policy Research.

James Hines is Richard A. Musgrave Collegiate Professor of Economics at the University of Michigan, where he is also Professor of Law and Research Director of the Office of Tax Policy Research. His research concerns various aspects of taxation. He is a Research Associate of the National Bureau of Economic Research, Research Director of the International Tax Policy Forum, and Co-editor of the *Journal of Economic Perspectives*.

Peter Birch Sørensen is Professor of Economics at the University of Copenhagen and a Research Fellow at CESifo, Munich. He is also International Research Fellow at the Oxford University Centre for Business Taxation, a former Editor of the *FinanzArchiv* and former Co-editor of *International Tax and Public Finance*. His main research area is the economics of taxation and tax policy, and much of his research has focused on international taxation and capital income taxation. He is currently serving as President of the Danish Economic Council and the Danish Environmental Economic Council. He has also served as a consultant on tax policy for the OECD, the European Commission, the IMF and several national governments.

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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.

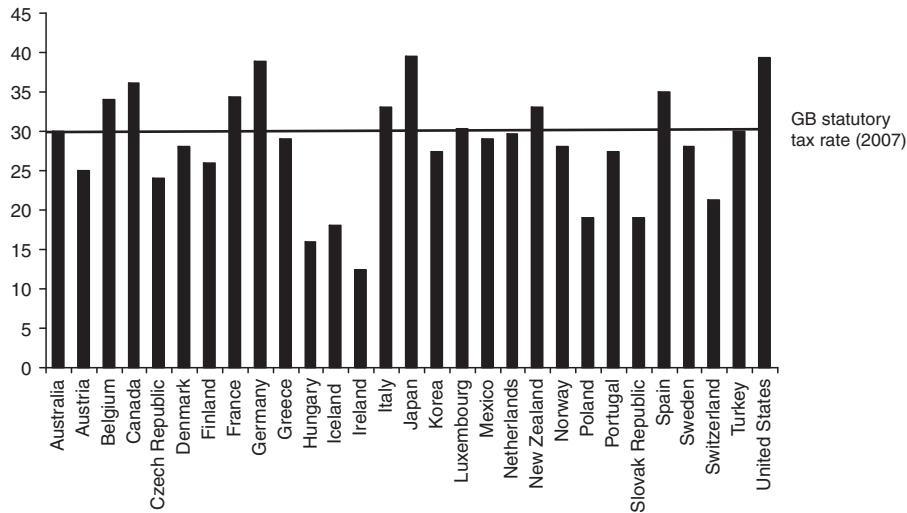
Our focus is on the taxation of capital, which is widely held to be the most mobile factor. We start in Section 10.2 by taking a quick look at the current UK system of capital income taxation, seen in international perspective. In Section 10.3 we summarize some fundamental distinctions and results in 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.<sup>1</sup>

<sup>1</sup> 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.<sup>2</sup>

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.

<sup>2</sup> 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.

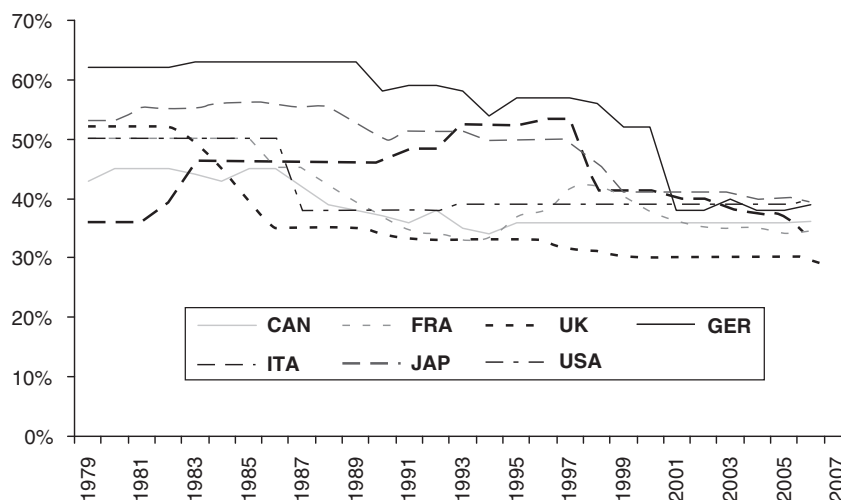


Figure 10.2. Statutory corporate income tax rates, G7 countries, 1979–2006

### 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.<sup>3</sup> 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

<sup>3</sup> 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.<sup>4</sup> 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)

<sup>4</sup> 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.<sup>5</sup>

### *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

<sup>5</sup> 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.<sup>6</sup>

#### *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

<sup>6</sup> 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.<sup>7</sup>

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

<sup>7</sup> 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.<sup>8</sup>

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

<sup>8</sup> 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 lobbying 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,<sup>9</sup> 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

<sup>9</sup> 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 under-provision of public goods.

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

Brøchner et al. (2006) have recently used an extended version of the OECDTAX model to simulate the effects of a 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:* Bröchner 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 Bröchner 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,<sup>10</sup> but the vast majority of the world's tax

<sup>10</sup> 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.<sup>11</sup> 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

<sup>11</sup> 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<sup>12</sup>

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

<sup>12</sup> 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.<sup>13</sup>

<sup>13</sup> 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).<sup>14</sup> 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 Piekola (1997).

<sup>14</sup> 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.<sup>15</sup>

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

<sup>15</sup> 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.<sup>16</sup> 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

<sup>16</sup> 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.<sup>17</sup>

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.

<sup>17</sup> 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.

The first three reasons stated above also seem relevant in a UK context. In June 2007 the Treasury and HM Revenue and Customs (HMRC) set out proposals aimed at creating a more straightforward regime for taxing the foreign profits of UK companies.<sup>18</sup> The main proposal was for the UK to move from its current system of taxing foreign dividends after giving a credit for taxes paid to foreign governments to a system in which foreign dividends are exempt from UK taxation. This would bring the UK in line with most other European countries. In addition, it proposed overhauling the way in which the government tries to discourage companies from shifting profits to subsidiaries in countries with lower corporate tax rates.

The analysis in Section 10.5.1 suggests that the ownership neutrality implied by a territorial system could help UK multinationals to make more productive use of their assets. The current UK taxation of foreign income discourages UK firms from investing in low-tax countries more than do the tax systems of the firms in territorial countries with which they compete. With a switch to territoriality, UK multinationals may relocate some of their overseas activities from foreign high-tax to foreign low-tax countries to take advantage of increased after-tax profitability.

At the same time UK companies may also relocate some of their domestic activities to foreign low-tax countries in response to a move to territoriality, resulting in reduced rewards to local (UK) fixed factors of production and reduced UK tax revenues. Territoriality may also provide increased scope for income shifting through transfer pricing and through manipulation of royalty payments to take advantage of the asymmetric taxation of dividends and royalties.<sup>19</sup>

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

<sup>18</sup> 'Taxation of the foreign profits of companies' <[http://www.hm-treasury.gov.uk/media/E/B/consult\\_foreign\\_profits210607.pdf](http://www.hm-treasury.gov.uk/media/E/B/consult_foreign_profits210607.pdf)>.

<sup>19</sup> Thus British parent companies would be able to reduce their worldwide tax bill by repatriating income from subsidiaries in foreign low-tax countries in the form of non-deductible dividends which would be tax exempt in the UK, rather than deductible royalties that would be taxable in the UK. Similarly, British multinationals would save taxes by receiving royalties rather than dividends from subsidiaries in foreign high-tax countries. Note that whereas the UK government loses revenue in the former scenario, it gains revenue in the latter case, so while global tax revenue goes down, the net effect on UK tax revenue is in principle ambiguous, depending on whether the intangible assets owned by UK multinationals are mainly used in foreign high-tax countries or in foreign low-tax countries. As already mentioned, a move to a dividend exemption system may induce British multinationals to move some of their assets to foreign low-tax jurisdictions, in which case part of the global revenue loss would be borne by the UK government.



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

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

If we look at countries that operate exemption systems we do not see any evidence that they collect systematically less revenue from corporate taxes. Table 10.2 shows corporate tax revenue as a share of GDP and statutory tax rates for countries that operate some sort of credit system, and for countries that operate exemption systems, either as a general policy or as a policy towards tax treaty partners.

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

In any case, the revenue and behavioural effects of a switch to exemption would depend critically on the exact design of any new system, including the rules for allocation of overhead and interest expenses between domestic income and foreign exempt income. Most of the exemption countries included in Table 10.2 allow full deduction for such expenses against domestic-source income, even if some of them may have been incurred to generate foreign income exempt from domestic tax. Such a lack of expense allocation obviously strengthens the incentive for multinationals based in high-tax countries to establish affiliates in foreign low-tax countries. To counteract this incentive, some exemption countries only exempt a certain fraction of foreign income (typically 95%) from domestic tax, as shown in Table 10.2.

While a lack of expense allocation could turn an exemption system into a direct subsidy to investment in foreign tax havens, a mechanical rule for expense allocation could also imply excessive taxation in some cases. To illustrate, suppose that the total interest expense of a multinational group is allocated between domestic and foreign income according to the location of



Table 10.2. Corporation tax revenue and statutory tax rate, 2004

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

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

Source: Yoo Kwang-Yeol (2003).

assets, as proposed by Grubert and Mutti (2001).<sup>20</sup> A multinational with 50% of its assets in the UK and 50% of its assets abroad and a total interest expense of £10 million would then only be allowed to deduct £5 million of its interest expense against its UK income, even if all the expense were incurred by the UK parent company and did not in any way reduce the foreign tax liability of the group. Such a system imposes an implicit domestic tax on foreign income, since additional foreign investment reduces the domestic tax benefits of deductions for existing UK administrative and interest expenses. Hence one might expect numerous disputes between taxpayers and tax administrators over expense allocation, so some of the alleged benefits of an exemption

<sup>20</sup> A similar interest allocation rule is already used under the current US foreign tax credit system for the purpose of calculating the limit on foreign tax credits.

system in terms of simplification and reduced compliance costs might be lost. If the UK were to adopt stricter limits on interest deductibility than other exemption countries, this would also violate the national ownership neutrality which is a main theoretical benefit of the system.

For these reasons we sympathize with the suggestion by HM Treasury (2007, pp. 25–6) that the UK should not adopt a general interest allocation rule of the type described above in case of a move to territoriality. As an alternative the Treasury proposes that the total interest deduction claimed by the UK members of a multinational group should be restricted by reference to the group's total consolidated external finance costs. If the UK subgroup has higher finance costs than the overall external finance costs of the entire group, the Exchequer will see this as an indication that interest expenses have been allocated to the UK subgroup with the purpose of reducing the entire group's worldwide tax bill. It is difficult to assess the extent to which such an anti-avoidance rule might compromise the policy goal of ownership neutrality, but the rule does seem to be a legitimate attempt to protect the UK tax base.

Mullins (2006) expresses concern that a switch to territoriality in the current credit countries may intensify global tax competition. Table 10.3 documents the important role played by the US and the UK in global FDI. If these countries were to abolish their foreign tax credit systems, and if the credit system has so far counteracted the incentive for source countries to set low tax rates to attract investment, there could indeed be a significant additional stimulus to tax competition. While there is no evidence that tax competition has so far eroded the corporate tax revenues of OECD countries, there is some evidence that *developing* countries have had difficulties maintaining their corporate tax revenues in the face of the global trend towards lower statutory tax

**Table 10.3.** The level and composition of outward FDI

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

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

rates (see Keen and Simone (2004)). Since several of these countries already have fiscal problems, a further downward pressure on their revenues would be unwelcome, and unfettered tax competition among all countries in the world may not necessarily be desirable from a global viewpoint.

As already mentioned, however, there is some evidence from the US that the effects of the current credit systems on investment location and income shifting are not significantly different from those one would expect to see under an exemption system. This suggests that a switch to territoriality in the UK and the US would not intensify global tax competition and stimulate international profit shifting to any significant degree.

In summary, a UK move from the current foreign tax credit system to a dividend exemption system would tend to improve the competitiveness of UK-based multinational companies in the international market for corporate control of firms located in foreign low-tax countries. A move to territoriality would also eliminate the tax distortion to repatriation decisions generated by the current system of credit with deferral. However, while in principle the exemption system is simpler, it is not clear that simplicity is borne out in the recent proposals by the UK Treasury to combine dividend exemption with a reform of the UK regime for taxation of Controlled Foreign Companies. The following section describes and discusses these proposals.

#### 10.5.4. Reforming the UK regime for taxation of foreign profits<sup>21</sup>

In June 2007 the Treasury and HM Revenue and Customs (HMRC) set out proposals aimed at creating a more straightforward regime for taxing the foreign profits of UK companies, including proposed reforms to the Controlled Foreign Company (CFC) regime.<sup>22</sup>

##### *The current 'Controlled Foreign Company' (CFC) regime*

The UK normally taxes the profits of foreign subsidiaries only when they are remitted to the UK in the form of dividends. This means that UK multinational companies have the scope to defer UK taxation indefinitely by keeping the profits of their foreign subsidiaries offshore. To counter this the UK operates a Controlled Foreign Company (CFC) regime that limits the extent to which companies can defer UK tax by retaining profits offshore in a jurisdiction with a lower corporation tax rate.

<sup>21</sup> This section draws heavily on Gammie, Griffith, and Miller (2008).

<sup>22</sup> 'Taxation of the foreign profits of companies' <[http://www.hm-treasury.gov.uk/media/E/B/consult\\_foreign\\_profits210607.pdf](http://www.hm-treasury.gov.uk/media/E/B/consult_foreign_profits210607.pdf)>.

In broad terms, a company is treated as a CFC if it is resident outside the UK, is subject to a tax regime with a significantly lower level of tax than the UK (less than 75% of the tax rate applied in the UK), and is controlled by UK residents. In such cases the UK resident company is taxed on the proportion of the profits of the CFC which can be attributed to the UK by virtue of the size of its shareholding (provided that such profits account for at least 25% of the total profits of the CFC).

The UK CFC regime has also been subject to challenge before the ECJ. In the *Cadbury Schweppes* case, it was argued that the UK's CFC regime treated investments in subsidiaries in other EU countries less favourably than investments in domestic subsidiaries (because foreign profits were subject to immediate taxation in the hand of the parent but domestic profits were not). The ECJ decided that the CFC regime did infringe Community law in this respect, as it impeded foreign investment. But the ECJ recognized that the UK might be able to justify its measures provided they were shown to be adequately targeted against attempts to avoid tax.<sup>23</sup>

#### *Proposal for a Foreign Dividend Exemption*

The Treasury and HMRC propose a dividend exemption system, whereby profits repatriated to a UK-resident company from abroad are not liable for UK corporation tax and therefore require no credit for tax paid overseas. The tax burden on foreign income would be determined by the corporate tax rate in the foreign jurisdiction where the overseas investment took place. The stated aims are to simplify the tax treatment of foreign profits, make the rules more certain and straightforward, and increase the competitiveness of the UK's tax system.

#### *The proposed 'Controlled Company' regime*

The dividend exemption system introduces an incentive for investors to move financial assets abroad to countries with a lower corporation tax rate, then to repatriate the returns as tax-free dividends and so benefit from the lower foreign tax rate. To protect the domestic tax base, the Treasury and HMRC propose replacing the existing CFC regime with a new 'Controlled Company' (CC) regime.

One of the big changes is that the current CFC regime applies to *entities* whereas the new CC regime applies to *income*. In order to understand

<sup>23</sup> Case C-196/04 *Cadbury Schweppes*.

the implications of this change it is first useful to define passive and active income. 'Active' income is income from commercial activities, while 'passive' income is mainly investment income such as interest, dividends (other than dividends flowing within the controlled group), royalties, and rents.

Under the CFC regime, both active and passive income are liable to UK taxation if a subsidiary is defined as a CFC. There are a series of exemptions from being defined as a CFC, including an exemption for active trading subsidiaries. Provided it does not compromise its exempt status, companies are able to mix passive with active income in a trading subsidiary (or trading subgroup) in order that the former goes untaxed in the UK.

In contrast, under the proposed CC regime all passive income would be liable to UK corporation tax. Most importantly, all of the passive income in 'active' subsidiaries would fall under the CC regime whereas this income is mostly not captured under the current CFC regime.

Alongside this there is a change to what is considered as passive and active income (although the terms active and passive income are not used in the existing system, the concepts are there). The biggest change is to treat mobile active income as passive income. 'Mobile' income is income that can be easily transferred to different parts of the company and can therefore be located outside the UK to reduce tax liability.

The controversial element of this proposal is the intention to tax 'active income to the extent that it is, in substance, passive income'. In particular, in the discussions that followed the publication of the proposals, it has become apparent that the Treasury and HMRC envisage this including income that is attributable to intangible assets (such as brands), even when they are employed in an active business. Under the new CC system, the passive income and mobile active income of a controlled subsidiary of a UK parent company would be apportioned to the UK parent and subject to UK tax on a current basis, with a credit for any foreign (and, presumably, UK) taxes paid.<sup>24</sup>

Another big difference between the regimes is that the current CFC rules apply to subsidiaries located in countries that have a tax rate that is 75% or less of the existing UK tax rate (so for the current UK rate of 30% this is 22.5%), while the new CC rules will apply to subsidiaries located in any jurisdiction.

<sup>24</sup> The apportioned income must represent at least 10% of the profits of the CC (a reduction from the 25% required under the CFC regime) before tax liability is triggered. Alongside this there are a series of exemptions for passive income that is the result of genuine active finance, banking, and insurance business.

An important feature of the proposed CC regime is that it applies to domestic as well as foreign subsidiaries of the UK parent, such that the passive income from UK subsidiaries would be treated the same as that from foreign subsidiaries. The implications for current UK corporation tax rules (e.g. for losses) of having the CC regime apply to domestic subsidiaries, the aim of which presumably resulted from concerns that the proposed CC regime would be incompatible with EU law unless it was extended to UK subsidiaries, were not explored in the Treasury's discussion document.

*What impact might the proposed reform have?*

A move from the current foreign tax credit system to a dividend exemption system should increase the after-tax profitability of UK multinationals by removing the disadvantage that they face relative to multinationals in other countries with exemption systems in the market for corporate control of firms located in foreign low-tax countries. A move to exemption would also eliminate the tax distortion to repatriation decisions generated by the current system of credit with deferral and move towards capital ownership neutrality. In practice how important these changes are depends in large part on the extent to which the current credit system is effectively an exemption system because of the ability to defer tax payments.

With regard to the details of the policy, the Treasury's proposed package appears to be handicapped by being designed to replicate an imperfect credit system by exempting some foreign dividends and moving from a CFC to a CC regime, rather than seeking real reform with a satisfactory policy underpinning. Actual exemption replaces effective exemption; foreign profits taxed under the current entity-based CFC regime are to continue to be taxed under an income-based CC regime; compliance with EU law would be secured by extending the CC regime to domestic transactions; and the system of interest relief would continue to subsidize foreign investment subject to some modest tightening of the rules.

At the very least it seems quite implausible that the measures would produce any real simplification in the system. In particular, given that the income-based CC regime (i) seems to have greater scope than the current entity-based CFC regime, (ii) extends to domestic situations, and (iii) requires detailed enquiry into the sources of a company's profits rather than the nature of the company itself, it is difficult to conclude either that it is administratively simpler or that it would be revenue neutral rather than revenue raising. At the same time the tightening of the existing interest deduction rules and the introduction of new interest restriction rules adds

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?<sup>25</sup>**

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,

<sup>25</sup> 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<sup>26</sup>**

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

<sup>26</sup> 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

database with EU-wide data on arm's length comparable prices on various types of transactions. Such a database would ease the considerable burden for both tax authorities and multinationals related to finding and verifying comparables.

## 10.6. PROPOSALS FOR MORE COMPREHENSIVE REFORMS

In Section 10.5 we considered some options for reforming the taxation of cross-border income flows. In the present section of the chapter we present proposals for more comprehensive reforms of the UK tax system, motivated by the growing openness of the UK economy.

As emphasized in Chapter 9, a conventional corporate tax system tends to discriminate between corporate and non-corporate firms, between debt and equity finance, and between distributed and retained earnings. In addition, a source-based company tax tends to discourage domestic and inbound investment, as we explained earlier in this chapter. Below we present a proposal for a capital income tax reform that attacks all of these distortions. The proposal comes in two variants. The first variant assumes that UK policy makers wish to maintain a residence-based personal tax on the full return to capital. We refer to this variant as 'the income tax regime'. The second variant of our reform proposal assumes that policy makers only want to tax above-normal returns. This is referred to as 'the consumption tax regime'. Both regimes would exempt the normal return from tax *at the corporate level* through an Allowance for Corporate Equity (ACE). The difference between them is that the consumption tax regime would also allow a deduction for a normal return against the residence-based personal capital income tax. The following sections describe the proposals and the motivation for them in more detail.<sup>27</sup>

### 10.6.1. The rationale for an ACE in the open economy

The current UK corporate income tax falls on the full return to corporate equity invested in the UK, that is, the sum of the normal return and the 'pure' profit. Because it allows deductibility of interest payments, the

<sup>27</sup> To limit the scope of this chapter, we do not discuss more radical reform options such as the various cash flow taxes discussed in Chapter 9. The reform proposals presented here involve a less radical departure from current tax practices while still sharing some of the attractive neutrality properties of cash flow taxes.

current corporate tax system discriminates against equity finance. A so-called comprehensive business income tax (CBIT) like the one proposed by the US Treasury (1992) would end this discrimination by eliminating interest deductibility. Such a reform might have considerable merit in a closed economy, but in a small open economy like that in the UK it could cause significant problems. The prevalence of tax-exempt institutional investors holding debt instruments and the practical problems of enforcing residence-based personal taxes on interest income suggest that a large part of total interest income currently goes untaxed. By essentially introducing an interest income tax at source, the CBIT might therefore imply a significant increase in the cost of debt finance which could act as a strong deterrent to debt-financed inward investment.

As an alternative way of ensuring tax neutrality between debt and equity, we therefore favour the Allowance for Corporate Equity (ACE) proposed by the Capital Taxes Group of the Institute for Fiscal Studies (1991). Under the ACE system companies are allowed to deduct an imputed normal return on their equity from the corporate income tax base, parallel to the deduction for interest on debt. In this way the ACE seeks to avoid tax distortions to real investment and to ensure neutrality between debt and equity finance.

The theoretical case for an ACE in an open economy context follows from the analysis in Section 10.3.2. In that section we saw that, in a small open economy with near-perfect capital mobility, the burden of a source-based tax on the normal return to capital will tend to be fully shifted onto the less mobile domestic factors of production such as labour and land. Indeed, the domestic factors end up bearing *more* than the full burden of the source tax on capital, since the capital outflow generated by the tax reduces the productivity of (and hence the pre-tax return to) domestic production factors. The owners of these factors would therefore be better off if they paid the tax directly, since this would prevent the capital flight.

It is sometimes argued that since an ACE erodes the corporate income tax base, it creates a need for a higher statutory corporate tax rate which may induce multinationals earning mobile rents to flee the country so that domestic immobile factors will lose out anyway (see, e.g., Bond (2000)). However, since the owners of domestic factors already effectively pay the source tax on the normal return to corporate capital, there is no rationale for raising the statutory corporate tax rate to make up for the revenue loss from the introduction of an ACE. In the long term the abolition of the source tax on the normal return and the resulting stimulus to domestic and inbound investment will raise the pre-tax return to domestic immobile factors by *more* than the revenue loss from the ACE, so even if all of the lost revenue were

recouped through higher taxes on these factors, their owners will still end up with higher net incomes than before. For this reason, and because of the opportunities for international income shifting through transfer pricing, we propose that the introduction of an ACE should not be accompanied by a rise in the statutory corporate income tax rate.

Apart from promoting domestic investment, the ACE has several other attractive features. One of them—originally pointed out by Boadway and Bruce (1984)—is that it offsets the investment distortions caused by deviations between true economic depreciation and depreciation for tax purposes. If firms write down their assets at an accelerated pace, the current tax saving from accelerated depreciation will be offset by a fall in future rate-of-return allowances of equal present value, since accelerated depreciation reduces the book value of the assets to which future rates of return are imputed. In fact, regardless of the rate at which firms write down their assets in the tax accounts, the present value of the sum of the capital allowance and the ACE allowance will always equal the initial investment outlay, so the ACE system is equivalent to the immediate expensing of investment allowed under a cash flow tax (Box 10.1).

#### **Box 10.1. Investment neutrality under the ACE system**

Under a conventional system of business income taxation, accelerated depreciation allowances distort the behaviour of firms as they effectively subsidize investment by allowing tax deferral. Accelerated depreciation can thereby induce low-productive investment that would not have been profitable in the absence of tax. On the other hand, if the depreciation allowed for tax purposes is less than the true economic depreciation of a particular asset type, the tax system will imply an artificial discouragement of investment in such assets.

One attractive feature of the ACE system is that it eliminates such distortions. Suppose, for example, that the tax code allows a company to bring forward 100 GBP of depreciation from year 2 to year 1, thereby reducing its tax liability in year 1 by 28 GBP (assuming a 28% tax rate). Since the retained profit reported in the company's tax accounts for year 1 is now 100 GBP lower, the base for calculating the ACE allowance for year 2 falls by a corresponding amount. If the imputed interest rate on equity is 10%, this raises the company's tax bill for year 2 by  $0.28 \times 0.1 \times 100$  GBP. Furthermore, when the depreciation of 100 GBP is brought forward from year 2 to year 1, taxable profit in year 2 will increase correspondingly, triggering an additional tax bill of  $0.28 \times 100$  GBP in that year. With a discount rate equal to the 10% interest rate imputed to the company's equity base, the net change

*(cont.)*

**Box 10.1.** (*cont.*)

in the present value of taxes paid by the company will therefore be

$$-0.28 \cdot 100 + \frac{0.28 \cdot (100 + 0.1 \cdot 100)}{1 + 0.1} = 0.$$

Thus the tax benefit from accelerated depreciation is exactly offset by the fall in the future ACE allowance, so the pace at which companies write down their assets does not matter for the present value of the taxes they pay.

Because an investment always triggers a total allowance (depreciation plus ACE) with the same present value as the initial investment outlay, the government in effect finances a fraction of the initial investment expense equal to the tax rate. This fully compensates for the fact that a similar fraction of the cash inflows generated by the investment is taxed away. Thus the ACE does not affect the profitability of investment, so companies will undertake the same investments as they would have carried out in the absence of tax.

Another attraction of the ACE is that the symmetric treatment of debt and equity eliminates the need for thin capitalization rules to protect the domestic tax base: since firms get a deduction for an imputed interest on their equity as well as for the interest on their debt, multinationals have no incentive to undercapitalize a subsidiary operating in a country with an ACE system. More generally, the ACE would solve the increasingly difficult problem of distinguishing between debt and equity for tax purposes. As explained in Chapter 9, financial innovations in recent decades have produced new financial ‘debt’ instruments allowing firms to take advantage of interest deductibility even though these instruments are in many ways equivalent to equity. Under an ACE system the base for the ACE allowance would be determined by a simple criterion that does not require the tax authorities to evaluate whether any given corporate liability is truly ‘debt’ or ‘equity’. Under this criterion the ACE allowance would be imputed only to those liabilities on the company balance sheet to which no interest deduction is attached.

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



the firm-specific information necessary to choose the 'correct' risk premium. A practical solution might be to set the imputed rate of return equal to the average interest rate on UK corporate bonds, even if this would involve some sacrifice of tax neutrality (Box 10.2).

#### Box 10.2. Choosing the imputed rate of return under an ACE

A tax is neutral for investment and financing decisions if it falls only on the net cash flow to shareholders, since any investment behaviour that maximizes the present value of cash flows before tax will then also maximize the present value of after-tax cash flows.

The ACE system is in principle equivalent to such a neutral cash flow tax when the imputed rate of return equals the rate at which shareholders discount future ACE allowances: the system taxes cash returns to shareholders, but any injection of equity triggers a deduction of the same present value. For example, if shareholders inject an additional amount of equity  $E$  into the company, the company's ACE allowance will rise by the amount  $\rho E$  in all future years, where  $\rho$  is the imputed rate of return to equity. If shareholders also discount the value of the future deductions at the rate  $\rho$ , the present value of the additional deductions under the ACE will be  $\rho E / \rho = E$ . In present value terms taxpayers thus receive exactly the same deduction as under a cash flow tax that allows them to deduct the amount  $E$  up front.

Thus, to obtain full tax neutrality under the ACE, the imputed rate of return must be equal to the rate at which shareholders discount the tax savings from the company's future ACE allowances. This discount rate will depend on the degree of riskiness attached to these tax savings. As a benchmark, consider a hypothetical case in which the tax law allows full loss offsets, meaning that companies can carry their losses forward indefinitely with an interest rate added, and that shareholders receive a tax credit for any remaining unutilized loss deduction in case the company goes bankrupt. In this case shareholders will receive the tax benefit from the ACE allowance with full certainty even if the company goes out of business, and so they will discount the tax savings from the ACE system at the risk-free rate of interest. To ensure tax neutrality, it is then sufficient to set the imputed rate of return equal to the risk-free rate proxied, say, by the interest rate on short-term government bonds.

In practice the tax law does not allow full loss offsets. In most countries business losses can only be carried forward for a limited number of years, and never with interest added, and unutilized losses existing when a firm goes out of business cannot always be offset against other taxable income. Hence there will be some risk attached to the deductions for ACE allowances. The risk will differ across companies depending on how much they are affected by the restrictions on loss offsets. A substantial part of the risk is likely to stem from the probability

(cont.)



**Box 10.2.** (*cont.*)

that the company goes bankrupt. This risk will be reflected in the rate of interest at which the firm can borrow, so setting the imputed rate of return equal to the interest on the company's long-term debt would presumably ensure rough neutrality of the ACE.

However, for administrative reasons it is necessary to use a common imputed rate of return for all companies rather than applying firm-specific rates (even if this involves some sacrifice of neutrality). In countries with a well-developed market for corporate bonds, the discussion above suggests that the average interest rate on such bonds would be a natural benchmark for choosing the imputed rate of return to equity under the ACE.

The ACE allowance is calculated as the 'normal' rate of return times the firm's equity base, defined as the difference between total investment and total borrowing. The present value of such an allowance equals investment minus borrowing. This in turn equals the net deduction to which the firm would be entitled under the source-based R + F cash flow tax discussed in Chapter 9. Thus the ACE system may be seen as a practical way of implementing an R + F tax which avoids some of the problems associated with the transition to a genuine cash flow tax.

An alternative to an ACE allowance could be to allow a deduction for an imputed return on the firm's total real asset base while at the same time abolishing the deduction for actual interest payments. The present value of such an 'asset allowance' would equal the firm's total real investment and would thus be equivalent to the deduction granted under the source-based R-base cash flow tax also discussed in Chapter 9.<sup>28</sup> Hence the choice between an equity allowance (ACE) and an 'asset allowance' involves some of the same issues as those involved in choosing between the R-base and the R + F base cash flow tax. We tend to favour the ACE over a real asset allowance because an R + F type tax includes the financial sector in the tax base.

### 10.6.2. The mechanics of the ACE and the transition from the current system

The ACE allowance is the product of the imputed rate of return and the company's equity base. Once the system is in place, the equity base for the current year may be calculated as follows:

<sup>28</sup> Bond and Devereux (2003) offer a formal analysis of the relationship between the ACE and the various cash flow taxes.

$$\begin{aligned} & \text{Equity base in the previous year} \\ & + \text{taxable profits in the previous year (gross of the ACE allowance)} \\ & + \text{dividends received} \\ & + \text{net new equity issues} \\ & - \text{tax payable on taxable profits in the previous year} \\ & - \text{dividends paid} \\ & - \text{net new acquisitions of shares in other companies} \\ & = \text{Equity base for the current year} \end{aligned}$$

In rough terms, the increase in the equity base from one year to the next stems from new equity issues plus equity formed via retention of after-tax profits. Note that, to avoid ‘double counting’, the acquisition of shares in other UK companies does not add to the equity base of the acquiring company since the purchase price of these shares will be included in the equity base of the company that issued the shares. Nor does the purchase of shares in foreign companies add to the equity base for tax purposes. Under the dividend exemption system proposed in Section 10.5.3, this treatment of foreign share purchases ensures that investments in foreign assets that do not attract UK tax will not erode the UK tax base. Note, however, that dividends received from foreign companies add to the equity base in so far as they are reinvested in the UK. This reflects the principle that all domestic investments—including those financed through reinvestment of income earned abroad—should qualify for the ACE allowance.

When a holding company finances investment in subsidiary companies by debt (or by a combination of debt and equity), its equity base calculated in the above manner will become negative, generating a negative ACE allowance and a corresponding addition to taxable profit. In this way the ACE system guarantees tax neutrality between debt and equity also for holding companies, since the negative ACE allowance offsets the amount of interest that the holding company is allowed to deduct from taxable profits. This ensures that holding companies have no tax incentive to finance acquisitions by debt rather than equity, since a switch between debt and equity finance does not affect taxable profits (provided the interest rate used to calculate the ACE allowance corresponds to the interest rate on the debt).

An important issue is how to calculate the initial equity base at the time of introduction of the ACE system. To minimize the revenue loss and to prevent windfall gains to the owners of ‘old’ capital already installed, we propose that the initial equity base be set equal to zero for tax purposes so

that the ACE allowance would be granted only for *additions* to the equity base undertaken after the time of reform. As explained in Box 10.3, this transition rule may have to be supplemented by an anti-avoidance provision to prevent abuse.

### Box 10.3. The transition to an ACE

To minimize the revenue cost of improved investment incentives, we propose that the ACE allowance be granted only for additional equity built up after the time of reform. Could a corporate taxpayer get around this transition rule and benefit from allowances on the existing equity by liquidating an existing company and starting up a new company in the same line of business? To evaluate this risk, it is useful to consider a simple example:

Suppose a company holds assets with a current market value of 100 when the ACE is introduced. Suppose further that the company earns a constant 10% rate of return on these assets; that it has no debt, and that the corporate income tax rate is 28%. If the company does not add to its equity base after the introduction of the ACE, it will receive no equity allowance under the proposed transition rule. It will then earn a constant after-tax profit of  $(1 - 0.25) \times 10 = 7.2$  after the reform.

Suppose instead that the owners liquidate the existing company only to start up a new identical company right after in order to transform 'old' equity into 'new' equity that will attract the ACE allowance. Suppose in addition that the assets of the old company have already been fully written off in the tax accounts. Liquidation is normally treated as a realization of assets, so the old company will have to report a capital gain of 100 during its last year in business. This will be taxed at 28%, leaving 72 units of assets to be injected as equity into the new company. Given the assumed 10% rate of return on the business activity considered, the new company will thus earn a profit of 7.2. If the normal return imputed to equity is also 10%, the company's ACE allowance will be  $0.1 \times 72 = 7.2$ . Hence taxable profit will be zero, so the shareholders will end up with the same net profit as in the case where the old company stays in business.

If the business activity in this example earned a return above the imputed return under the ACE, say, 20%, it is easy to calculate that the after-tax return to shareholders would be 12.4% if the activity were carried out by a newly established company entitled to ACE allowance, whereas it would be 14.4% if the old company stayed in business. Thus there would be no incentive for tax avoidance through liquidations and new start-ups.

On the other hand, if the assets have not been fully written down in the tax accounts, the capital gains tax in case of liquidation will be smaller than indicated in our example, leaving some room for tax avoidance through the transformation of old into new companies after the introduction of the ACE. However, the scope for such behaviour will be limited by the transactions costs

involved. There may nevertheless be a need for special anti-avoidance rules to ensure taxation of the revenue from liquidation in cases where an old company is wound up and replaced by a new one in the same line of business. In designing such rules, valuable experience may be gathered from Italy where transition to an ACE-type system (with a reduced tax rate on the normal return) was made in 1997 without offering any tax benefit to existing equity.

With such a transition rule the revenue loss from an ACE would be small over the short and medium term. Moreover, since the ACE ensures relief of the double taxation of dividends at the company level, the introduction of the system should be combined with an abolition of the existing personal dividend tax credit, that is, dividends should be subject to full personal income tax. This would further limit the revenue loss.

### 10.6.3. The 'income tax regime': a dual income tax for Britain

The ACE system exempts the normal return to capital from tax at the firm level because a source-based capital income tax tends to get fully shifted onto domestic production factors through the international mobility of capital. However, since individuals are much less mobile across borders than capital, there is no similar case for exempting capital income from tax at the level of the individual resident investors, assuming that all of their worldwide income can be taxed. In the next section we shall discuss some reasons why policy makers might nevertheless want to exempt the normal return from tax at the personal level (see also the extensive discussion by Banks and Diamond, Chapter 6 on the choice of the personal tax base), but in the present section we assume that the government wishes to include the normal return to saving in the personal tax base. We also assume that it wishes to impose a progressive tax on earned income. In such a setting we will argue that capital income should be subject to personal residence-based taxation along the following lines:

- (1) All income categorized as 'capital income' should be taxed at a relatively low flat rate below the top marginal tax rate applied to earned income. Capital income would include interest, dividends, realized capital gains, rental income, and imputed returns to the assets of unincorporated firms. Ideally, an imputed return to owner-occupied housing should also be included, at least if deductibility for mortgage interest is allowed. To stimulate saving for retirement, policy makers may wish to leave the return to such saving out of the tax base, in line with current practice.

- (2) If the corporate income tax rate is  $t^c$  and the top marginal tax rate on labour income is  $t^L$ , the capital income tax rate  $t^r$  should be set such that  $(1 - t^r)(1 - t^c) = 1 - t^L$  to prevent tax avoidance through income shifting (see below).
- (3) The owners of unincorporated firms should be allowed to impute a return to their business equity. This imputed return would be taxed as capital income, while the residual business income would be taxed as earned income. Proprietors who prefer to avoid the compliance cost of documenting their business equity may opt to have all of their business income taxed as earned income.

This proposal for a capital income tax reform involves a separation of ‘capital income’ from labour income. As elaborated in Chapter 6 on the personal tax base, economic theory provides no compelling reason why capital income should be taxed at the same rate as labour income. According to our proposal, the capital income tax rate should be flat and well below the top marginal tax rate on labour income, along the lines of the Nordic Dual Income Tax.<sup>29</sup> The UK tax system already includes an important element of dual income taxation, since the National Insurance contribution is not levied on capital income. From this perspective our proposal for a UK Dual Income Tax does not involve a radical break with current tax practice.

Our reasons for advocating a relatively low tax rate on capital income are pragmatic. One major reason is the high and growing international mobility of portfolio capital combined with the practical difficulties of enforcing taxes on foreign source capital income. The well-known ‘home bias’ in investor portfolios may enable the government to impose some amount of capital income tax without inducing a significant capital flight, but if the tax rate becomes too high, too many taxpayers may try to hide their assets from the domestic tax authorities by investing them abroad. The difficulty of collecting tax on foreign source income stems from the fact that source country authorities have little or no incentive to provide the necessary information to the authorities of the residence country. To improve this incentive, thereby

<sup>29</sup> The rationale for the Nordic Dual Income Tax is explored in Sørensen (1994, 2005a, 2005b) and Nielsen and Sørensen (1997). Sijbren Cnossen’s preferred version of the system is described in Cnossen (2000). Elements of dual income taxation have been introduced in several European countries; see the survey by Eggert and Genser (2005). Variants of a dual income tax for Germany have recently been proposed by Sinn (2003, ch. 6) and by the German Sachverständigenrat (see Spengel and Wiegard (2004)). Keuschnigg and Dietz (2007) propose a ‘growth oriented dual income tax’ for Switzerland which combines an ACE with a flat personal capital income tax along the lines of our proposal. However, in contrast to our proposal, the tax system advocated by Keuschnigg and Dietz would require a distinction between the distributed and retained profits of non-corporate firms.

strengthening tax enforcement, we propose that the UK government should unilaterally declare that it will offer foreign source countries a share of the revenue from any UK tax collected on foreign income as a result of information provided by the source country. However, as long as the administrative ability to monitor foreign source capital income remains relatively weak, the prudent policy is to adopt a relatively low capital income tax rate to prevent capital flight.

Another justification for a low capital income tax rate is that the tax is typically levied on all of the *nominal* return to capital, including the inflation premium that simply serves to preserve the real value of nominal assets. The lack of inflation adjustment means that the capital income tax may become punitive even at low rates of inflation. For example, suppose the nominal interest rate is 4%, the rate of inflation is 2%, and the capital income tax on the nominal return is 50%, leaving a 2% nominal after-tax return. The *real* after-tax return would then be  $2 - 2 = 0$ , so the effective tax rate on the real return would be a confiscatory 100%. Thus, even if the policy aim is to tax the real income from capital just as heavily as labour income, the tax rate on nominal capital income should be well below the labour income tax rate even at moderate inflation rates. To illustrate, if the top marginal tax rate on labour income is 40% and the government wishes to impose the same effective tax rate on real capital income, the tax rate applied to nominal capital income should be 20% when the nominal return is 4% and the inflation rate is 2%.<sup>30</sup>

A third pragmatic reason for setting a low tax rate on capital income is that some types of income from capital are difficult to tax for administrative or political reasons. For example, this applies to imputed returns to owner-occupied housing and to many types of capital gain. By choosing a low tax rate on those forms of capital income which can in fact be taxed, the government reduces the inter-asset distortions to the savings pattern that arise when some types of capital income go untaxed. Moreover, a low tax rate may make it easier to broaden the tax base to minimize the inter-asset distortions. For example, when the Nordic countries introduced the dual income tax, the lowering of the capital income tax rate was accompanied by a tightening of capital gains taxation (see Sørensen (1994)).

The case for a *flat* tax on capital income (rather than a progressive tax schedule with rising marginal tax rates) likewise rests on pragmatic arguments. For example, it is well known that capital gains taxation based on the realization principle generates a 'lock-in' effect which hampers the

<sup>30</sup> The capital income tax liability would then be  $0.2 \times 4\% = 0.8\%$  which is 40% of the real pre-tax return of 2%.

reallocation of capital towards more productive uses, since taxpayers can defer their tax liability by postponing the realization of accrued capital gains. Progressive taxation of realized gains exacerbates this lock-in effect because the taxpayer may be pushed into a higher tax bracket in the year of realization. A flat uniform tax on capital income avoids this additional distortion.

Moreover, a proportional tax on capital income eliminates the marginal tax rate differentials that may give rise to ownership 'clienteles' effects under the current system. For example, under a progressive capital income tax investors in high-income brackets may choose to specialize in holding assets whose returns accrue mainly as (tax-favoured) capital gains. As we have argued previously, the productivity of assets may depend on who owns them, so by reducing tax distortions to ownership patterns, a switch to proportional capital income taxation may help to increase the average social (pre-tax) asset returns.

Proportional (as opposed to progressive) taxation of capital income also eliminates the opportunities for certain forms of tax arbitrage exploiting differences in the marginal tax rates faced by different individuals. In particular, the scope for tax avoidance through transfers of wealth among family members is reduced significantly when all taxpayers face the same tax rate on income from capital.

Further, a flat tax rate simplifies tax administration by allowing the tax on interest and dividends to be collected as a final withholding tax. However, since we are proposing a residence base for the dual income tax to minimize the risk of capital flight, the withholding tax will not be imposed on capital income paid to non-residents (i.e. such income will be taxed only in so far as existing bilateral tax treaties allow this).

A tax system involving different marginal effective tax rates on income from labour and capital potentially opens the door to tax avoidance through income shifting between the two tax bases. In particular, labour income generated within the corporate sector may be transformed into dividends and capital gains on shares if the latter forms of income are taxed more lightly. As stated in point (2) above, we therefore propose that the tax rate structure should (roughly) satisfy the condition  $(1 - t^l) \times (1 - t^c) = 1 - t^L$ . In that case the total corporate and personal tax burden on dividends and capital gains above the normal return would always be at least as high as the marginal tax rate on labour income so that no gain could be made by transforming labour income into capital income, despite the low personal tax rate on capital income.

The proposal in point (3) to tax the imputed return to the equity of unincorporated firms as capital income aims to ensure the greatest possible



degree of tax neutrality between wage earners and the self-employed and between corporate and non-corporate firms. To avoid discrimination against savings invested in non-corporate business assets, the normal return to such assets should be taxed at the same rate as the normal return to the savings undertaken by wage earners. This will also guarantee that domestic savings invested in the corporate sector are not favoured relative to savings channelled into the non-corporate sector. Non-corporate business income above the imputed normal return would be taxed as labour income, at a top marginal rate equal to the top marginal tax rate on above-normal returns from the corporate sector, regardless of whether such income is distributed in the form of wages and salaries or in the form of dividends and capital gains.

For the purpose of calculating the imputed rate of return, the tax code must separate the 'business' assets and debts of proprietors from their 'private' assets and debts. Business assets could be defined as the depreciable assets recorded in the firm's tax accounts plus acquired goodwill and other acquired intangible assets whose cost price can be documented. If the recorded business debt exceeds the value of the firm's assets, it is an indication that the proprietor has transferred 'private' (i.e. non-business) debt to the business sphere in order to take advantage of the deduction for interest on business debt. An imputed return to the excess of recorded business debt over business assets should then be added to the proprietor's taxable labour income and deducted from his taxable capital income to prevent tax avoidance through the transformation of labour income into capital income.<sup>31</sup>

The application of these rules requires that proprietors are able and willing to document their business assets and liabilities. Hence this tax regime should not be mandatory for all unincorporated firms, but should be an option for entrepreneurs who wish to take advantage of the opportunity to have part of their business income taxed as capital income.

As indicated, the proposed tax rules would ensure rough neutrality with regard to the choice of organizational form. With a progressive tax schedule for labour income and the relationship  $(1 - t^r) \times (1 - t^c) = 1 - t^L$ , where  $t^L$  is the top marginal labour income tax rate, there would be a tax incentive to distribute rents from the corporate sector in the form of wages and salaries as

<sup>31</sup> A slightly simpler set of rules—which could be allowed as an option—would be to impute a return to *all* of the proprietor's business assets (and not just to the equity base) and tax the residual business income *before* interest as labour income. Taxable capital income would then equal the imputed return to business assets minus all of the proprietor's interest expenses. The residual business income before interest is taxed as labour income. The advantage of these rules—which correspond to current Norwegian tax practice—is that they do not require a distinction between 'private' debt and 'business' debt. Sørensen (2005b) provides more details on alternative ways of taxing income from self-employment under a dual income tax.

long as these rents are no larger than the top bracket in the labour income tax schedule. For corporate rents above that limit the tax consequences would be the same whether the income is realized in the form of shareholder income or as labour income. In principle companies can thus ensure that labour income and rents earned in the corporate sector are taxed in exactly the same manner as the rents and labour income in the non-corporate sector that are taxed progressively as earned income.

One important proviso to this conclusion is that corporate-source labour income and rents which are realized as capital gains on shares may be under-taxed because of the deferral of tax on accrued gains until the time of realization. To offset the compound interest gain from tax deferral in a rough manner, policy makers could decide to make a schematic upward adjustment of realized taxable gains that would increase systematically with the length of the holding period, in line with the proposal by Vickrey (1939).<sup>32</sup> This would eliminate the potential tax advantage to corporate-source labour income and rents which are realized in the form of stock compensation.

#### 10.6.4. The ‘consumption tax regime’: exempting the normal return from tax

While the above proposal for a low flat capital income tax rate aims to reduce the inter-asset distortions caused by the existing non-uniform taxation of income from capital, significant inter-asset distortions would remain in so far as policy makers decide to maintain the current tax privileges for retirement savings and investment in owner-occupied housing. Even if expenses on mortgage interest payments are non-deductible, the wealth accumulated through saving in home equity would be favoured relative to other forms of

<sup>32</sup> To eliminate the interest gain from tax deferral, one can show that a capital gain realized after a holding period of  $n$  years should be adjusted upwards through multiplication by the factor

$$\frac{g \cdot (1+r)^n}{(1+g)^n - 1} \left[ \frac{1 - \left(\frac{1+g}{1+r}\right)^{n+1}}{1 - \left(\frac{1+g}{1+r}\right)} \right],$$

where  $r$  is the after-tax interest rate and  $g$  is the average annual percentage capital gain. If the asset was bought at the price  $A_b$  and sold  $n$  years later at the price  $A_s$ , the deemed annual capital gain would be calculated from the equation

$$A_s = (1+g)^n A_b.$$

Given knowledge of the buying and selling prices and the length of the holding period, tax administrators could thus use standard tables to calculate the adjustment factor needed to offset the deferral advantage.

saving if the imputed rent on owner-occupied housing is left out of the capital income tax base.

If UK policy makers do not wish to tax the returns to retirement saving and investment in owner-occupied housing, there may be a case for exempting the normal return to other forms of saving as well. This would avoid inter-asset and inter-sectoral distortions, and it would also eliminate the intertemporal tax distortion to the choice between present and future consumption by effectively moving Britain towards a consumption-based tax system. If this is the policy goal, we propose that it could be implemented through the following measures which would still be combined with an ACE at the corporate level:

- (i) Dividends and realized capital gains on shares would be subject to a flat residence-based shareholder income tax, but only in so far as the income exceeds an imputed normal return to the shares. If the realized income from shares in any year falls short of the imputed return (henceforth denoted the Rate-of-Return Allowance, RRA), the unutilized RRA may be carried forward and deducted from future shareholder income. The RRA for the current year is imputed to the basis value of the share, defined as the acquisition price of the share plus any unutilized RRAs carried over from previous years.
- (ii) If the corporate income tax rate is  $t^c$  and the top marginal tax rate on labour income is  $t^L$ , the shareholder income tax rate  $t^r$  would be set such that  $(1 - t^r)(1 - t^c) = 1 - t^L$  to prevent tax avoidance through the transformation of labour income into shareholder income.
- (iii) In general interest income would be exempt from personal tax. However, when the interest rate charged on a loan from a personal taxpayer to a company exceeds a normal interest rate on long-term bonds, the excess interest income would be deemed to be shareholder income and would be taxed as such.
- (iv) The owners of unincorporated firms could opt to deduct an imputed normal return to their business equity from their taxable business income. The residual business income would then be taxed as labour income. Interest expenses would be deductible, but only in so far as the recorded debt does not exceed the recorded business assets. Alternatively, proprietors could opt to have all of their business income taxed as labour income. In the latter case only interest on business debt would be deductible.

A tax system along these lines extends the philosophy of the ACE to the personal income tax. It leaves the normal return to saving untaxed, whether

savings are invested in interest-bearing assets, shares, business assets, or owner-occupied housing. The proposed shareholder income tax ensures that rents as well as labour income disguised as capital income get taxed at the top marginal personal labour income tax rate. Since unutilized Rate-of-Return-Allowances (RRAs) may be deducted from the base of the shareholder income tax in subsequent years and may also be added to the basis of the share, unutilized RRAs are effectively carried forward with interest. This ensures that the present value of the shareholder's deduction remains equal to the initial investment outlay regardless of when he realizes his income from the share. As demonstrated by Sørensen (2005a), this feature implies that the shareholder income tax is equivalent to a neutral cash flow tax. Sørensen (op. cit.) also shows that the shareholder income tax satisfies the properties of the retrospective capital gains tax proposed by Auerbach (1991) and the generalized cash flow tax described by Auerbach and Bradford (2004); that is, tax designs that are known to be neutral towards realization decisions even though they do not involve taxation of unrealized gains. The shareholder income tax thus avoids the distortionary lock-in effect associated with conventional realization-based taxation of capital gains.

Just as financial innovations have tended to blur the distinction between debt and equity, the distinction between shareholder income and interest income may not always be clear-cut. The rule described in point (iii) above is designed to ensure that controlling investors in closely held companies cannot avoid the shareholder income tax through the transformation of labour income into interest income.

Our proposal in point (iv) extends the ACE to the non-corporate business sector on an optional basis. The delineation of business assets and debts and the calculation of the imputed return would proceed in the same manner as under the income tax regime described in the previous section.

#### **10.6.5. Would the proposals work in practice?**

The novel features of the reform proposals above are the ACE system, the (optional) rules for splitting the business income from non-corporate firms, and the shareholder income tax. Compared to other and more radical proposals for tax reform, the advantage of our proposals is that they have already been tested in practice.

To date, the most important experiment with an ACE has been the Croatian profit tax which allowed a deduction for an imputed return on the

equity of all business firms from 1994 to the beginning of 2001.<sup>33</sup> At that time the ACE allowance was abolished, apparently reflecting a desire to gain revenue in order to set a lower headline profit rate, and possibly also because it was felt that, in the specific Croatian context, the ACE tended to favour large state-owned enterprises with overvalued assets. In a careful review of the Croatian tax experiment, Keen and King (2002) argue that the abolition of the ACE did not reflect any irremovable technical flaw in the system. On the contrary, Keen and King conclude that in many ways the system worked rather well so that in this sense the ACE passed its first practical test. Interestingly, an ACE has recently been introduced in Belgium in an attempt to maintain the status of Belgium as an attractive location for international holding and financing companies (so-called 'coordination centres') without offering special tax benefits to such activities (see Gérard (2006) and Sørensen (2008)). Austria and Italy have also experimented with an ACE-like system in recent years, but they applied a reduced rather than a zero tax rate on the normal return. These countries abandoned the ACE as they lowered their standard rate of corporate income tax to the rate previously imposed only on the normal return.<sup>34</sup>

The rules for splitting the income of the self-employed into capital income and labour income are now a well-established part of the tax code in the dual income tax systems of Norway, Sweden, and Finland. The Nordic experience shows that such rules are indeed workable as far as unincorporated firms are concerned. The Nordic attempts to split the income of 'active' shareholders who work in their own closely held company have been less successful because of the difficulties of separating 'active' from 'passive' shareholders. Our reform proposals avoid this problematic distinction which is made redundant by the proposed tax rate structure under our income tax regime and by the shareholder income tax under our consumption tax regime.

From the beginning of 2006 Norway has introduced a version of the shareholder income tax as a replacement for the previous income splitting rules for active shareholders. The Norwegian experiment indicates that a shareholder income tax can in fact be implemented, although a final evaluation of this ACE type tax at the shareholder level must await the accumulation of further experience.<sup>35</sup>

<sup>33</sup> Rose and Wiswesser (1998) describe the Croatian profit tax in the context of the wider Croatian experiment with a consumption-based tax system in the 1990s. For an account of a Brazilian experiment with an ACE type profit tax, see Klemm (2006).

<sup>34</sup> For a review of the Italian experience with an ACE-type system, see Bordignon et al. (2001).

<sup>35</sup> See Sørensen (2005a) for a detailed discussion of the background for and practical implementation of the Norwegian shareholder income tax.

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## Commentary by Julian S. Alworth\*

Julian Alworth is Chairman of European and Global Investments (Dublin) and of European Investment Consulting (Milan) as well as an Associate Fellow at the Saïd Business School (Oxford). His research focuses on taxation and corporate decision making, the effects of taxation on financial markets, portfolio performance measurement, and risk measurement problems for defined contribution pension plans. His writing in these areas notably includes *Finance, Taxation and Financial Decisions of Multinationals*. He worked for many years at the Bank for International Settlements and has been consultant to a number of international organizations and private sector companies.

Our understanding of the impact of taxes on economic decisions in an open economy has increased very significantly over the past three decades. As in many other areas of public finance a great deal of empirical evidence has been gathered and the modelling of economic decision making has become more sophisticated, allowing for a more focused identification of the variables in play. Moreover, the behaviour and goals of governments have been analysed more carefully and this has allowed a richer account of interactions between various jurisdictions.

The chapter by Griffith, Hines, and Sørensen (GHS), three prominent contributors to the literature in this area, represents both a very comprehensive summary of our knowledge and a useful guide to potential policy prescriptions that follow from the analysis. My comments will be divided into three parts. The first concerns the overall framework employed by the authors. In the second I shall refer more directly to some of the specific analyses carried out by the authors whereas my third set of remarks will address their policy prescriptions.

\* I am grateful to Stuart Adam for a number of comments and to Giampaolo Arachi for numerous discussions on the topics discussed in this commentary especially in Section 2.

## 1. OVERALL FRAMEWORK

GHS choose to frame their discussion within the traditional juxtaposition of residence versus source. There are many areas in which this analysis is essential and leads to useful benchmarks, such as that derived in a Diamond–Mirrlees optimal tax-setting that a government in a small open economy should not levy any source-based taxes on capital. The residence vs source and credit vs exemption dichotomies also lead to important insights in respect of intertemporal and interjurisdictional efficiency, and provide useful guidelines for what is ultimately at stake in the international domain, the assertion of tax jurisdiction and the division of taxable income.

This framework, however, has for some time proved to be inadequate as a policy guide in the face of numerous changes in the way economic activity is increasingly conducted. The problems with this approach stem from a number of developments and factors:<sup>1</sup> (i) international business is increasingly being conducted in ways that are not clearly associated in economic terms with a national jurisdiction;<sup>2</sup> (ii) there is a lack of coordination across jurisdictions in respect of the tax treatment of distributions out of a company whether in the form of dividends, interest, royalties, and other payment flows; (iii) a coherent basis for distinguishing between the return to capital and labour income<sup>3</sup>—particularly in the service sector—is becoming difficult to establish; (iv) the location decision of the overall controlling interest of a business (both head office and shareholder location) has become endogenous. As a result where and at what rate mobile individuals and companies choose to be taxed have become decision variables.

It is almost impossible to take account of all of these changes in an analytical framework because there are inevitably too many variables at play. While the tax credit or the exemption system seem adaptable to solve some of these problems both inevitably collapse when taking account of all these developments together. For example, taxation on the basis of residence (a pure credit system without deferral) can be adapted to solve problems (i)–(iii) but is not helpful for (iv) if businesses and individuals are allowed to change

<sup>1</sup> Bird and Wilkie (2000) draw attention to some of these developments.

<sup>2</sup> For example, what is the ‘source jurisdiction’ of the production of telephone services over the Internet? Should it be the location of the servers used for transferring the calls or should it be the jurisdiction of the ‘user’?

<sup>3</sup> The recent UK and US debates regarding ‘carried interest’ in the private equity and hedge fund worlds is a case in point. This is not a small closely held company issue which appears to be the main concern of GHS. For a discussion of the scale of this phenomenon see Graham, Lang, and Shackelford (2004).



residence freely. By contrast, a territorial system cannot easily cope with (i) or (ii) although (iv) would probably not be of great concern.

These difficulties are endemic in a world of free trade and capital mobility. If there is no perfect unilateral tax arrangement that achieves neutrality in an open economy the issue becomes one of finding a non-neutral tax system that is least distortionary along some clearly established dimensions. The prime objective of the analytical framework should be to establish clear terms of reference, trade-offs, and priorities as to what a tax system should and can achieve given the existing constraints and the degree of complexity that one is willing to accept to achieve those objectives. Hence, if the credit system without deferral is too costly to implement or complex this should be quantified and analysed, and it should be possible to establish parameter values sufficient to warrant the abandonment of all CFC regimes. Furthermore, recognizing the inherent imperfection of the systems from the outset helps to identify those areas that are most clearly in need of anti-abuse or other forms of back-up provisions.

Since no system is watertight to a number of potential objections, analysis should be framed in terms of the least costly or most effective approach taking account when possible of potential foreign reactions. GHS rarely apply this cost-benefit approach systematically to the analysis of various alternative regimes. Indeed, what is generally disconcerting about most of the literature, and this is not the fault of GHS alone, is that the past thirty years of theory and empirical work rarely appear to inform the policy process except in a very distant fashion. Neither the costs or benefits of gradualism nor those associated with grand reform proposals are examined taking account of potential imperfections.

## 2. SPECIFIC ANALYTICAL ISSUES<sup>4</sup>

It has been common in recent years to argue that the corporation tax is the archetypal source-based tax and that the existence of rents is the basis for the tax. In many sections of this chapter, GHS argue that source-based taxes can be justified if they fall on *location specific* and *immobile rents*. While I believe there is a sense in which this notion is helpful, I find it extremely misleading as a general guide to policy particularly in an open economy world such as the one in which we are currently living.

<sup>4</sup> This section is the result of joint work with Giampaolo Arachi.

### 2.1. A simple model

In a static context, in the absence of a market for assets and in the absence of risk, a rent or pure profit is defined as the extra return on an asset over the normal return in a market. In a simple model of monopolistic firm the rent is the infra-marginal profit. The world is, however, not static. Assets are traded and the value of assets reflects the capitalized value of the future stream of returns and business is risky. The assumption of market valuation of assets as shown below is very important. The moment assets are valued in a capital market streams of returns with differing profiles but identical risk characteristics will be valued differently.

Assume two water wells are discovered one day on two different lots of land. Each can generate perpetual streams of income valued at  $R$  and  $2R$ . The owner of the second well would clearly receive a yearly rent of  $R$  in excess of the owner of the first well. Note, however, that the owner of the first well would also be in a position of earning a rent of  $R$  if the cost of taking the water out of the ground were nil and if the land was valued at nil before the discovery of the well. Now assume that there is a market for wells. If the value of the riskless interest rate is  $R/100$ , the market value of the two wells would be 100 and 200. Hence, the owners will experience a capital gain at the moment of discovery, equal to the present value of the perpetual stream of net income, and from that instant onward they would both earn the same rate of return  $R/100$  which incidentally is also the riskless rate. Clearly any subsequent purchaser of any of the two wells would earn the same rate of return  $R/100$ . In other words, the rent has vanished or rather been capitalized into the price of the assets. Once the rents have been capitalized owners will only earn the normal interest rate.

This example illustrates two issues with rents. The first is that rents are a relative measure. It is necessary to know the capital value of assets to be able to measure the exact amount of the rent. And secondly in the absence of risk if rents are capitalized there are no extra-normal returns to be earned in a well-functioning capital market. It is difficult to identify a 'rent' in a well-functioning capital market and its measurement is a question of valuation.<sup>5</sup>

### 2.2. A tax on rents

A tax on pure rents would be easy to apply before the lots were sold. The normal return on land is nil, under the assumptions that the land was worthless

<sup>5</sup> Valuation is important for determining the rent element.

before the discovery of the wells and that the water could be taken out of the ground at no cost. Hence any cash flow generated by the wells represents a rent and can be taxed. With a rate equal to 50% the owner of the first lot will pay an annual tax equal to  $0.5R$  and his net wealth will decline to 50. The owner of the second lot will pay  $R$  and his net wealth would decline to 100.

But the tax base on rents as such would vanish if the land were sold prior to the introduction of the tax or if allowance were provided for capital losses to the owners of the wells. Notice that the first lot can still be sold at price 100. The buyer will earn a normal return equal to  $R$  which would go untaxed. Likewise, the second lot can still be sold at price 200 as the buyer could earn a (untaxed) normal return equal to  $2R$ .

Revenues could be secured by levying a tax on capital appreciation at the time of discovery of the well. Assuming a tax rate equal to 50%, the owner of the first well would pay 50 while the owner of the second well would pay 100 leaving them exactly with the same net wealth they have under a tax on pure rents. Notice that if the capital gains tax is levied upon accrual, it can effectively substitute for the direct tax on rents. However, it is well known that it is quite difficult to implement accrual taxation as it could be hard to price an asset before it is sold and also because the taxpayer may have liquidity problems. There are two alternatives. The first one is to implement some kind of retrospective taxation on realized capital gains following the approach developed by Auerbach and Bradford (Auerbach (1991), Bradford (1995), Auerbach and Bradford (2004)). The second is to apply both a tax on pure rents and a tax on realized capital gains.

### 2.3. Taxing extra-normal returns on cross border investments

The previous analysis shows that it is quite difficult to introduce ex novo a tax on pure rents for firms whose value is actively traded because capital values already reflect past innovations in returns and also because 'new rents' tend to be capitalized quickly albeit imperfectly. The capitalization effect might be particularly relevant for cross-border investments. It is well known that most FDI is in the form of M&A. Brakman et al. (2006) calculate that 78% of all FDI, in value terms, are M&A while greenfield investment accounts for just 22% of total FDI value. Within M&A, 97% of deals are acquisitions. Further, the share of M&As has risen sharply in the last decades as shown by Table 1.

**Table 1.** Greenfield investment and M&As (as a percentage of GDP, weighted averages)

	Net FDI flows (%)	FDI Inflows (%)				FDI outflows (%)
		Total	Greenfield	M&A total	M&A privatization	
INDUSTRIAL COUNTRIES						
1987–89	–0.28	0.99	0.23	0.76	0.01	1.27
1990–94	–0.41	0.76	0.26	0.50	0.02	1.17
1995–99	–0.60	1.74	0.26	1.48	0.06	2.33
2000–01	–0.19	3.67	0.46	3.21	n.a.	3.86
DEVELOPING COUNTRIES						
1987–89	0.46	0.86	0.77	0.09	0.01	0.40
1990–94	0.79	1.43	1.14	0.30	0.08	0.65
1995–99	1.83	2.80	1.87	0.93	0.31	0.97
2000–01	2.53	3.63	2.10	1.53	n.a.	1.10
LATIN AMERICAN COUNTRIES						
1987–89	0.64	0.74	0.65	0.08	0.01	0.10
1990–94	0.93	1.15	0.68	0.47	0.20	0.23
1995–99	2.72	3.21	1.58	1.63	0.74	0.49
2000–01	3.38	3.78	1.82	1.97	n.a.	0.40

Source: Calderon et al. (2004).

In particular, as shown by Table 2, the UK has been, on average, the second largest acquiring and target country after the US since 1986.

These considerations have important implications for the way we think of the incidence of taxes in an open economy. The first one is that it is unlikely that a source-based capital income tax may be justified as a way for exporting the tax burden on foreign investors even if there are rents. Assume that foreign investors may earn a net of tax riskless rate equal to  $R/100$ . If a tax is levied on wells' gross income,  $R$  and  $2R$ , at a 50% rate, foreigners will be ready to pay no more than 50 for the first well and 100 for the second one. Hence the tax is entirely capitalized in the market value of the assets and will be borne by the original owners in the form of a lower sales price for the asset. The tax is shifted onto foreigners only to the extent that they have bought the land before the discovery of the wells (as in Huizinga and Nielsen (1997)). However, beside anecdotal evidence on recent M&As in Europe, the findings in Calderon et al. (2004) suggest that M&As do not precede a rise in profitability but rather that they respond to the arrival of new business opportunities as measured by the increases in the growth rate of the target country.

Table 2. Ten largest M&A countries; acquiring and targets, 1986–2005

Country	Annual average acquiring flows				1986–2005
	1986–90	1991–95	1996–2000	2001–05	
a. Ten largest acquiring M&A countries, 1986–2005 (constant 2005 \$ billion)					
1 United States	41.1	42.3	142.3	118.0	85.9
2 United Kingdom	37.2	27.0	200.3	76.7	85.3
3 France	17.0	13.2	85.6	34.9	37.7
4 Germany	6.4	10.7	68.7	31.5	29.3
5 Netherlands	4.3	8.1	39.8	32.8	21.2
6 Canada	13.3	7.5	29.9	24.1	18.7
7 Switzerland	6.1	8.0	28.8	15.8	14.7
8 Spain	2.0	2.9	27.1	24.5	14.1
9 Australia	8.2	3.7	14.1	21.4	11.9
10 Japan	16.0	3.7	13.7	8.9	10.6
b. Ten largest target M&A countries, 1986–2005 (constant 2005 \$ billion)					
1 United States	86.5	44.6	238.4	99.6	117.3
2 United Kingdom	29.6	22.7	119.7	92.7	66.2
3 Germany	4.1	7.9	83.3	40.3	33.9
4 Canada	11.3	6.9	37.6	22.2	19.5
5 France	5.8	12.9	28.9	26.1	18.4
6 Netherlands	3.0	5.7	29.4	20.6	14.7
7 Australia	4.1	8.4	18.0	13.5	11.0
8 Italy	3.8	5.8	10.4	21.8	10.5
9 Sweden	1.7	4.9	23.7	10.3	10.2
10 Spain	3.1	5.0	11.1	11.8	7.8

Source: Brakman et al. (2006).

The second is that a tax on extra-returns (like a cash flow tax or the ACE) would hardly discourage the location of profitable firms to the extent that the ownership of these firms can be traded in the capital market. As we have shown in the previous section, a tax on extra-returns would affect neither the net return that an external investor may earn through the firm nor (as a consequence) the price he is willing to pay. In other words, if rents are quickly capitalized in share prices, extra-returns will arise only to compensate for risk. A perfectly symmetric cash flow tax or ACE would leave both investors and the governments unaffected (Kaplow (1994)). This suggests that the emphasis should be shifted from rents to risk and that some provisions that may affect the volatility of post-tax income may be far more relevant for the location of international investment than statutory tax rates and double taxation agreements. One source of risk is the treatment of losses, in particular in the case of a business restructuring. Another one is given by the transfer pricing rules, where the lack of an international authority for

settling the disputes among countries may give rise to highly volatile 'retrospective' double taxation, as illustrated by the recent case *GlaxoSmithKline v. IRS*.

Finally, I think it is important to recall that the corporate tax is not the instrument typically used in industries where location rents are prevalent, such as mining and oil industries; specific taxes are the norm. They take the form of 'royalties' payable to the host country and/or taxes based on a redefinition of corporate income that is far from that found in financial accounts. These taxes also tend to vary according to the nature of external shocks and are the object of very specific negotiations. For example, the recent sharp rise in oil prices has led to renegotiation of these arrangements in many countries.

### 3. POLICY ISSUES

The taxation of international investment is composed of many moving parts that interact with one another. As noted by GHS, taxes are known to affect strongly profit and investment location but there is little agreement on the size of elasticities. The effects of the tax system on inward and outward investments, moreover, cannot be considered in isolation from developments in other jurisdictions. Apparently minor changes in legislation in other countries may impact significantly on the effects of domestic tax provisions (Altshuler and Grubert (2006)) and other jurisdictions may alter their tax rules in response to policies enacted by domestic tax authorities.

Policy prescription in a world with few empirical benchmarks is difficult<sup>6</sup> and GHS are very guarded in their suggested agenda for reform. Accordingly they divide their prescriptions into 'gradualist' and 'grand' schemes.

The 'gradualist' approach can be summarized as follows:

- (1) Move towards an exemption system.
- (2) Revise the current CFC regime in such a way as to tax on a current basis only passive or 'mobile' income.
- (3) Create an EU-wide data base on arm's length prices for comparable transactions.

In many ways they endorse the major proposals set forth in HMRC (2007). In particular GHS do not believe that a shift to exemption would entail any

<sup>6</sup> See De Mooij and Ederveen (2003) for a survey of the literature on the response of foreign direct investment to changes in taxes.

material change to current revenues.<sup>7</sup> They also support the other changes suggested by HMRC in respect of the current CFC regime and backstop provisions.

An important area not touched upon by GHS and HMRC (2007) concerns the extent to which participation exemption should extend to corporate capital gains resulting from the sales of assets. Currently in the UK capital gains are taxed albeit allowing for a revaluation of the original cost basis. Experience from other countries suggests that much of the attraction of using the UK as a basis for carrying out acquisitions would hinge on exemption from tax of the sales of foreign assets.<sup>8</sup> Another important element that is not considered by the authors is the impact of exemption for the tax treatment of shareholders in the parent company. Would there not be an incentive for domestic closely held companies to reincorporate abroad and establish a UK holding company? While in theory this would have been possible in the past the move towards exemption reduces the cost of such structures considerably. Given the growing evidence on the impact of taxes on organizational choice (De Mooij and Nicodème (2008)), one would expect that exemption would result in a significant reshuffling of company identities. Finally, the authors do not consider the importance of UK foreign direct investment in the world economy: it is not a small open economy as far as other capital importing jurisdictions are concerned. While moving towards exemption can make sense for most countries, the UK and US are special cases. Since these two countries account for such a large share of foreign direct investment, they may be playing a backstop role for source countries. If exemption were adopted the overall global incidence of taxes could change very markedly.<sup>9</sup>

The authors also take issue with the EU proposal for a common consolidated tax base (CCCTB). Many of their arguments such as the difficulties of a coexistence of formula apportionment within the EU and separate accounting between the EU and the rest of the world are well taken. However, GHS do not consider the increasing degree of integration occurring between

<sup>7</sup> GHS prefer exemption to credit without deferral apparently for three reasons. The first is that *ceteris paribus* in the absence of income shifting both the exemption and credit system can ensure neutrality in respect of company ownership. The second is that unlike the credit system with deferral an exemption system does not result in a penalty for repatriations. Thirdly, exemption is administratively simpler and may foster the competitiveness of British companies in the M&A arena.

<sup>8</sup> This would also require careful implementation of backstop provisions. Otherwise the funding costs of a foreign acquisition could be tax deductible in the UK and the proceeds of the sale as exempt.

<sup>9</sup> Altshuler and Grubert (2006) discuss how changes in the US tax system affected the distribution of tax revenues between Germany and the Netherlands following changes in US legislation regarding hybrid entities.



EMS countries. This may not concern the UK in the foreseeable future but if pressure for CCCTB were to grow in this group of countries particularly from the business sector, it would be in the interest of the UK to participate actively in the design of such a system. Opposition to CCCTB may simply not be an option.

The 'grander schemes' considered by the authors entail moving towards an allowance for corporate equity (ACE) along the lines suggested by IFS nearly two decades ago. GHS believe that a move towards ACE would entail revenue losses but that in the long run the reduction in taxes on normal returns would result in a significant increase in investment and therefore indirectly in some recovery of lost revenue. Implicitly they also appear to assume that any remaining revenue loss could be recovered by taxes on other (less mobile) factors of production (which presumably already bear the bulk of the burden of the tax) without sacrificing all the gain in production efficiency.

The exact impact of moving towards ACE, like the shift from the current tax system to a cash flow tax, would probably require one to have a greater understanding of the underlying responses to tax changes (through both profit shifting and investments) before agreeing fully with this conclusion. The recent decade has witnessed a massive increase in the mobility of both skilled and unskilled labour. While there is no hard evidence on the tax sensitivity of these international labour flows, the discussion arising out of the new regime on non-domiciled residents suggests some degree of responsiveness.<sup>10</sup> More generally, skilled labour and capital inputs have become increasingly complementary as a result of the growth of the services sector (whose share of the economy is likely to continue to expand). Under these circumstances the only factor of production bearing the tax burden would be immobile unskilled labour. An explicit tax on this factor would be difficult to justify.

One important aspect of the introduction of ACE that is not discussed by GHS is how it would interact with an exemption system. With a credit system (without deferral) ACE would operate as in a closed economy. With an exemption system, there would be a strong incentive to capitalize UK companies as 'holding companies' for international investments and exploit the current network of double taxation treaties.<sup>11</sup> As already mentioned,

<sup>10</sup> See, for example, <<http://business.timesonline.co.uk/tol/business/economics/article3340849.ece>> and <[http://www.ft.com/cms/s/0/499bbd1c-edf7-11dc-a5c1-0000779fd2ac,dwp\\_uuid=05a3b658-ac95-11dc-b51b-0000779fd2ac.html](http://www.ft.com/cms/s/0/499bbd1c-edf7-11dc-a5c1-0000779fd2ac,dwp_uuid=05a3b658-ac95-11dc-b51b-0000779fd2ac.html)>.

<sup>11</sup> The introduction of participation exemption in Italy including the exemption from capital gains was in part justified as a way to compete with the use of Luxembourg as a centre for locating holding companies. It is interesting to note that a political backlash against this capital gains exemption occurred at the time of the takeover of Banca Antonveneta by ABN-AMRO when a number of Italian investors were able to escape untaxed.

further consideration also needs to be given to the impact of these changes on the treatment of corporate capital gains. Moreover, as recently highlighted by the discussion surrounding the possible replacement of the tax credit system with an exemption system, there are a significant number of complications in implementing such a change under the current company system; it is not a foregone conclusion that ACE would not face the same issues.

#### 4. CONCLUSIONS

Much has been learned in recent decades regarding the behaviour of companies in an international environment and GHS provide an excellent overview of many of the broad implications for policy in a stylized world. However, once one moves away from the ideal prescriptions a number of issues emerge regarding implementation and these have remained largely unaddressed. It is these rather problematic and at times messy areas that typically give rise to complications in the tax system and lead to an increase in compliance costs. They are generally also the ultimate driver for change rather than efficiency gains which are extremely difficult to quantify in the case of multinational companies.

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## Commentary by Roger H. Gordon and Jerry Hausman

Roger Gordon is Professor of Economics at the University of California, San Diego. He is also currently the Editor of the *Journal of Economic Literature*, a Past Editor of the *Journal of Public Economics* and the *American Economic Review*, a Research Associate of the National Bureau of Economic Research and the Centre for Economic Policy Research, a Fellow of the Econometric Society and the American Academy of Arts and Sciences, and an honorary doctorate recipient from the University of St Gallen. His research focuses on diverse topics in public finance.

Jerry Hausman is the MacDonal Professor of Economics at MIT. Professor Hausman received the John Bates Clark Medal from the American Economic Association in 1985 for the most outstanding contribution to economics by an American economist under 40 years of age. He also received the Frisch Medal from the Econometric Society and the Biennial Medal of the Modeling and Simulation Society of Australia and New Zealand. Professor Hausman's research concentrates on econometrics and applied microeconomics. His applied research has been into the effects of taxation on the economy, telecommunications, regulation, and industrial organization.

The authors of this chapter are all leading experts on international taxation. Rachel Griffith (along with Michael Devereux) has examined how taxes affect the location decisions of multinationals.<sup>1</sup> James Hines, often jointly with Mihir Desai, has documented a wide variety of behavioural responses of multinationals to the existing tax code.<sup>2</sup> Peter Birch Sørensen is well known for his work on the dual income tax and on tax coordination.<sup>3</sup> He also has a recent overview of capital taxes in an open economy that provides a more detailed examination of many of the issues that come up in the current chapter.<sup>4</sup>

<sup>1</sup> See, for example, Devereux and Griffith (2003).

<sup>2</sup> For a summary of this research, see Hines (1999) or Gordon and Hines (2002).

<sup>3</sup> See, for example, Nielsen and Sørensen (1997) and Sørensen (2004).

<sup>4</sup> See Sørensen (2006).

Given this expertise, the current chapter not surprisingly provides an informed and balanced summary of results from the recent academic literature on the many types of behavioural responses of multinationals to the existing tax treatment of cross-border capital investments, the welfare effects of tax competition, and the merits/demerits of possible tax reforms. As a result, in this commentary our objective will not be to raise questions about their assessment of the past academic literature but rather to argue that the emphasis on *capital* taxes both in the chapter and in the past academic literature is misplaced. As we argue below in Section 1, the data make clear that corporate profits, and particularly the profits of multinationals, largely do *not* represent capital income. We then argue in Section 2 that the current tax treatment in the UK (and in other countries) of income from multinationals also makes no sense if the underlying tax base represents capital income. If this chapter, owing to this focus on capital taxes, cannot come close to explaining either observed profit rates or existing tax structures, then it inevitably will be missing some of the key pressures affecting the design of the tax structure, and will not be taking such pressures into account when considering possible tax reforms.

In Section 3, we argue that the best available explanation for observed corporate income is that it largely represents the return to the efforts of both entrepreneurs and corporate managers that (in part for tax reasons) they choose to retain within the firm, and ultimately receive as realized capital gains on their shares in the firm. Section 3 then lays out what the existing tax literature implies about the appropriate tax treatment of multinational income to the extent it represents such labour income. To a reasonable degree, the current tax treatment of multinationals does approximate such a tax treatment.

Section 4 then discusses how this tax treatment should change if the domestic tax system undergoes any of several plausible major tax reforms. Section 5 considers the case for tax coordination across countries, while Section 6 provides a brief discussion of some omitted issues.

## 1. WHAT IS THE SOURCE OF REPORTED CORPORATE INCOME?

Most of the past academic literature presumes that the corporate tax base reflects the return to capital invested in the corporate sector, so that the main effect of the tax is to discourage capital investment in the domestic corporate

sector. Yet Gordon and Slemrod (1988) find that the corporate tax base would be considerably *larger*, and overall tax revenue a bit higher, if the normal return to capital were exempted from tax (in present value) through allowing all investment to be expensed while making all personal and corporate financial income from capital (dividends, interest, and capital gains) non-taxable (and in the case of interest not tax deductible).<sup>5</sup> This analysis suggests that the corporate tax base comes almost entirely (or even more than entirely) from sources other than capital income. Gordon, Kalambokidis, and Slemrod (2004a) then argue, on the basis of this evidence, that the effective tax rate on capital is also very low.

Intuitively, if profits simply represent the normal income to capital, then the profit rate should equal the real risk-free interest rate plus a risk premium sufficient to compensate for the risk inherent in corporate investments, and plus of course the resulting random return. The average real risk-free interest rate in the US (represented by the T-bill rate) equalled 1.4% during the period 1959–2003,<sup>6</sup> while the average corporate profit rate in the US reported in Auerbach (2006) and Auerbach and Poterba (1987) was 8.9% during the same time period. If this difference between the average return to corporate capital and the real interest rate represents a risk premium, then the corporate profit rate should be no more or less attractive than a risk-free return on the same capital stock. Yet the corporate profit rate exceeded the real interest rate in every year but two (1981–82) during this sample period, and even then was lower on average by only 2.5% whereas during the rest of the sample period the profit rate on average was 8% above the real interest rate. We cannot make sense of the size of the observed profit rate solely due to risk.

If reported corporate profits do not represent a normal return to savings in corporate capital, then what are they? A conventional answer here is that they represent ‘rents’ accruing to corporations on their infra-marginal investments. In order to understand the economic effects of taxation of such ‘rents’, the key issue is where do these rents come from?

One type of ‘rent’ is profits earned from resources extracted from the land. If the price paid for the land when it was purchased reflected the present value of these rents, then the business would still be earning just a normal rate of profit. If the firm bought the land before the presence of the resources was known, and then discovered them from say exploratory drilling, then the

<sup>5</sup> Gordon, Kalambokidis, and Slemrod (2004) find that overall tax revenue would be only very slightly lower if the same tax reform had been conducted in 1995. Similar findings have been reported for Denmark by Sørensen (1988) and for Germany by Becker and Fuest (2005).

<sup>6</sup> Here, we used data reported in the Economic Report of the President for the 3-month T-bill rate for the nominal interest rate, and the December to December percentage change in the CPI as a correction for inflation.

'rents' represent a stochastic return to this investment in exploratory drilling. Such activity can then explain why corporate profit rates are so risky, but not why their ex post distribution is so much more attractive than a market interest rate. If the manager or other employees have expertise, though, in where oil might be found, then the firm can earn an above normal return on its investments in land and drilling. This extra return represents a return to the labour effort of the manager and employees, though, not a return to capital.

This example is generic. A key objective of any business manager (or entrepreneur) is to identify activities that generate such rents, for example, products that are not 'commodities'. If the manager is successful, the resulting above-normal corporate profits (now and continuing into the future) represent a return to the current ideas and effort of the manager, so are one form of labour income. In part for tax reasons, the present value of these extra profits is often left within the firm rather than paid out to the manager (or entrepreneur) as wages and salaries.<sup>7</sup> The innovator ultimately receives this income in the form of long-term capital gains, and for tax purposes this income shows up as continuing above-normal corporate profits.<sup>8</sup>

In a closely held firm, for example, compensation paid in the form of company stock is often valued for tax purposes at the par value of the stock, so at a minimal level, implying that employees avoid taxation at ordinary rates on their compensation while the firm foregoes a deduction for wage and salary payments. If the employees' tax obligations on wages and salaries (less any future capital gains taxes paid when the shares are sold) exceed the tax savings the corporation could receive from being able to deduct wage and salary payments, then there is a joint saving in personal and corporate tax payments from not paying wages but instead using stock compensation. Reported corporate profits are then higher, since there is no longer a deduction for wage and salary payments to these employees.

Gordon and Slemrod (2000) in fact find that reported corporate profit rates are very sensitive to the difference in the tax rate that would be paid on wages and salaries and that paid (through both corporate taxes and personal capital gains taxes) if the funds instead are retained. As a result, observed

<sup>7</sup> If these retained profits would be shared with other shareholders, the manager can be compensated with new share issues (or stock options). The manager is then taxed on the fraction of compensation taking this explicit form, perhaps at a favourable rate if the shares are undervalued for tax purposes or if the market valuation of the shares does not completely reflect the future value of the above-normal profits.

<sup>8</sup> Entrepreneurs face a tax incentive not to pay out as wages and salary the profits resulting from their ideas and effort to the extent that the effective taxes paid on wages and salaries exceed those paid on profits that are retained and ultimately realized in the form of capital gains.



corporate profit rates should be high during time periods when the corporate tax rate is low relative to personal tax rates, consistent with the recent growth in reported corporate profit rates as corporate tax rates have fallen.

Recent papers examining which firms become multinationals find that these firms tend to be much more profitable than are firms that simply operate in the domestic economy.<sup>9</sup> These firms presumably have developed particularly valuable new products or particularly efficient new processes, so have a comparative advantage over foreign firms in the same industry. The profits resulting from these new products or processes again should represent the return to the effort, skill, and imagination of scientists or entrepreneurs employed by the firm, and in (large) part show up for tax purposes as higher corporate profits, accruing to the firm on its operations throughout the world, and not just in the UK.

How plausible is it that the size of the observed corporate profit rate can be explained on the basis of income attributed to the ideas and efforts of the entrepreneurs? Put rhetorically, how plausible is it that the additional annual income to Microsoft attributed to the ideas and efforts of Bill Gates are an important fraction of the above-normal rate of return reported by Microsoft? Very plausible. The value of the shares he now holds in the firm or previously sold represents the ex post present value of his contributions to the firm beyond what he has been paid in salary, and the corporate income accruing to these shares represents labour income generated by Gates.<sup>10</sup>

## 2. TAXATION OF MULTINATIONALS IF PROFITS ARE ONLY CAPITAL INCOME

In thinking through the appropriate tax treatment of the profits of multinationals, a key distinction in the academic literature is between a 'residence-based' and a 'territorial' corporate tax. Under a territorial tax, profits are taxable to the extent that they arise from capital invested in the domestic economy regardless of the location of the owner of this capital. Under a

<sup>9</sup> See Helpman (2006) for a recent survey of this large and growing literature.

<sup>10</sup> Reported corporate profits are higher whenever the income ultimately accruing to innovators is never deducted by the corporation as a business expense. On the basis of US tax law, stock compensation and non-qualified options issued to executives are both a deductible expense, so do not explain higher corporate profits (as long as the value assigned to this compensation reflects its market value). The corporate income accruing to the founding shares in the firm, though, does measure a return to entrepreneurial effort.

residence-based tax, profits would be taxable whenever they are owned by a domestic resident, regardless of where the capital is located.

Unless a country has market power in the world capital market, then the past academic literature argues that the country should not make use of a territorial corporate tax. In response to such a tax, investors simply shift their investments abroad until the pretax domestic return to investment has risen by enough to offset the tax. That capital is paid more pretax to compensate for the tax means that workers are paid less, if the firm is to continue to break even. While a territorial corporate tax and a tax on labour income are both ultimately paid by workers, a territorial corporate tax is less attractive on efficiency grounds since it discourages capital investments as well as labour supply.

At least on the basis of the evidence reported in Hines and Hubbard (1990) for the US, the existing attempt to impose domestic corporate taxes on foreign-source income has been largely ineffective. Firms can postpone tax indefinitely through deferring any dividends to the domestic parent, and then repatriating heavily during occasional years when the tax rate at repatriation is low, as occurred in the US recently. Alternatively, firms can simultaneously repatriate profits from both more highly taxed as well as more lightly taxed countries so that no domestic tax is owed at repatriation, given worldwide averaging. This chapter presumes that the UK tax also in practice approximates a territorial corporate tax. Yet, the academic literature suggests that a country loses from use of a territorial corporate tax, making the existence of the tax puzzling.

A residence-based tax, in contrast, attempts to tax residents on any income they receive from their savings, regardless of the type or location of the asset. Since capital gains are normally taxed at a much lower effective tax rate than dividends or interest income, assets generating non-trivial capital gains would be tax favoured unless there is some compensating tax provision. Since much of the income from corporate equity takes the form of capital gains, the corporate tax can serve as such a compensating tax provision, ideally leading to an effective tax rate on corporate capital equal to that on other types of assets.<sup>11</sup> A corporate tax is then an important backstop to any personal tax on income from savings.

To implement a residence-based tax on corporate income, though, a country would need to tax corporate profits to the extent that they are owned by domestic residents, regardless of the location of the investment. If domestic

<sup>11</sup> Given the existing dividend imputation scheme in the UK, the corporate tax is partially rebated on income paid out as dividends, so that dividend income is only subject to personal taxes. As a result, the corporate tax focuses mainly on income generating accruing capital gains to shareholders.

firms are entirely owned by domestic residents, then this approach means taxing at accrual their foreign as well as their domestic profits.<sup>12</sup> To the extent that domestic firms have foreign owners, the corporate tax rate should be reduced proportionately.<sup>13</sup> Conversely, when domestic residents buy shares in foreign corporations, to that extent the corporate profits of the foreign firms should be taxable. If foreign subsidiaries located in the UK have no domestic shareholders, then they should be tax exempt.<sup>14</sup>

None of these tax provisions are seen in the UK, or anywhere else. In some cases, enforcement problems can be offered as an explanation. For example, if profits received by foreign subsidiaries located in the UK were tax exempt, then domestic shareholders may try to appear to be foreign shareholders, for example, by buying domestic equity through a Swiss financial intermediary, so as to avoid tax. If this threat from tax evasion is large enough, then foreign shareholders in the domestic economy should be taxed to some degree, trading off the benefits from reducing evasion with the costs from reducing investment in the domestic economy.

Yet there is no apparent pressure to adopt any of the above tax provisions, even though these are the provisions that avoid any distortions to the location or form of capital that residents choose to invest in. Of course, the current tax treatment in the UK may just be very badly designed. However, its stability over time and the use in many other countries of the same basic tax structure should raise questions about whether the tax structure in fact creates such large distortions. The inference we would draw is that this tax structure is responding to a variety of other pressures not taken into account in the above discussion. Without taking these pressures into account, it is hard to be confident when making policy recommendations based on the above framework.

### 3. TAXATION OF MULTINATIONALS IF PROFITS ARE LABOUR INCOME

If corporate profits represent labour income, through for example stock compensation replacing wage payments either for highly paid regular employees

<sup>12</sup> Alternatively, if the foreign profits are only taxed at repatriation, then the tax rate should be adjusted so as to replicate the effective tax rate that would have arisen with a tax at accrual. See Auerbach (1991) for a derivation of the appropriate rate.

<sup>13</sup> Formally, this is true only if the country has no market power in the international market for corporate equity.

<sup>14</sup> The argument here is the same as that against a territorial corporate tax.

or for entrepreneurs, then how should the corporate tax best be designed, given that labour income is otherwise taxable under the personal tax?

To focus this discussion on the issues left out of the chapter, we assume that there are no domestic taxes on income from savings, and full expensing of new investment (equivalent to use of an ACE).<sup>15</sup> The question becomes how the tax system should be designed so as to tax labour income at the same rate, regardless of the form of compensation, to avoid distorting the form of compensation. Since wages and salaries are taxable personal income to the employee,<sup>16</sup> distortions are avoided only to the extent that other forms of compensation are ultimately taxed at the same rate.

There are many ways to accomplish this outcome. If the corporate rate (together with future individual tax liabilities on the resulting capital gains) equals the maximum personal tax rate due on wage and salary income, as proposed in this chapter, then employees in the highest tax bracket will be indifferent between wage and stock compensation,<sup>17</sup> while all other employees face a tax advantage from receiving wage compensation. Since use of stock compensation is largely confined to top executives, this approach should provide a reasonable approximation to a level playing field.<sup>18</sup>

If this approach is used to avoid distortions to the form of compensation, how would it deal with cross-border economic activity? Passive portfolio investments by domestic residents in foreign firms would not include any 'labour' income, so should be treated the same as any other capital income. If capital income faces very low effective tax rates, then this foreign-source portfolio income should face low effective rates as well. Given existing crediting arrangements, this outcome largely corresponds to existing practice.

If foreign subsidiaries locate in the UK, then their highly paid employees face the same tax incentive as highly paid employees of domestically owned firms to receive compensation in the form of stock rather than wages and salaries. These incentives would be avoided if the profits of the subsidiary are taxed at the same rate as applies to other firms operating in the domestic economy, consistent with the observed tax treatment.<sup>19</sup>

<sup>15</sup> Gordon, Kalambokidis, and Slemrod (2004a) argue that the US tax system as of 1995 came close in practice to exempting capital income from tax.

<sup>16</sup> In the US at least, wage and salary income is also subject to payroll taxes and State as well as Federal income taxes.

<sup>17</sup> Similarly, entrepreneurs will be indifferent on tax grounds between wage payments and retention of accumulating profits.

<sup>18</sup> Bonuses tied to stock prices rather than stock compensation can then be used to provide incentives to employees for whom wage compensation is favoured on tax grounds.

<sup>19</sup> The subsidiary might well shift these profits abroad to avoid domestic tax. However, if the profits must ultimately be repatriated (the same issue faced in other contexts below), then they will

To avoid having this taxation of foreign subsidiaries located in the UK discourage capital investment in the UK, capital investment can be expensed (or equivalent), consistent with the treatment under an ACE.<sup>20</sup> To avoid discouraging foreign firms from using their intellectual capital in the UK, royalty payments would need to be deductible (as they are in the UK).

The sticking point here is determining the size of royalty payments for tax purposes, given the pressures faced by both the tax authorities and the firm in negotiating over their size. The multinational presumably would like to maximize the size of these deductions, subject to the constraint that enough profits remain within the subsidiary to allow it to provide outside shareholders an adequate rate of return on their invested funds. If subsidiaries with profitable technologies are fully mobile across possible host countries, then tax competition implies that tax rates will be pushed down to the point that host country governments just break even by allowing entry of foreign subsidiaries. The country breaks even if it collects no more in taxes than it would if the domestic factors employed by the firm instead were reallocated elsewhere, consistent with it allowing full deduction for the market royalty rate for any proprietary technology used by the subsidiary. If a subsidiary using a profitable technology gains from locating in a particular host country, however,<sup>21</sup> then the host country government does have an incentive to tax the location-specific profits of the multinational, for example by imposing a withholding tax on royalty payments made to the foreign parent firm.<sup>22</sup> We therefore expect full deductibility of royalty payments when firms are fully mobile across countries, but conflicts over the determination of royalty payments and some net taxation when firms are not fully mobile.

Our key concern with the proposal in this chapter concerns the proposed tax treatment of income earned by the subsidiaries of domestic multinationals operating abroad. Under the proposal, this income will be exempt from domestic tax. Yet this income includes a return to the ideas and effort of the entrepreneur and other firm employees, introducing a tax distortion favouring the use of ideas abroad, violating for example the proposed 'capital ownership neutrality'.

If these profits face corporate tax at accrual at the same rate as applies to domestic firms, then the tax treatment of labour income would be neutral.

be subject to the domestic corporate tax as well as personal capital gains taxes on any shares owned by domestic employees, so face a domestic tax rate comparable to that on wage and salary income.

<sup>20</sup> We have argued above that any country that is small relative to world capital markets has an incentive to exempt capital investments from tax.

<sup>21</sup> For example, a retailer like Walmart profits from setting up operations in each possible host country, so is not indifferent (taxes aside) to the location of its subsidiaries.

<sup>22</sup> This is true up to the point that the subsidiary would choose to shut down.

This treatment of course differs from the current law, which taxes foreign-source profits at repatriation, as well as from the proposed exemption treatment.

However, taxation of the income from foreign subsidiaries at repatriation is equivalent to taxation of their earnings at accrual if funds sent abroad are immediately deductible for tax purposes while all repatriations are taxable in full (and all realized capital losses deductible in full). This assertion is simply an application of the argument that taxing pension income when received is equivalent in present value to taxing the initial wage income that is withheld to invest in the pension plan: in either case, individuals are fully taxed on all compensation payments they receive, whether in the form of wage payments or pensions. The current treatment of pension income introduces no distortions to the form of compensation as long as the individual's tax rate is constant over time and as long as the rate of return earned on funds invested through a pension plan is equivalent to the rate of return that could be earned on other savings.<sup>23</sup>

This cash-flow tax treatment of transactions with foreign subsidiaries of domestic multinationals differs from current law because funds sent abroad are not currently deductible at the date when they are sent abroad but instead are deductible when invested capital is finally repatriated. In practice the amount of funds sent abroad by multinationals is likely to be small relative to the size of their operations, since largely they are providing intellectual capital to their foreign subsidiaries, so that this difference between current law and a neutral law should be minor.

An immediate complication, though, is that if the home country imposes the same effective tax rate on foreign-source entrepreneurial income as on other sources of labour income but also the host country taxes these profits, then the overall effective tax rate on foreign-source entrepreneurial profits exceeds that on other types of labour income. Here, existing tax provisions allowing a credit for taxes paid abroad help restore neutrality in the effective tax treatment of different forms of labour income from the perspective of the individual, even if not from the perspective of the home versus host country governments.

Neutrality requires that foreign-source income ultimately be taxed at the domestic tax rate, regardless of which government receives the revenue. The effective tax rate could be higher, in spite of the credit, if the foreign tax rate faced by the multinational exceeds the domestic tax rate. Given the ease of shifting profits to countries with low tax rates (such as tax havens), few

<sup>23</sup> Recall that we continue to assume no domestic taxes on income from savings.

multinationals should face a tax rate on foreign-source profits above the domestic rate. The effective tax rate could end up being well below the normal domestic corporate tax rate, however, if firms can retain funds abroad until they have an opportunity to repatriate them when their domestic tax rate is temporarily low. For example, the US in 2003 allowed multinationals to repatriate profits subject to a tax rate of only 5%, so that the overall corporate tax rate on these profits could have been as low as this 5% if the income had previously accrued within a tax haven. This outcome can yield a very low ex post tax rate on these foreign-source earnings, and the anticipation of such opportunities generates an ex ante tax incentive encouraging use of entrepreneurial ideas abroad.<sup>24</sup>

Another potential problem is that firms may never need to repatriate profits earned abroad, so never face domestic tax on these earnings. Firms can continue to face attractive activities abroad into the indefinite future. Even if they need to raise further funds for domestic investments, multinationals may be able to borrow using foreign assets as collateral, so draw on these funds without formally repatriating them. Firms may well find a variety of other ways of implicitly repatriating the funds, for example, having the foreign subsidiary invest directly in the project that the parent firm hopes to finance. Deferral of tax until repatriation can at times mean that the tax is never paid, again introducing a distortion favouring foreign activity and favouring the creation of intellectual capital.<sup>25</sup>

This distortion is larger the lower the effective corporate tax rate paid abroad on these foreign-source profits. In particular, by shifting profits into a tax haven and never repatriating them, the firm can face little or no taxes on their foreign-source earnings. The UK responds here by making foreign-source profits immediately taxable at the domestic tax rate if they arise in a country with a corporate tax rate less than three-quarters of the UK rate. Not only does this approach reduce a distortion to the location of use of intellectual property but it also preserves the domestic government's tax base. Since not all countries with a corporate tax rate below the domestic rate fall under this provision, though, some distortions still remain.

<sup>24</sup> Funds can also be repatriated when the firm has domestic tax losses. Discretion over the timing of repatriations allows for greater shifting of income across time periods, so greater tax smoothing than is allowed under existing provisions on tax loss carry-forwards and carry-backs. With full tax smoothing, though, marginal profits are still taxable at the domestic corporate tax rate.

<sup>25</sup> Desai et al. (2002) report though that foreign subsidiaries of US multinationals paid out 54% of their profits in dividends during 1982–97, compared to a pay-out rate of 40% for all US firms included in the Compustat database. These figures do not suggest any systematic tendency to retain profits abroad.



If domestic multinationals face a tax when foreign-source earnings are repatriated, another way to avoid this tax is to shift their headquarters abroad before this repatriation occurs. This relocation avoids tax unless the move is viewed to entail a constructive repatriation of all existing foreign assets.

Equivalently, domestic inventors can set up a firm abroad to produce on the basis of their invention, so that the return to the inventor's intellectual property is not part of the domestic tax base. If the resulting income of the inventor accrues in a tax haven, then the inventor is simply taxed at domestic capital gains rates rather than the much higher tax rate on wage and salary income. One way for governments to close this loophole is to treat as labour income for tax purposes all receipts from foreign firms where the individual has had a past relationship, allowing any funds sent abroad to be fully tax deductible in order to avoid distorting savings incentives.

Of course, trying to treat differently for tax purposes any shares owned in firms where the individual has had a past relationship introduces administrative complications. This distinction is really unnecessary. If the same treatment were extended to all investments, allowing a deduction when any funds are invested and a tax on all funds received in return, then this treatment introduces no distortions for any passive 'marginal' investments. This outcome is precisely what is currently done with pension contributions. With a pension-type treatment of all savings, we end up with a personal consumption tax.

Under a personal consumption tax, since entrepreneurs and inventors ultimately face full taxation at labour income tax rates on any returns they receive from their intellectual property, whether in the form of capital gains, dividends, or wages, there is really no remaining need for the corporate tax, at least as a backstop for the personal tax on labour income. There may still be possibilities of tax avoidance through bequeathing shares at death, where labour income taxes have not yet been paid on the accumulated value. The response here that preserves a level playing field would be to treat any remaining funds never paid out to the shareholder during his or her life as taxable at labour income tax rates at the date of death. Another problem can be the monitoring of funds received from abroad. This potential problem may require information exchange between governments, or monitoring of funds from abroad deposited in domestic financial institutions.

Inventors and entrepreneurs can also avoid domestic tax on the returns to their intellectual capital by moving abroad before these profits are received.<sup>26</sup>

<sup>26</sup> We have been told that this is a serious problem in the Netherlands, where business owners often move abroad (typically to Belgium) before selling their businesses.



To the best of our knowledge, this problem has not to date been addressed in the UK or the US. To do so would involve constructive receipt of any earnings or capital gains that have accrued on business activity at the date when the individual moves abroad.

Another issue that arises with intellectual capital as well as with past investments in physical capital is the temptation governments may have to seize existing assets. Calling a firm's intellectual property 'rents' reflects this temptation. Past efforts at developing intellectual property or past savings to finance physical capital investments cannot be undone, so that these existing assets can be taxed at very high rates without any immediate loss of the tax base. However, the threat of this happening again in the future can badly discourage future investments in intellectual or physical capital in the country.<sup>27</sup> Here, governments cannot easily commit not to impose such windfall taxes in the future, and at best can build up a reputation for grandfathering existing assets when tax policy is changed. Losing this reputation through a one-time seizure can be very costly.<sup>28</sup>

#### 4. IMPLICATIONS OF POSSIBLE DOMESTIC TAX REFORMS FOR THE TAX TREATMENT OF CROSS-BORDER ACTIVITY

In Section 3, we argued that the current tax treatment of foreign-source income is broadly consistent with what we would expect if the implicit aim is to impose a neutral tax on the labour earnings of domestic residents, regardless of the form of compensation and regardless of where the ideas are employed.

To what extent would current tax provisions need to be modified under any of a number of plausible reforms to the domestic tax system? How do international considerations affect the merit of any of these proposals?

A common proposal is to reduce the effective tax rate on income from savings. One possible means of accomplishing this reform would be to exempt dividends, interest income, and capital gains from personal tax, and to allow expensing for new capital investments. In our discussion above, we have assumed that the effective tax rate on income from savings is already very low, implying that any changes would be minor. However, any reduction in the tax rate on capital gains does reduce the effective tax rate on entrepreneurial

<sup>27</sup> This is referred to as a time-inconsistency problem in the economics literature.

<sup>28</sup> Note that even an increase in the personal tax rate involves a partial seizure of the return on intellectual capital not yet paid out to the inventor.

income that is ultimately received in the form of capital gains. To leave the effective tax rate on this form of labour income unchanged could then require a rise in the domestic corporate tax rate.

This chapter proposes to shift to a territorial corporate tax. Under such a tax, foreign-source earnings generated by the ideas of domestic residents become free of domestic corporate tax, so would only be subject to foreign corporate taxes and domestic personal capital gains taxes. To the extent that foreign-source earnings had previously been subject to domestic corporate taxes at repatriation, this reform also reduces the effective tax rate on the foreign-source earnings of domestic entrepreneurs. The resulting change may be limited, however, since the effective domestic corporate tax paid at repatriation has been small, owing to the existing credit.

What would be the effects of a shift to use of formula apportionment, a frequently proposed reform in the EU? Under such a proposal, the profits earned by a domestic multinational would be taxable at a weighted average corporate tax rate, with the weights based on the fraction of activity (property, payroll, or sales) located in each of the countries where a firm does business. Only a fraction of these profits would be taxable in the entrepreneur's home country, so that most of the earnings from the entrepreneur's intellectual capital would escape domestic taxes. Whether these earnings still face a comparable tax rate depends on where the firm does business. Making use of intellectual property in countries with low corporate tax rates is encouraged, and if the resulting weighted average corporate tax rate is below the domestic rate then there is a resulting tax distortion affecting forms of compensation. Distortions should be less than with a territorial tax or with the existing corporate tax, however, since shifting property, payroll, or sales to a tax haven should be more costly than shifting accounting profits.<sup>29</sup>

Another possible reform supported in this chapter, given its successful use in Scandinavia, is a dual income tax. Under such a tax, corporate income is first taxable under the corporate income tax, with the same issues as elsewhere about the domestic tax treatment of foreign-source income. Individual receipts from dividends, interest payments, and capital gains, are then taxable as 'capital income' as long as in total they are less than some fraction of the invested capital. In principle, any excess is taxable as 'labour income', though at least in Sweden any excess capital gains are instead treated as half capital income and half labour income. In practice, capital losses are instead treated as negative capital income.

<sup>29</sup> Formula apportionment introduces its own additional distortions, however, as described in Gordon and Wilson (1986).

To what degree does such a dual income tax distort an individual's incentives to become an entrepreneur, and if so to receive compensation as wages and salaries versus dividends or accruing capital gains in shares owned in the firm? Given the option to pay out profits as wages and salaries, the effective tax rate on positive entrepreneurial income should at most equal the personal tax rate on wages and salaries. To avoid introducing an incentive to retain earnings within the firm, converting wage into capital gains income, the chapter proposes setting the corporate tax rate so that corporate taxes plus any further capital gains taxes are equivalent to the labour taxes that would otherwise be due on this income.

For domestic firms, this proposal could work appropriately. Multinationals, however, can avoid the domestic corporate tax by reporting the income abroad. Under the proposal, corporate income reported abroad, perhaps through use of transfer pricing, is taxed as capital gains under the domestic tax code, unless the individual's overall return to 'savings' is so high that the excess is again taxed as labour income.<sup>30</sup>

Note, though, that taxing all earnings to labour effort as labour income requires allowing losses attributed to ideas that work out poorly to be deductible from other labour income as well as imposing tax on profits at labour tax rates. When capital income is reclassified as labour income only when it exceeds a normal rate of return, this approach does not treat losses resulting from entrepreneurial effort appropriately, discouraging risk-taking.

What are the international tax implications of a shift from the income tax towards greater use of a VAT? Under a VAT, real goods shipped abroad are tax deductible while any goods imported from abroad are fully taxable. Under the tax treatment proposed above for intellectual capital used abroad, funds sent abroad would be tax deductible while all repatriated funds would be fully taxable. In theory, the two approaches are equivalent in present value.<sup>31</sup> A VAT therefore should lead to neutral incentives as long as all of the consumption of an entrepreneur/inventor occurs in the home country. A VAT, though, is a proportional tax, while the income tax allows much more flexibility in the rate structure. To preserve some semblance of the progressivity available under the income tax, VATs normally impose higher tax rates on goods consumed mainly by the rich.

<sup>30</sup> Neutral incentives require that the 'normal' rate of return equal a risk-free interest rate. At least in Sweden, the 'normal' rate of return taxable as capital income has been set much higher, leading to a reduced tax rate on a sizeable fraction of entrepreneurial income.

<sup>31</sup> This difference is analogous to the difference between an R-base and an F-base, using the terminology of Meade (1978).

## 5. TAX COORDINATION

One issue discussed at length in this chapter is tax coordination across countries. What pressure is faced for tax coordination, if the role of the corporate tax is to impose a neutral tax on all forms of compensation for labour effort?

Given substantial differences in the maximum tax rates on labour income across EU countries, neutrality requires differences in corporate tax rates as well. Any shift towards equal corporate tax rates leads to a subsidy to non-wage compensation in countries with high personal tax rates and a penalty on non-wage compensation (incentive pay) in countries with low personal tax rates.

If foreign-source earnings from intellectual capital can be kept abroad indefinitely, however, then the threat of tax evasion through use of tax havens remains. A variety of policies can then provide means of lessening the gains from such tax evasion. One approach would be a minimum corporate tax rate. Another would be information sharing, allowing the home country to tax profits reported in a tax haven at accrual. If entrepreneurs are taxed at death on the accumulated value of unrepatriated assets, information sharing again would be needed to help assess the value of these assets.

These pressures, though, largely become moot if countries shift to use of a VAT or a dual income tax. They may become somewhat less pressing through use of formula apportionment.

As discussed in a variety of recent papers, for example, Keen and Ligthart (2004), information sharing can only be expected to occur if the host country has an economic incentive to provide such information. These issues are nicely discussed in this chapter, and are as relevant when information sharing is needed to enforce taxes on labour income as they are when the underlying source of income is capital income.

## 6. OMITTED ISSUES

The chapter starts with the sentence, 'This chapter assesses the role of international considerations in tax design, emphasizing issues related to capital taxation.' Our concerns with the chapter arise from this choice to focus on capital taxation. By our reading of the evidence, the key issues driving the current design of international tax provisions relate to the taxation of labour income, and more specifically income from entrepreneurial effort and imagination.

Taxation of labour income raises a quite different set of enforcement issues from taxation of capital income. Deferral of taxes, for example, is not a concern, only their present value. Taxation of income at repatriation can therefore work fine, as long as foreign-source earnings are ultimately repatriated. In general, current tax provisions seem reasonably well designed to try to implement a neutral tax rate on income earned by domestic workers, managers, and entrepreneurs, regardless of the source of their income or the form in which it is received. To preserve a neutral tax treatment of labour income, the substance of the current provisions dealing with cross-border flows should therefore be preserved rather than replaced with an exemption system.

One question omitted from the above discussion, though, is whether entrepreneurial income *should* be taxed at the same rate that applies to wage and salary income. If labour effort that generates intellectual capital also generates positive externalities to others, since the protection of intellectual property is inherently limited, then a case can be made that entrepreneurial activity should be encouraged. Externalities plausibly arise from attempted innovations, whether successful or unsuccessful, so any tax subsidies should be linked specifically to entrepreneurial *risk-taking*. Only the most successful projects will result in foreign-source income. Allowing a lower tax rate on this foreign-source income, while leaving unchanged the tax treatment of less successful projects under the domestic tax system, then provides one mechanism for increasing the incentives for engaging in more risky entrepreneurial projects.<sup>32</sup>

Another issue largely neglected in the above discussion is the effects of existing tax structures on migration decisions. When migrants choose a country in which to locate, they are in part choosing both a tax structure and a package of public services. The fiscal structure then discourages entry of individuals who are net payers, and encourages entry by individuals who are net recipients, relative to what these same individuals face in otherwise equivalent locations. Migration within the EU, while less for example than that between US states, is still non-trivial. The fiscal pressures are presumably greatest for those at the extremes of the income distribution. The richest individuals would be attracted to countries with the least progressive tax structure while the poorest individuals would be attracted to the countries with the most generous social safety-net expenditures. These migration pressures have largely been neglected in past discussions of the optimal personal tax rate

<sup>32</sup> Cullen and Gordon (2007) discuss other ways in which the tax system can encourage more entrepreneurial risk-taking.

schedule. Even after the thorough discussion of the taxation of international capital flows in this chapter and our more limited discussion of the taxation of the return to entrepreneurial activity earned abroad, there are many further issues for tax policy arising from cross-border activity.

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