4

Fundamental Reform Options

So far, this book has set out principles for the taxation of profit and described and evaluated the existing regime. As set out in the previous chapter, the existing tax regime is beset by problems. In response to such problems, many proposals have been made for reform. In this chapter, we turn to examining options for fundamental reform.

In broad terms, there are two dimensions to designing a tax on business profit: defining the base of the tax, and the location of the tax.[1] The main choices in defining the tax base for business profit are whether to tax all income before any deductions of the cost of finance, income after the cost of debt is deducted, or income after the cost of debt and equity finance are both deducted. The last of these would be a tax on economic rent. These distinctions were set out and discussed in Chapter 2 and we do not focus on this issue in this chapter.

Instead we focus on the location of the tax. We introduced the principles of choosing different locations in Chapter 2, in the context of identifying the reasons for a tax on profit. Here we consider reasons for and against choosing alternative locations in more detail, and partly in the context of specific proposals that have been made; these we group together according to where the tax on profit would be levied. In broad terms, the profit of a business could be taxed in one of four locations. First, it could—in principle, at least—be taxed in the location of the owners of the business. A second option is the location of the parent company or business headquarters. A third option is the location where the business undertakes its functions and activities, or where its assets—defined broadly to include financial assets—are held.[2] We refer to this location as 'origin'. And finally, a business could be taxed in the location of its customers. We refer to this location as 'destination'.

Each of the activities taking place in these four locations might be thought to be necessary, but not sufficient, for the generation of profit—the initial investment by owners, management by the parent company or headquarters, all of the functions, activities, and assets of the business, and eventually sales to third parties. In principle, then, they would all also generate a nexus which would justify

[1] While much of the analysis in this chapter applies to all business profit, for ease of exposition this chapter primarily refers to corporate profit, which constitutes the bulk of business profit in an international setting.

[2] Technically, a multinational's subsidiaries are taxed on the basis of their own residence as they are taxpayers in their own right. But—as discussed in Chapters 2 and 3—we refer to a country as the place of 'origin' if this is where the function and activities, or assets, of the business are located.

Taxing Profit in a Global Economy. Michael P. Devereux, Alan J. Auerbach, Michael Keen, Paul Oosterhuis, Wolfgang Schön, and John Vella, Oxford University Press (2021). © the several contributors.
DOI: 10.1093/oso/9780198808060.003.0004.

the government in each location—legally and politically—to have some claim to taxing the profit.

The specific options within each location have strengths and weaknesses. In choosing among these options, the factors that we have in mind are the criteria set out in Chapter 2: economic efficiency, fairness, robustness to avoidance, ease of administration, and incentive compatibility. In some of the main proposals described and discussed below, we explicitly address each of these five criteria. For brevity, in other cases we do not explicitly do so, instead just focusing on the main issues raised. In all cases, though, we highlight the key issues for each option, in the light of these criteria.

We now turn to a discussion of fundamental options under each of the four possible locations. We begin with 'origin' countries. First, we consider general arguments for locating taxing rights in these countries. We then consider in some detail one commonly-advocated reform option, unitary taxation and formulary apportionment. We then turn to the other possible locations: that of the parent company; the owners; and the customers.

1. Origin country

Under the existing system for taxing corporate profit, companies are taxed primarily in the third of the locations set out above: the country of origin.

1.1 Fundamentals of the origin basis

Before evaluating this as a basis of taxation, it is worth recalling a point made in Chapter 3. A country can fall under more than one of the four possible locations set out above. For example, a country can be both an origin as well as a destination country. If a company in country A sells goods through a shop in country B, country B is both a country of origin and destination. The fact that country B would tax part of the company's profits under the existing system does not mean that taxes are levied on a destination basis under the existing system. The tax would be imposed by B because of the presence of the shop—a PE—and, therefore, it is imposed on an origin basis.

Similarly, the country where a parent company is located can also be an origin country. Under an origin basis of taxation, the country where a parent company is located may tax part of the profit of the multinational because the entity there—which happens to be the parent company—carries out functions and activities and, possibly, holds assets. The parent company is thus treated like any affiliate within the multinational group under an origin-based tax. This should be distinguished from the second option set out above, where the profit of the multinational is taxed in a particular country specifically because the parent company is located there. Under a pure form of the second option, the country where the parent company is located would tax a multinational's worldwide profit on an accruals basis.

We have been very critical of the existing international system. But to assess the possibility and desirability of moving towards a better structure within an origin-based system, we should distinguish problems that arise inevitably in an origin-based system from the more specific problems of the existing system.

1.1.1 Origin and the separate entity approach

An origin-based system can be implemented using a separate entity approach, as under the existing system. But it can also be implemented using a unitary approach, as explained below. The problems inherent in the separate entity approach are not, therefore, an inevitable feature of an origin-based system.

Similarly, it is also worth noting that some problems within an origin-based system employing the separate entity approach are inevitable, but others, found in the existing system, are not. In any system in which profit is to be allocated amongst one or more affiliates of a multinational, there have to be rules which govern that allocation. The key approach of the existing system is that the allocation is based on the value of transactions between two members of a multinational group. As set out above, this is done under the principle of arm's length pricing. An inevitable consequence of this approach is that differences in tax rates among jurisdictions will create an incentive for the multinational group to manipulate the prices used in those transactions to reduce its overall tax liability. Policing this within-group trading is likely to create complexity and higher costs of administration.

But other problems of the existing system do not arise inevitably in origin-based systems employing the separate entity approach. Rather they depend on the different treatment of 'active' and 'passive' income. Important examples of these problems are the treatment of royalty payments, licence fees, and interest from one part of the group to another. The fact that these flows generally receive relief in the country in which they are paid and are taxed in the country in which they are received creates significant incentives for groups to hold intangible assets in, and to lend from, low-tax jurisdictions. But this is not an inevitable part of taxing the multinational group on an origin basis following the separate entity approach. It may therefore be possible to conceive of reforms that leave taxation still broadly in the origin countries using the separate entity approach, but which do not suffer from all of the problems of the existing system. For example, one relatively easy way to combat profit shifting through the use of internal debt would be simply to deny relief for within-group interest payments, or to levy an equivalent withholding tax.[3]

[3] Dealing with ownership of intangibles is more difficult. Under an origin approach, profit arising from ownership of an intangible asset would be attributed to the country where that asset was created. Suppose it was created in country A, and the intangible asset was then sold to a subsidiary in country B for a fair price, with tax paid in A on the gain made from the sale. Then there would be no need to levy

But origin-based taxation need not employ the separate entity approach at all. A much more radical approach to origin-based taxation would be to avoid altogether basing the allocation of taxable profit between countries on the value of transfers between them. A unitary taxation and formulary apportionment method would instead divide the worldwide profit of the multinational group among countries on the basis of some agreed formula incorporating measures of the degree of local origin such as 'assets' or 'payroll'. Avoiding the need to value transactions between members of a multinational group clearly would have considerable advantages in terms of complexity and probably profit shifting. As a result, this proposal has received considerable attention, most prominently in the Common Consolidated Corporate Tax Base (CCCTB) proposals of the European Commission.[4] This is clearly an important option for international reform, and we therefore discuss it in more detail below.

1.1.2 Fundamental inefficiencies under the origin principle

Some problems are, however, inevitable under origin-based taxation. A broad problem with allocating taxing rights on an origin basis—whatever the precise system of doing so—is the incentive it gives businesses to move functions and activities, or assets, to low tax countries. This in turn gives countries an incentive to compete with one another.

Trade-offs arise between profit shifting on the one hand, and distortions to real economic activity and tax competition amongst countries on the other. If businesses can shift profit from countries where their real activities are located to low tax jurisdictions, then their incentives to move their real activities are reduced. Suppose, however, that the existing system could be reformed to significantly minimize the shifting of profit to low tax jurisdictions or suppose a formulary apportionment system could be introduced which also largely prevented such profit shifting. In these cases, differences in tax rates (and possibly tax bases) among countries may induce real economic activity to move instead. If real economic activity moves purely in response to tax differences, then this is a tax-induced distortion which is likely to create a welfare cost to the business and society at large. For example, production may move from a low cost location to a high cost location if the latter has a lower tax rate. Increasing the likelihood of moving real economic activity also seems more likely to stimulate tax competition amongst governments.

An example arises in the context of the BEPS Action Plan. Under the previous set of rules, it was possible to shift intangibles to a low tax jurisdiction without the

further tax on the royalty income subsequently received in B, since the underlying value would already have been taxed in A. But if the ownership was shifted to B without tax being paid in A, then in principle A would need to tax the subsequent royalty income arising in B.

[4] For similar proposals see, for example, the Independent Commission for the Reform of International Corporate Taxation (ICRIT) (2018).

need to create a fully-fledged business activity there. Under the new rules, however,[5] the allocation of royalty income to the subsidiary in the low tax jurisdiction requires moving personnel in order to exercise 'control' over the intangibles.

These types of problems seem inevitable if we aim to allocate a multinational group's profit on an origin basis. They therefore create a powerful reason for considering alternative locations for the taxation of profit. But in general, the costs arising from driving away economic activity must be set against the costs imposed in any other system that might be considered. Conversely, the benefits of any improvement in economic efficiency and reduction in avoidance must be set against any new costs that are introduced by a reform, as well as the costs of transition. We should therefore also consider arguments for nevertheless keeping at least some part of the tax base on an origin basis. We consider four such arguments.

1.1.3 Origin and the benefit principle

First, perhaps the most powerful rationale for taxing profit on an origin basis is that the economic activity makes use of publicly provided goods and services in that jurisdiction. The benefit principle—as set out in Chapter 2—would imply that the recipient of those goods and services should make some contribution to the costs of their provision. That does not necessarily imply that the business itself should make a contribution; for example, in principle a contribution could be required from anyone that benefits from the business—that could include the owners, employees, customers, and suppliers. But it would generally be much more convenient simply to levy a charge on the business itself.

The main counter-argument to using profit as a base for such a contribution is that, as noted in Chapter 2, there is not necessarily a correlation between the use of publicly provided goods and services by the business and the profit generated by the business; and this would be true even if there were no problem in identifying where profit was located. The benefits of publicly provided goods and services associated with economic activities in any jurisdiction are many and varied; as well as the use of infrastructure, the business may benefit from, for example, the rule of law, or the education and health provision for its workforce. So actually identifying the value of the benefit associated with economic activities in any jurisdiction would be extremely difficult in practice.

If the aim is to make a reasonable charge for publicly provided goods and services, a question that arises is whether there could be a base for such a charge that is more amenable to measurement than the contribution of the activity taking place in that jurisdiction to the worldwide profit of the business. Possibilities could include, for example, the value of the assets used in that jurisdiction, or the number of employees or their total remuneration. These are factors that are typically used

[5] See OECD (2015c).

in formulary apportionment systems. And some—such as remuneration—are already typically the base of other taxes.

The point of considering such an alternative tax base here is not that these measures are closely correlated with profit earned in that jurisdiction; rather it is that they may arguably provide a reasonable, if ad hoc, way of charging a fee for publicly provided goods and services. But, of course, they also have problems. Any tax charge based on the volume of economic activity which varies amongst countries may affect the allocation of those economic activities among countries. So, even if we can potentially avoid the problems of profit shifting associated with a tax on an origin basis, it is unlikely that we could avoid distortions to the location of real economic activity.

1.1.4 Origin and ability to pay

A second argument for maintaining a tax on an origin basis might be as a protection for the domestic personal income tax. This is an 'ability to pay' argument, also set out in Chapter 2. There are two elements to such personal income: income which might be regarded as remuneration for labour, and capital income. The basic idea here has been discussed in Chapter 2: if there were no separate business-level tax on profit, then (a) there would be an incentive for an employee to trade as a business, so that her labour income was not subject to personal income tax; and (b) the capital income of an individual represented by retained earnings in a business would not be taxed, at least as it accrued. Here we focus on the location of the profit generated by cross-border activities of a business.

As set out in Chapter 2, the first of these problems arises when the owner of a company also provides an input of labour, so that the distinction between the wage and profit earned is blurred. A typical corporation tax helps to counter the incentive to declare labour income as profit, since the profit would be subject to corporation tax—depending on the relative tax rates there may be an incentive to declare income as wage or profit. Neutrality in tax rates between these two sources of income is difficult to achieve, partly because income declared as profit may be taxed again as a dividend, or as a capital gain, in the hands of the shareholder. But, given the possibility of retaining profit in the company, a corporation tax at a rate that does not exceed the personal income tax rate would reduce the incentive to declare income as profit rather than labour income.

The key question for our purposes here is whether the need for corporation tax to counter the incentive to declare income as profit implies a particular location for the taxation of profit. In general, the owner will compare the taxation of a possible wage with the taxation of a possible profit; this does not necessarily imply that both the wage and the profit need to be taxed in the same jurisdiction. However, from the perspective of the government of the owner's place of residence, it is natural for that government to ensure an appropriate incentive by taxing profit, as well as the wage, in its own jurisdiction. This is clearly satisfied by an origin-based tax. But taxes in other locations may achieve this as well.[6]

The second of these two problems would be best addressed by a tax levied in the place of residence of the shareholders. This is because personal income taxes—to the extent that they tax capital income at all—typically tax the worldwide capital income of domestic resident individuals. A tax that is a useful proxy for such a personal income tax would ideally also have that property. That is clearly not the case under an origin-based system, since a shareholder in country A who owns a company making profit in country B would not, in general, be taxed in A on profit accruing in B. Below we consider whether such a tax is feasible. For now, we simply note that, in the presence of cross-border investment, an origin-based corporation tax is not a very good proxy for a personal income tax on capital income.

1.1.5 Tax exporting

A third argument for maintaining a tax on profit on an origin basis is that the ultimate cost of the tax may at least partly fall on non-residents; this is known as 'tax-exporting'. This is clearly a consideration for national governments acting in their own interest, rather than a consideration for the world as a whole. It is perhaps most likely in the case where the tax is effectively borne by shareholders; that is, if a company in country A is owned by shareholders in country B, then any tax imposed in A might reduce the net income of those shareholders in B. Other things being equal, that would improve the welfare of A's residents at the expense of B's residents.

We should be clear, though, that the extent to which this may happen depends on market conditions and on the nature of the tax itself. As discussed in Chapter 2, in the standard economic model in which A is a small open economy and where capital is mobile and labour is immobile, a tax in A would push up the required rate of return in A until the post-tax rate of return to shareholders in B would be unaffected; only then would the investors in B continue to invest in A. In this case, the tax would actually be borne by the labour force or other immobile factors (such as land) in B.[7] But there are other possible cases. The opposite would occur if the company generated an immobile economic rent and the tax base in A was only that economic rent. If the company aims to maximize economic rent, then the tax should have no effect on the prices which it charges or pays to its suppliers,

[6] For example, the Destination-Based Cash Flow Tax set out in Chapter 7 also has this property. The choice for an owner who also worked for a company would be to declare, or not declare, income as a wage. If it is declared as a wage then it would be subject to personal income tax and be deductible at the domestic corporation tax rate. If it is not declared as a wage, then there would be a reduction in allowances for corporation tax, the value of which would again depend on the domestic corporation tax rate. The incentives under the Residual Profit Allocation by Income set out in Chapter 6 are more complex, since any reduction in the amount declared as a wage would reduce the mark-up for routine profit and raise the residual profit; incentives may then depend to some extent on tax rates in other jurisdictions.

[7] See Gordon (1986).

including wages. In this case, the tax should indeed fall on the shareholders in B.[8] In general, it is likely that at least part of the cost of an origin-based tax on profit would fall on the shareholders, and A can export part of its tax burden if shareholders in its companies include non-residents.

1.1.6 Location-specific rents

In principle, it might be possible to identify and tax only that profit that could not be earned elsewhere. We discussed in Chapter 2 the notion of location-specific economic rent which in principle the government could tax away without inducing the business to move the activity elsewhere. In principle, this could include both pure rents and quasi-rents (income from 'sunk' investments). Some have advocated taxation in the origin country by reference to such location-specific rents.[9]

However, as we noted there, this idea is not easily compatible with a general corporation tax. If there was a general origin-based tax on economic rent, but only some economic rent was location-specific, then the tax would still be expected to drive away some economic activity. This is similar to the usual problem that an origin-based tax on profit can be expected to drive away economic activity. In the end, countries would have to consider a trade-off between the benefits of additional revenue from taxing economic rents that were more location-specific and the costs of driving at least some economic activity elsewhere.

1.1.7 Transition costs

Another argument for maintaining at least some element of an origin-based system is that we currently have one; moving away from this would give rise to transition costs. It is possible that these costs might be greater than those associated with the problems of profit shifting and distorting the allocation of real activity which characterize the existing system—even though these latter costs are likely to be permanent while transition costs are a one-off. However, even if we maintained an origin-based system, we would propose that it needs to be reformed. The important question is then the size of transition costs from the existing system to any potential new system. Maintaining some element of an origin-based system may keep transition costs lower, but this depends on the nature of the reform and the alternative possible reforms. Our proposal for a Residual Profit Allocation by Income in Chapter 6 is intended to address the key existing problems with profit shifting and to reduce economic distortions, whilst still partly in the context of an origin-based tax. However, as a general matter, to the extent that a tax is levied on an origin basis it is likely to continue to affect the location of real economic activity.

[8] See Auerbach and Devereux (2018).
[9] See, for example, Kane (2016); Shaviro (2019); and Schön (2019).

1.2 Unitary taxation and formulary apportionment

We now turn to consider the principle alternative approach to the existing system for taxing profit in a way that is consistent with an origin principle, the commonly advocated approach of unitary taxation and formulary apportionment.[10] The idea here is in principle to assess the worldwide profit of a business, and then to allocate shares of that profit to individual countries on the basis of a formula. If that formula broadly reflects where the economic activity of the business is located then we might think of this also as a form of origin-based taxation.

1.2.1 US Practice, the OECD approach, and the CCCTB project

Formulary apportionment has been on the agenda of international tax reform for many decades.[11] The basic approach used in formulary apportionment is to identify the total taxable profit of a single multinational business arising in a number of jurisdictions using a broadly common definition of profit, and then to allocate a share of the total profit to each jurisdiction based on the location of particular factors, traditionally the assets, workforce, and sales of the business. Each jurisdiction then applies its own tax rate to its allocated share of total profit.

This approach is used at the level of state taxation in the US as the inter-state allocation of the corporate tax base is performed on a formulaic basis treating corporate groups as a single unitary enterprise.[12] In the US the rules on the measurement of profit for taxation are broadly common, being largely derived from the set of rules governing the federal corporate income tax. However, each state is entitled to apply its own formula for allocation. These formulae were initially based on a number of factors. By 1978, forty-three out of forty-five states had adopted the three-factor formula consisting of assets, labour force, and sales.[13] But the leeway granted to states on what formula to apply has consistently led both to taxing the same profit in more than one state, and also to tax competition which is barely constrained by the US Constitution.[14] Over the years—and consistent with one of the main themes set out in this book—this competition has led to an ever stronger tendency to move the formula towards the 'sales factor'—that is, taxation on a destination basis—which avoids taxation in the origin state. In 2019, out of forty-six states that implement a corporation tax, thirty-seven use only sales in their allocation formulae.[15]

[10] In this section, we refer to this approach simply as 'formulary apportionment'.

[11] See, for example, Bird and Brean (1986). For a recent collection of articles on formulary apportionment see Krever and Vaillancourt (2020).

[12] See Hellerstein et al (2016).

[13] See Hellerstein (2018).

[14] See US Supreme Court in *Comptroller of the Treasury of Maryland v. Wynne*, 135 S. Ct. 1787 (2015), aff'g sub nom., 64 A.3d 453 (Md. 2013), and Knoll and Mason (2017).

[15] US Federation of Tax Administrators (2020); Suarez Serrato and Zidar (2016), Figure 3, show the evolution towards sales apportionment across the years 1980, 1990, 2000, and 2010.

Many commentators have argued for an extension of formulary apportionment to the international arena.[16] However, the OECD has consistently rejected the concept in order not to endanger its precarious 'consensus' for the arm's length pricing approach, but also because it has traditionally rejected the notion that the transfer pricing methodology is in the deplorable state that critics claim.[17] Neither the UN nor the IMF have advocated a formulary apportionment approach either. However, the OECD has embraced a limited influence of formulary elements on the 'evolution' of the arm's length standard.[18] In its most recent draft guidance on the 'profit split', the OECD has integrated a formulary approach into the world of separate accounting and arm's length pricing:[19] when there is a highly integrated value chain involving hard-to-measure unique contributions (e.g. intangibles) by separate entities within the group, a 'transactional profit split' is advised. This involves profit being split between locations based on 'profit splitting factors'[20] which are largely the same as the traditional factors applied under formulary apportionment. Still, there remains a difference between an all-embracing concept of formulary apportionment covering the whole corporate group and its activities at large and a transactional approach which limits the impact of factor attribution to individual transactions. However, significantly, such an approach is being considered at the time of writing. The OECD's Pillar I proposal that is being considered by the Inclusive Framework has an element of formulary apportionment.[21]

A major reform proposal for grand-style formulary apportionment has been put forward by the European Commission: the 'Common Consolidated Corporate Tax Base' (CCCTB). Starting in 2001,[22] the European Commission worked on this project for a decade and produced a fully-fledged draft directive in 2011. Since then, two major developments impacted their work. First, it became clear that not all Member States of the European Union were willing to support this proposal.[23] It was then referred to the 'enhanced cooperation' procedure under which a limited number of Member States is entitled to enact a European directive having effect only for this group of countries.[24] Second, the nature of the CCCTB was shifted from a voluntary instrument (under which multinational firms would be permitted to choose whether to employ the CCCTB or to continue with the current system) to a mandatory instrument (which is intended to reduce the leeway for companies to allocate corporate profits at will within the European Union).[25]

[16] See, for example, Avi-Yonah and Benshalom (2011) and Picciotto (2016). Others disagree—see, for example, Fleming et al (2014). See also Krever and Vaillancourt (2020).

[17] OECD (2017a).

[18] Although it is debatable whether formulary apportionment could ever be described as 'arm's length'.

[19] OECD (2018d).

[20] OECD (2018d), Section C.5.1.

[21] OECD (2020).

[22] European Commission (2001).

[23] Tax directives in the EU can be passed only with the unanimous agreement of all Member States.

[24] See Vella and Yevgenyeva (2016).

[25] European Commission (2015).

This is the baseline for the most recent proposal which was published by the Commission in mid-2016. The proposal aims at a two-step procedure. In a first step, the rules on measuring taxable profit would be harmonized for all entities that are part of a corporate group above a threshold of a consolidated turnover of €750 million. This first step might be useful to reduce compliance costs, to reduce the possibility of arbitrage of differences in tax rules across countries by multinational companies, and to prepare the field for further integration. But it would not affect fundamentally the allocation of profits among business units and taxing rights among countries. In a second step, there would be full consolidation within the EU of profits and losses of the multinational group, with the overall profit being allocated to jurisdictions under a formula composed of fixed assets, payroll or number of employees, and sales.

1.2.2 Evaluation of formulary apportionment

1.2.2.1 Definitional issues

Formulary apportionment has the support of many commentators on international tax issues. Does it meet the criteria which we outlined in Chapter 2? Below we assess formulary apportionment against these criteria. We do not explicitly focus on the European Commission's proposal but consider the idea more generally. In doing so, we must also distinguish the case in which there is a universal adoption of formulary apportionment from the case in which only a group of jurisdictions adopt it. Clearly, even if all EU Member States adopted the CCCTB, this would still represent only partial adoption globally.

Before explicitly evaluating formulary apportionment against the criteria, it is worth discussing two general points which affect the evaluation under more than one of the criteria.

The first is the nature and definition of a multinational business. Formulary apportionment presupposes that there is a clear-cut division between independent businesses and integrated groups. This assumption is far from evident.[26] There are many mixed situations, for example, when individual subsidiaries have to comply with the interests of minority shareholders or when two separate multinationals engage in joint venture companies. Against this background, the legislator has to decide which entities qualify as a member of the 'group' for the purpose of consolidation under the new tax system. This would probably be based on ownership, rather than the level of integration. For example, the European Commission proposed a two-pronged test: 50% of voting rights and 75% ownership rights. Such a 'bright line' distinction effectively invites businesses to organize their affairs to be just on the more favourable side of the line.

[26] This criticism also applies, albeit with less force, to the Residual Profit Allocation by Income (RPAI) proposal set out in Chapter 6. It has less force in that context since in that case the formulary apportionment applies only to a limited type of costs—non-allocable costs.

Such a test has little or nothing to do with economic integration. The economic reality is that there is a whole spectrum of commercial arrangements between full integration and independent action. In recent times, more and more successful enterprises have set up highly integrated business models including routine manufacturers which operate outside the common control of the corporate group. In these cases, businesses reduce their own functions to head office, research and development, branding, and distribution (these have been called 'factoryless goods-producing firms').[27] With formulary apportionment, there may be a distinct tax advantage to incorporating—or not incorporating—these routine contributions into the multinational group. We discuss this further below in the context of economic efficiency.

The second general point relates to the apportionment factors. How should these be chosen?[28] The traditional approach may seem to be a rough and ready way of identifying different factors affecting profitability and allocating some taxable profit to jurisdictions hosting these factors. But it is worth noting that the traditional factors are very different from the factors that implicitly determine the allocation of profit under the current system. Most obviously, the traditional OECD framework gives no role to the destination of sales, yet that is increasingly the most important factor for state level taxes in the US.[29] By contrast, the location of intangible assets plays a very significant role in the allocation of profits under the existing regime, but is entirely absent from the traditional formulary allocation factors. Of course, there are good reasons why intangibles are excluded from the traditional factors: both their value and location are very difficult to determine. Yet it could be argued that the jurisdiction where high-value intangibles are created but not shown in the books and in the formula will lose out to jurisdictions where highly staffed production units perform routine functions with high capital investment and limited returns on capital, or where sales are undertaken at low margins. Then again, under the existing regime countries where high-value intangibles are created could also lose out to low tax jurisdictions if intangibles are transferred there.

More generally, the question arises whether formulary apportionment systems can allocate profit in proportion to the profit earned or value created in each country. Critics of formulary apportionment systems partly dismiss it on the ground that it fails to do so[30]—even if some proponents of the system put this forward as their goal.[31] The better view is that numerous factors contribute to the

[27] See Bernard and Fort (2015).

[28] On this point see the discussion in Agúndez-García (2006).

[29] Although, as discussed in Chapter 3, a move in this direction is being discussed at the OECD's Inclusive Framework at the time of writing.

[30] See, for example, OECD (2017a), paras 1.25 and 1.29.

[31] See, for example, CCCTB Working Group (2006) and Picciotto and Bertossa (2019). The principle adopted by the EU Commission for its CCCTB proposal, for example, is to 'assign[s] a proportionate share of the company's or associated companies' corporate tax base to the state by reference to a factor or factors that reflect (or are deemed to reflect) the underlying income-producing activities within the state'.

profit of a business and it is hard, even impossible, to reflect their contribution in a formula of general application.[32] In general, we do not believe that systems for taxing business profit in an international setting should be judged on whether they allocate profit in proportion to value creation.[33] Hence formulary apportionment systems should not be criticized on these grounds. A better method to evaluate formulary apportionment—and indeed any system—is to ask whether it satisfies reasonable criteria for the evaluation of taxes on profit in an international setting. We now address this.

1.2.2.2 Economic Efficiency

There are at least two ways in which a formulary apportionment system could affect business location decisions, even in the case in which all countries agreed to move to a formulary apportionment system, and used the same definition of the tax base, and the same allocation formula. First, and most clearly, if any of the factors used reflects the economic activities of the business—whether production, finance, management, marketing, research and development, or any other factor—then locating that activity in a lower taxed country would tend to reduce the overall tax liability of the business.[34] In this sense, formulary apportionment would still primarily be an origin-based tax, and as such, differences in tax rates between jurisdictions would affect location decisions.

More subtly, using the destination of sales as a factor may also affect location decisions, if the sales are to mobile businesses. If business A purchases materials or intermediate products from business B, and B's tax depends on the location of the sale—in effect the location chosen by A—then A may be able to reduce B's tax liability, and hence potentially the price paid by A, by locating in a lower taxed jurisdiction.[35] This effect reinforces the first effect; both induce A to locate its purchasing activities in a lower taxed jurisdiction.

Whether the distortion to location decisions would be greater or worse than under the current system would depend on the economic circumstances of each case.[36] But under formulary apportionment, these distortions are aggravated by

[32] See, for example, Hellerstein (2005); Hines (2010); and Vella (2020). Hines' empirical study on this issue led him to conclude that, based on the data used, traditional formulae 'significantly misattribute income, since employment and other factors in which they are based do a very poor job of explaining a firm's profits. For example, the magnitude of property, employment and sales explains less than 22% of the variation in profits between firms.' Hines (2010).

[33] Hellerstein (2005) and Vella (2020).

[34] Gordon and Wilson (1986) demonstrated that for a three-factor formula based on the location of property, payroll, and sales could be examined as, in effect, three forms of distortionary taxation. See also Riedel (2010).

[35] This problem also affects the RPAI proposal described in Chapter 6, but not the DBCFT proposal described in Chapter 7.

[36] In a simulation model that examines the allocation of capital under both separate accounting (SA) with profit shifting and various versions of formulary apportionment (FA), Altshuler and Grubert (2010) find that 'even when we assume a great amount of shifting under the current system, FA does not seem to have any notable advantage over SA. FA causes a greater widening in the disparities in marginal effective tax rates that result from tax differentials across countries' (p. 1166).

other factors. For example, it may be advantageous for a business to over-invest in a low tax jurisdiction, in order to get the benefit of a higher allocation of its profit to that jurisdiction. A highly profitable R&D company resident in a high tax country might be induced to acquire shares in a routine manufacturing firm in a low tax country in order to allocate as much profit as possible to the low tax jurisdiction. Examples could also be given where it would be more profitable to break up a multinational business in order to reduce the aggregate tax liability. Other factors reflect the scope of the multinational, as outlined above.[37] This holds particularly true for the asset factor and the labour factor as the location of the underlying assets and employees can easily be influenced by the group management. Such a move might drive down the tax burden on profits which are effectively 'generated' in a high tax country.[38]

Neither would a formulary apportionment system necessarily treat similar businesses in the same way. Suppose business A in country A and business B in country B were competing to purchase another business C in country C. The tax rate faced by A and B on the profits subsequently earned in C would generally depend on the tax rates in countries A and B, as well as on the ratio of profit to the factors included in the formula. The same applies to the case if A and B were competing to sell to consumers in country C—even if the only factor were based on the destination of sales. For example, if A had 99% of its sales in C, whereas B had only 1% of its sales in C, then a marginal increase in sales in C would be taxed at a different rate for A and B.

Again, though, this does not necessarily imply that these distortions are greater or smaller than under the current system. That would depend on the circumstances of the individual case: in any particular case, the distortions could be greater or smaller. But this does mean that there is not a *prima facie* case for a formulary apportionment system based on economic efficiency, even in the case where the system was agreed by all countries.

If only a group of countries introduced formulary apportionment, then the distortions to location and ownership decisions are likely to be even greater. That is because there could be examples where a business would be taxed on its profit in more than one country. For example, a business producing outside the formulary apportionment group of countries would pay tax on its entire profit in the origin country; if it sold into a country using formulary apportionment and including sales as a factor, then it could also be liable to tax in the market country. A high effective tax rate overall could create a powerful incentive to switch location. Similar considerations would arise if—as for US states—all countries operated a formulary apportionment system but differed in the factors used to apportion profits.

[37] See IMF (2014), para. 69.

[38] These examples may also be taken to reflect opportunities for avoidance.

1.2.2.3 Fairness

The basic structure of the tax base would not change under formulary apportionment—at least any change in the tax base would not be a necessary feature of the tax. The key difference from the existing system is rather the allocation of taxing rights among jurisdictions. So from the taxpayer's perspective, apart from the possible incentive to shift real activities, the key difference is the possible restriction in tax planning opportunities and saving on compliance costs, both discussed below. Any restriction in planning opportunities may result in more tax being paid; this may be more in line with what governments intended in setting a tax on business, although for the reasons set out at length in Chapter 2 it is not clear whether this would be more or less 'fair'.[39] For this reason, or simply because of the different allocation of profit across jurisdictions, a taxpayer may face a difference in the effective rate applied to the consolidated profit, and the ultimate incidence may also change.

The more significant effect from a fairness perspective is that the allocation of taxable profit among countries would likely be different under formulary apportionment. Exactly how it would be different would depend on the factors used in the allocation: using the destination of sales would favour market countries while ignoring intangible assets would reduce the share of taxable profit going to countries where such assets are owned (which may or may not be the countries where research and development takes place). Either of these factors—a greater allocation to market countries, and a smaller allocation to where assets are owned—might be taken to represent a fairer allocation than the existing system. However, again as we have argued in Chapter 2, it is also difficult to identify what would be a fair allocation among countries.

1.2.2.4 Robustness to avoidance

Many proponents of formulary apportionment do not emphasize its benefits with respect to economic efficiency or fairness. Rather they emphasize the benefits with respect to avoidance and the costs of implementing the tax. In these dimensions, formulary apportionment certainly has advantages.

Key problems of the current system involve locating valuable intangible assets in low tax jurisdictions, within-group lending from such jurisdictions, and the difficulties in determining an appropriate price at which members of a group transact with each other. If all countries adopted the same formulary apportionment system, this would at one stroke do away with such problems. In this case, only the consolidated taxable profit would be relevant. There would simply be no benefit from making taxable profit appear in one affiliate or another. Since the allocation

[39] It might be argued that formulary apportionment is also more likely to achieve a single level of tax on business profit. However, we have argued in Chapter 2 that this is less important than the overall effective rate levied.

of profit among countries would no longer depend on the value of transactions within a multinational business, the entire set of transfer pricing rules which support the existing allocation of profit across countries could therefore be scrapped. This would undoubtedly be a major benefit of a common formulary apportionment system. Any formula which largely relies on payroll, real assets, and/or sales therefore virtually excludes low tax jurisdictions where no real economic activity takes place from participating in the global tax base. Intra-group games relating to the allocation of debt or the choice of specific transfer prices which make profit shifting and base erosion possible under current rules would largely disappear.[40]

That does not mean that there would be no tax avoidance however, even with a common system across countries. That would remain possible, for example, by manipulating which aspects of the business are consolidated. As noted above, moving from one side of the threshold for consolidation to the other may affect the overall tax liability of a group of integrated businesses, as would routing sales through an independent distributor located in a low tax country, thus manipulating the sales factor. Other strategies may be devised.

But, beyond this, greater problems may arise when the system is not common across all countries, either because some countries maintain a conventional system, or the definition of the tax base , or the allocation formula, differs among countries.[41]

Suppose a group of countries introduced a common formulary apportionment system. There are two main options for these countries. The first option—Option A—allocates the profit earned by a multinational within the participating group of countries. The allocation of profit to each participating country is in proportion to its share of specified factors within that group of countries. For example, under a traditional three-factor formula, the profit allocated to each participating country is proportionate to its share of assets, labour, and sales in the participating countries as a whole.

Under Option A, one needs to establish how the profit consolidated within this group of participating countries would deal with transactions with the multinational's affiliates outside this group of countries. The current approach could be used for such transactions; this is what is envisaged in the European Commission's CCCTB proposal, for example. But if this is the case, then many, if not all, of the current opportunities for avoidance would continue. Suppose there remain low tax jurisdictions outside the formulary apportionment group. Then there would continue to be an incentive to locate valuable intangible assets in those jurisdictions, and to undertake within-group lending from them. These opportunities for planning would be closed down only within the group of countries, not outside it. Shifting profit outside the countries adopting formulary

40 For further discussion, see IMF (2014), para. 67.
41 For further discussion, see Schön (2007).

apportionment may still be possible. This could seriously undermine the advantages of becoming a member of a group of countries introducing a common formulary apportionment system.

The second option—Option B—is that a group of countries (or a single country) could implement the formulary apportionment system independently of the rest of the world. That is, any single country—call it X—could implement a formulary apportionment system independently. It would define the tax base of a multinational company as a share of its worldwide profit, where that share is country X's proportion of whatever factors are in the apportionment formula. Country X could define profit using its own rules, or it could simply rely on international accounting standards, and use the multinational's consolidated group profit. Implementing such an approach would not require valuing any transactions of the multinational. In addition, for example, if the formula was based on assets, labour income, and sales, it would simply require information on the aggregate of each of these in country X and in the whole world. Option B would certainly be more robust to tax avoidance strategies than Option A. Such a system would also appear to be much more straightforward to implement than the existing system.

Of course, either approach would move decisively away from a system aimed at sharing worldwide profit in an agreed way, whether by arm's length pricing or by worldwide formulary apportionment. If all other countries maintained their existing system, then it is very likely that some of the multinational's profit would be taxed twice—by X and another country—or not at all. We have argued in Chapter 2 that the principle of single taxation should not be a key determinant in designing an international tax system, but the differences in the overall effective tax rate faced by a multinational on its different activities are likely to lead to economic inefficiencies.

1.2.2.5 Ease of administration

The second main advantage of formulary apportionment is closely related. Neither the taxpayer nor the tax authority would need to identify profit earned in any particular jurisdiction. As a result, the relevance of concepts such as 'ownership', 'contracts', 'risk', and 'funding' would be greatly diminished under formulary apportionment. This is the second and related reason why many commentators regard formulary apportionment as offering a convincing alternative to the world of separate accounting and arm's length transfer pricing. Formulary apportionment requires a consolidation of the individual accounts of all entities belonging to a corporate group, thus doing away with the need to deal with the key factors in the OECD transfer pricing guidelines.

These benefits depend on there being a uniform—or near uniform—tax base; if different countries used different definitions of taxable profit, then they would—in principle, at least—each need to identify a separate measure of worldwide consolidated profit.[42] In this case, there could be significantly higher compliance

[42] This issue also arises in the context of the RPAI proposal in Chapter 6.

costs—relative to a uniform tax base—for multinational businesses that would be required to file different tax returns and income statements with regard to their worldwide profits for each individual country and its tax authorities.

If there is less than universal adoption of a common formulary apportionment system, then these benefits would depend on whether Option A or B, set out above, is followed. The benefits should follow if Option B is followed. However, if Option A is followed then the benefits would be greater the larger the size of the group adopting the agreed formulary apportionment system. Tax authorities in the adopting group of countries would need to maintain a system which identifies whether profit is earned inside or outside of the group of countries. Multinational companies would probably be present both inside and outside the common formulary apportionment area, and so tax authorities would continue to have to cope with the overlap and arbitrage options between the old regime (separate accounting and transfer pricing) and the new regime (consolidation and factor formula). Multinational groups would have significant leeway to structure their intra-group activities and entities in order to live in the 'best of both worlds'. Whether the benefits in terms of reduced compliance and administration costs would be outweighed by this effect would depend on the precise rules implemented and hence on the opportunities for tax planning.

A further advantage of the system is that, within the adopting group, only one tax authority would need to be responsible for auditing the tax return of an individual taxpayer. In principle, that could be a separate tax authority acting at a supra-national level. In practice (and as envisaged by the European Commission) it would be more likely to be the tax authority of one of the members of the group of countries implementing the system. However, that requires a high level of trust within the group; tax revenue in country Y would depend on the competence of officials in country Z. The officials in Z could well have little incentive to protect the tax base of country Y.

A related issue is the need to monitor the definition of the tax base. In most countries there is continual development of the definition of the tax base to combat planning and avoidance and to correct aspects that do not work well. It is likely that this need to develop the tax base would have to continue in some form. There would therefore need to be some mechanism within the adopting group to allow for agreement of such developments, and to ensure that countries that may lose out from the proposed change are not able to block it without good reason.

A final, and important, issue of implementation is the extent to which the current treaty network would become redundant. This depends both on the territorial and the personal scope of the formulary apportionment system. The treaty network would have to be applied (in a modified form) when taxpayers' economic activities stretch beyond its territorial scope (e.g. when taxpayers resident in the European CCCTB area do business in the US, or China). The recent proposals of the European Commission in this regard include a large number of specific provisions dealing with 'third-country' relations of the CCCTB area.[43]

1.2.2.6 Incentive compatibility

Would individual countries have an incentive to switch to a formulary apportionment system? And if they did join, what incentives would they have to compete over the tax rate, or to leave? The EU's experience is not promising with regard to the first of these questions. Part of the reason may be due to political factors—for example, the view that agreeing to enter into formulary apportionment would imply giving up some sovereignty over tax matters. But there may also be economic reasons.

Any country considering whether to switch to a formulary apportionment system should analyse whether it would be likely to gain or lose as a result. Such an analysis should take into account both the real economic consequences and the tax revenue consequences of such a switch.[44] It is clear that any specific country might gain or lose from such a switch, depending on its current tax system and its economic situation. That would depend on the extent to which the country hosted the principal factors in the formula used, which in turn would determine its share of worldwide profit.

Once again, if the system is adopted by a group of countries rather than worldwide, then the method of implementation becomes critical. If Option A, described above, is followed, then the analysis is complicated by the question of which other countries would also join. That is because the gain or loss for any individual country would depend on which other countries were members of the adopting group. The decision-making process then becomes complex. In the EU context, for example, suppose that fifteen out of twenty-seven Member States decided that they would gain if all countries joined. But if only those fifteen joined, the calculations of gains and losses would be different, and some of those fifteen may then lose. At that point, some of these Member States might pull out, reducing the number still further. On the other hand, some of the other twelve countries might seek to join. Such a decision-making process could go on ad infinitum. The same issues would apply to any country that initially joined a formulary apportionment group and sought to analyse whether it would be better off by leaving. On the other hand, if Option B is followed, then the size and composition of the group will not matter. Under this option, the profit allocated to each country within the group is based on that country's share of worldwide factors.

More narrowly, within any discussion of a new formulary apportionment system, countries could negotiate both over the definition of the tax base and over

[43] For a detailed discussion of these issues, see Lang et al (2013).

[44] This type of analysis has been carried out with respect to the CCCTB—see, for example, Bettendorf et al (2010).

the apportionment factors. There would clearly be differences between countries in their preferred factors. The treatment of labour within the formula proposed by the European Commission illustrates this issue. The contribution of labour could be measured by the total wages paid to employees or the number of employees (or a combination of the two). The former approach would tend to benefit high wage economies, and the latter would tend to benefit low wage economies. The current EU compromise on this issue is to split the labour factor evenly between these two approaches.

Within a group of countries that had decided to switch to a common formulary apportionment system, there would be no—or at least very limited—opportunity to compete for inward investment through a more generous definition of the tax base (e.g. on depreciation allowances, restrictions on relief for interest payments, international anti-avoidance rules, and many other factors). Whilst under the current system, countries are able to compete both by adjusting the tax base and reducing the tax rate, under a common formulary apportionment system, they could compete only by lowering the tax rate. This could lead to more intense downwards pressure on the tax rate thus bringing into question the long-term viability of the system. Of course, in the absence of an agreement on the apportionment factors, they could also compete on these; the evidence from US states—consistent with the arguments set out in this book—suggests that there would be a move towards countries basing their formula on their relatively immobile markets, through giving a greater weight to sales.

1.3 Conclusions

This section has considered the advantages and disadvantages of an origin-based system for the allocation of rights to tax the profits of multinational companies. Although the existing system is largely implemented on an origin basis, there are alternative approaches that could be used whilst remaining broadly in an origin-based system. Specifically, an origin-based system need not necessarily be based on separate accounting and the arm's length principle. In this section we have therefore focused more on the general features of an origin-based system, rather than on the existing system.

Within this framework, the main alternative to a system of separate accounting is one based on formulary apportionment, and this approach commands wide support in the policy debate. We have therefore discussed this option at some length. On balance, we are not persuaded by a move to a formulary apportionment system that relies substantially on origin-based factors, such as the traditional three-factor formula of assets, labour, and sales. It is certainly true that there would be significant advantages in abandoning the complexities of separate accounting within a group of countries introducing a formulary apportionment system. These advantages relate to the costs of implementing the system and the marked reduction in avoidance opportunities. These are major benefits, although they could be markedly reduced if formulary apportionment system is adopted by a small group of countries, depending on how this is done. But it is not clear that a formulary apportionment system would reduce the problems of economic efficiency seen in the existing system. There are also significant problems in terms of a lack of incentive compatibility and competition. The experience of the European Commission's CCCTB proposal suggests that it would be very difficult to persuade a group of countries to introduce such a reform. And if such a reform were successfully implemented by a group of countries—even with a common tax base and common factors for the apportionment—there would still be an incentive to compete on tax rates in order to attract economic activity, thus bringing into question the long-term viability of the system. That problem would exist for any system based on the 'origin' of profit.

Overall, then, it seems worth thinking about more radical reforms that are not origin-based. We turn now to discuss other possible locations for taxing international profit, beginning with the residence of the parent company or business headquarters.

2. Country of residence of parent company or business headquarters

A second option is to tax business profit in the location of the parent company or the business headquarters. Under a pure form, in a corporate setting, the worldwide profit of a multinational group of companies would be taxed in the parent company's country of residence on an accruals basis. But there could be many variants of such a system. For example, profit could be taxed in the country of residence of the parent company only when it is distributed to the parent, rather than as it accrues. And features of this system may be introduced by countries alongside origin-based taxes, as explained below.

2.1 Reform options

A distinction should be made between a universal shift to taxing multinationals exclusively in the location of the parent company, and the adoption of such a tax by a limited group of countries. In the former case, the profits of multinationals would be taxed once in the country of residence of the parent company. But in the latter case, with some countries retaining their origin-based tax systems, the question arises whether the parent company's country of residence should give relief for the tax paid in origin countries. A few options are available then, including a credit or deduction being offered by the country of residence of the parent company.[45] A variant of this option is that the tax in the country of the parent could act as a minimum tax on worldwide income, where the country of the parent imposes a minimum rate on foreign income as it accrues, with a credit given for taxes paid in other countries.[46]

There is a literature which compares credit and deduction systems for the treatment of foreign taxes. Most commentators assume, or argue in favour of, a limited credit system; that is, foreign taxes should be creditable against the home country tax, but that this credit should be limited to reducing the home country tax liability to zero.[47] However, from the home country perspective, this implies that a domestic parent company should be indifferent as to the level of tax paid abroad since it can be credited against home country tax on a one-for-one basis. It has been claimed that this is not optimal from the perspective of the home country, since the multinational has no incentive to reduce foreign taxes paid. Shaviro has therefore argued in favour of deducting foreign taxes in determining the home country tax base but adjusting the tax rate applied to foreign income to keep it the same as would have been paid under a credit system.[48] This addresses the tax planning problem from the perspective of the home country, conditional on the location of both the parent and the subsidiary. But it does not address the broader issues raised below about economic efficiency.

The idea of taxing worldwide profit in the hands of the parent company is perhaps a natural consequence of the 'ability to pay' approach set out in Chapter 2. Personal income taxes generally tax individuals resident in a jurisdiction on their worldwide capital and labour income.[49] To the extent that an individual owns shares in a domestic business that earns profit in the rest of the world, then the notion of the separate tax on business as a 'backstop' to the personal income tax naturally suggests that the profit (especially that not distributed to the owners) taxed by the domestic jurisdiction should also be defined as that arising worldwide. This is the basis of claims that taxing the worldwide income of a business in the hands of its parent company is a natural starting point to considering the international taxation of business profit.[50]

Based on this starting point, some commentators, especially in the US, have long shared the view that any 'deferral' of taxation for foreign-source income (i.e. taxing foreign profit only when it is distributed back to the parent) presents an irregularity which has been accepted in the past somewhat grudgingly in order to support the 'competitiveness' of foreign subsidiaries of domestic companies operating in

[45] Most OECD countries now have a territorial system; the US moved largely in this direction in the tax reform of December 2017, although as discussed below, it also introduced a new provision for taxing foreign income as it accrues.

[46] The OECD is currently considering such a minimum tax. See OECD (2019a, 2019b, 2019d).

[47] See, for example, Fleming et al (2016a).

[48] See Shaviro (2011a, 2014) and Clausing and Shaviro (2011).

[49] Although there are exceptions to this rule.

[50] See Shay et al (2015) p. 678 *et seq*.

foreign markets and to lower the administrative burden when it comes to the measurement of foreign income and to the enforcement of the resulting tax claim.[51]

Several proposals have been made—typically within the context of the US—to extend the reach of the US tax system to incorporate different forms of worldwide income. Some of these proposals are in the form of a minimum tax; that is, a tax liability would arise only if tax liabilities in other countries were low enough. Clausing et al (2016) proposed a tax on the worldwide economic rent earned by US parent companies without deferral, but with a credit for foreign taxes paid.[52] Shay et al (2015) proposed an 'interim minimum tax' of 15% on the active income of controlled foreign corporations subject to a low tax rate in the host country.[53] The Obama Administration, in its 2016 budget (building on the 2012 'President's Framework for Business Tax Reform' and on work by Grubert and Altshuler, 2013), took yet another twist. The main characteristic of this proposal was the introduction of a 'minimum tax' of 19% on current profits derived by all foreign establishments and subsidiaries.[54, 55]

This latter proposal is similar to a provision introduced in the 2017 US tax reform. One of the main thrusts of the 2017 reform was to move the US away from a worldwide system, permitting US parent companies to receive dividends from their non-US subsidiaries free of US tax. But a new provision—using the acronym GILTI (Global Intangible Low-Taxed Income)—introduced a tax on foreign-source income of US resident companies as it accrues, calculated as the excess over a 10% rate of return on investment in tangible assets.[56]

As noted in Chapter 3, at the time of writing, a broadly similar approach is also being considered by the Inclusive Framework ostensibly in the context of reforming the taxation of the profits of businesses in the digital economy.[57] The OECD's 'Pillar

[51] Against this background, in 1962 the Kennedy Administration introduced 'CFC legislation' for passive income thereby abolishing deferral for subsidiaries in low tax jurisdictions insofar as these entities receive interest, royalty, and portfolio dividend income. In the decades which followed, CFC legislation spread all over the world and has also been recommended as an anti-avoidance device both in the context of the BEPS Action Plan (Action 3) and by the European Commission, although its compatibility with double taxation treaties is in doubt and its scope under EU law appears rather limited.

[52] Clausing et al (2016), p. 22 *et seq*. They also consider a less fundamental reform which would include a minimum tax based on foreign source economic rent, with a credit for foreign taxes, p. 28 *et seq*.

[53] Shay et al (2015), p. 705 *et seq*.

[54] Senator Camp also proposed a 'Tax Reform Act of 2014' which involved an extension of the existing CFC Regime ('subpart F') to 'foreign intangible income' and 'related-party sales income' (Section 4103 of the Draft) whenever the foreign tax burden went below 15%.

[55] The BEPS Action Plan included a couple of recommendations which involve an extension of worldwide taxation. One example is the 'defensive' rule on hybrids under Action 2, which requires the country of residence to tax cross-border capital income which is treated as deductible expenditure in the country of source. Another example is Action 3, which urges countries to introduce or expand CFC taxation in order to ensure the 'single-tax-principle'. But the BEPS Action Plan sees worldwide taxation only in a 'supporting role' with the primary role allocated to the source country.

[56] The tax rate starts at 10.5% and rises to 13.125% in 2026. This is effectively an expansion of the US's CFC rules and would permit a foreign tax credit to some extent.

[57] OECD (2019a, 2019b, 2019d).

II' proposals seek to introduce a minimum worldwide tax on profit. Although the details are yet to be finalized, the basic idea would be for countries to agree a threshold effective tax rate—say 10%. If a multinational business has a subsidiary in a country which levied an effective tax rate of less than this threshold, then the country of the parent would levy a tax up to that threshold.[58]

2.2 Evaluation

The US GILTI provision incrementally extends US residence taxation on top of the foreign source tax levied by host countries with respect to profits derived by foreign subsidiaries of US corporations. The OECD Pillar II provisions would have a similar impact, although they are likely to be implemented differently if agreement is reached. To the extent that a credit is permitted against foreign taxes, then these reforms would not fundamentally change the structure of the international tax system, which would remain something of a compromise between notions of 'source' and 'residence'.

Rather than examine the US GILTI provision and other specific proposals here, we focus on the broader picture. We evaluate a pure form of taxation in this location: worldwide taxation at the level of the parent company on an accruals basis. But we also consider some measures which extend taxing rights to the country of residence of the parent company in a more limited fashion.

What are the merits of replacing origin country taxation with a worldwide tax in the location of the parent? On the face of it, such a tax has considerable merit; it should not affect location decisions of multinational companies (except the location of the parent), and if it replaced origin taxation, there could be a considerable simplification compared to the existing system. Further—conditional on the location of the parent company—it would greatly ease problems of tax avoidance and profit shifting. Let us turn to examining these issues in greater detail, using the criteria set out in Chapter 2.

2.2.1 Economic Efficiency

In its pure form, a tax on the worldwide profit in the country of residence of the parent company would have some attractive properties from the perspective of economic efficiency. If profits are taxed at the same effective rate wherever economic activity takes place, then—conditional on the location of the parent company—tax should not affect the location of economic activity. This could be achieved either if there were no origin-based taxes on profit at all, or if such origin-based taxes were fully creditable against the residence-based tax. Note that since this would imply a negative tax liability in the (home) country of the parent company in the event that

[58] See Schön (2019); Englisch and Becker (2019); and Devereux et al (2020).

the tax rate in the origin country exceeded that in the home country, advocates of a tax on worldwide profit in the home country typically propose only a limited credit system.[59] A limited credit system would not remove the impact of taxation on the choice of location of a subsidiary by a parent company, at least if one possible location had a higher tax rate than the home country. By contrast, taxing foreign-source income at the same rate as domestic income, but with only a deduction for origin-based taxes, implies that domestic businesses must earn a higher pre-tax rate of return on outbound investment.[60]

But there remains one other major problem with respect to economic efficiency (and other criteria, as we discuss below): the treatment introduced by these proposals relies fundamentally on the taxable residence of the parent company in question. If introduced only in the US for example, there would be no US worldwide tax for parent companies whose tax residence is located outside of the US. This would generate enormous pressure on US companies to 'invert' or to 'emigrate' in order to leave behind the constraints of the US tax. That is, there would be an incentive for a US parent company to merge with a company in another country, which becomes the ultimate parent; restructuring the business would allow it to effectively move the location of the parent company and avoid the US worldwide tax. This incentive already existed in the US prior to the 2017 reform, and the response of the US authorities was to create a series of new anti-inversion rules, in an attempt to limit inversions from the US. The same incentive would arise for new businesses. The introduction of a worldwide tax in the US would create a strong incentive to set up the parent company of a new business outside the US. The same would apply to any other country seeking to introduce a tax in the country of residence of the parent.[61]

Given that the location of parent companies is inherently mobile, increasing the tax liability based on the location of the parent would substantially increase those incentives, and put considerably more pressure on such rules. There is no particular reason why the parent company has to be located in the country of residence of its shareholders. Employees and directors can either be moved to other countries, or the company can hire new employees and directors in the country in which it chooses to locate. If such a tax were introduced in the US or elsewhere—even as a minimum tax—then that country would need to create sufficiently strict anti-avoidance rules to prevent existing companies from shifting the location of

[59] See, for example, Shay et al (2015). This would not permit negative tax liabilities in the home country and is the basis of most forms of credit system in practice.

[60] In principle, this should lead to equating the post-foreign tax rate of return on outbound investment with the pre-tax rate of return on domestic investment (Feldstein and Hartman, 1979), which should maximize the total income of the home country.

[61] The aim of the OECD's (2019d) Pillar II proposal is that all countries would agree to implement the minimum tax. If this happened, depending on how it is done, it could reduce the incentive to move the residence of the parent company. But it is not clear why this would be incentive compatible: there would be an incentive for countries not to implement the proposal, in order to gain a competitive advantage.

the parent company.[62] And arguably, that would advantage companies that were originally registered outside the US.

Of course, all of these effects would be diminished if only features of this system were introduced in the form of a minimum tax, or, as in the case of the US 2017 reform, introduced only for an 'excess' return on intangibles. The equality of treatment across all locations would no longer hold, so that taxes would again affect business location decisions; but there would be less pressure to invert relative to a pure system. In proposing a reform similar to the US 2017 reform, Grubert and Altshuler (2013) argued that such a system combined two useful features. On the one hand, normal returns earned abroad by affiliates of US multinationals would be taxed in the same way as other businesses in those jurisdictions, possibly improving the competitiveness of US companies relative to the pure worldwide system. On the other, it would be harder for US multinational companies to shelter economic rents, or residual profits, in low tax jurisdictions.[63] However, such an approach is not able to reconcile two aims of economic efficiency: not distorting competition with other companies, while at the same time being neutral with respect to location choices.

2.2.2 Fairness

We have argued that a tax on the worldwide income of a parent company can perhaps be most easily justified as a proxy for a tax on the worldwide income of resident shareholders and business owners. But that case is only strong where the parent company is wholly owned by domestic shareholders, so that the business level tax could reasonably be a proxy for taxing the capital income of domestic residents. Where this is not true, it is hard to see why giving taxing rights to the country of residence of the parent company represents a fair allocation amongst countries.

The nature and scale of cross-border ownership of business is important here. Consider a company resident in country A that has sales and activities all over the world and is wholly owned by a shareholder in country B. A case could be made on fairness grounds for allocating taxing rights on an origin basis to some or all of the countries involved (on the benefit principle), or for simply allocating the taxing rights to the owners of the company in B (on the ability to pay principle). But it is hard to make a case based on fairness among jurisdictions that country A should be the sole beneficiary of tax on worldwide profit. The company may (or may not) be managed from A, but there may be very little activity taking place in A—perhaps only meetings of the board of directors, for example—and the business is not

[62] See IMF (2014), para. 65 and Graetz (2001), p. 137 *et seq*. and ch. 4, p. 212.

[63] Shay et al (2015) have criticized this approach on two grounds (p. 711 *et seq*.). First, a low 'final' taxation on an accruals basis leaves no room for a further tax on repatriation which they regard to be necessary to provide for equal treatment of domestic and foreign income. Second, they consider taxing only economic rent arising abroad as contradicting a requirement that income measurement should follow the same rules for domestic and foreign profits.

owned by residents of A.[64] To allocate all profit to A would be an arbitrary allocation that would have to be defended on other criteria: such as economic efficiency, robustness to avoidance, ease of administration, and incentive compatibility.

It is then important to identify the correlation between the location of parent companies and the location of shareholders. The data suggest that, even though there is some home bias in the allocation of individual investments, this has shrunk considerably over time. In addition, the share of personal savings held in tax exempt accounts has increased. As discussed in Chapter 2, Rosenthal and Austin (2016) report that foreigners directly owned around 26% of US corporate stock in 2015; the equivalent percentage for the UK for 2018 was 55%—up from 7% in 1963;[65] and in Germany, the average percentage of foreign shareholders among the top DAX 30 corporates amounts to 56% and has shown a high degree of volatility between companies and between years.[66] Rosenthal and Austin also estimate that the share of US corporate stock held in personal taxable accounts fell by nearly three-quarters over the last fifty years, from 84% in 1965 to 24% in 2015. For the more open economy of the UK, the share of listed company stock held directly by domestic individuals fell from 54% in 1963 to 12% in 2014.[67] So, where there is international portfolio investment, the link between the location of shareholders and parent companies breaks down. Of course, there is still variation among countries, but this link is generally becoming weaker over time.

There is reason to believe that this link would become much weaker still under a tax based on the residence of the parent company. That is because that place of residence of the parent company would become much more important than it is under the existing tax system. The mobility of parent companies was already an issue in countries, such as the US until 2017, which do tax worldwide income—even though that is only when the income is repatriated, and only with a credit for taxes paid in other countries.

The interests of origin countries depend on how the tax is introduced. If the parent company tax is levied only after a credit for origin countries, then from the perspective of origin countries, there may be little change from the existing system. The same would be true if the tax were implemented as a minimum tax on 'excess returns', similar to the 2017 US tax reform. As long as origin countries have the opportunity to tax the returns arising within their jurisdiction, then they can continue to collect tax as under the existing system. The pressure on them to compete with each other would be lessened as the total amount of tax paid by a multinational business would not depend on the tax rates in the origin countries. This would not be true if foreign taxes were only deductible.

[64] In this case, it is hard to make a fairness case for *any* taxing rights to be allocated to the country of the parent.

[65] Office for National Statistics (2019).

[66] Ernst & Young (2019).

[67] Office for National Statistics (2019).

2.2.3 Robustness to avoidance

In principle, taxing foreign source income as it accrues could have substantial advantages with respect to avoidance and tax planning. But the extent of that advantage would depend on how it was administered, and in particular whether origin-based taxation continued.

If there were no origin-based taxation at all, then the need for tax purposes for separate accounting of each of a multinational's affiliates would disappear. There would be tax only at the level of the parent company. As a result, there would be no incentive for a multinational to report income in a low tax jurisdiction, since that income would in any case be taxed in the country of the parent company. This would remove the incentive to move financial or intangible assets to a low tax jurisdiction.

If origin-based taxation remained and was creditable against the tax due in the parent country, then this advantage would be diminished. That is because it would remain necessary to identify the location of taxation for the purposes of the origin-based tax. And if the tax rate in the parent country were lower than the tax rate in the origin country, then with a credit system there would be no tax at the parent level of foreign source income, and hence separate accounting would be decisive, as is largely the case under the existing system. This is also more likely to be the case if the tax at the parent level is a minimum tax, where the rate levied by the country of the parent is lower than the normal rate. It would also be the case under a deduction system; in this case, the overall tax paid would always depend on the tax paid in the origin country, since that tax would only be deductible against the parent company tax.

As noted above, taxing foreign source income would put considerably more pressure on the definition of the 'residence' of the parent company. Countries use a number of tests for residence which differ with respect to their malleability. If residence is simply built on incorporation, residence is easier to move than if residence is built on substantive tests such as 'management and control', but the latter are also open to manipulation.

The issue of residence is therefore clearly important for the implementation of a tax at the level of the parent company. Recognizing the problems of existing definitions of residence, and that taxation at the level of the parent is most easily justified as a proxy for the taxation of the shareholders, Fleming, Shay and Peroni (2016b) propose that the definition of corporate residence be linked to the residence of the shareholders, suggesting that a company would be tax-resident in the US if at least 50% of its shareholders were resident in the US. This would be a radical change to the definition of corporate residence, in an attempt to more closely align the taxation of the parent company with the location of its shareholders. In that sense, the proposal might be thought to be closer to one that would levy tax on profit in the location of the shareholders.

At least three issues arise with this proposal. First, it is necessary to identify who is the shareholder. There is a conceptual issue here, where the ownership is held by an intermediary such as a mutual fund. Should we seek to locate the mutual fund, or to look through the mutual fund to the ultimate shareholder? Especially in the latter case, this could be very complicated in practice. Second, the 50% threshold—or any other threshold chosen—would be likely to become very important, depending on whether other countries also adopted such a system and what their tax rates were. Suppose, for example, the system were adopted in the US, but not elsewhere. Then there could well be an advantage for US-resident shareholders who wholly own a company resident in the US to sell 51% of the shares to non-residents. Both sets of shareholders could then gain at the expense of tax paid to the US government.

Third, resident shareholders would have an incentive to hold shares in non-resident companies who were not subject to the tax on worldwide income. The authors do have a response to this problem. They propose that domestic residents who own shares in a non-resident company (i.e. through outbound portfolio investment) should face an additional tax on the resulting income to the extent that the foreign tax borne is lower than would be borne if that company had been resident in the US.[68] This is broadly similar to systems of integration between corporate and personal tax, where it is common for relief to be given only to domestic shareholders on domestic income earned by a domestic company. But as we saw in Chapter 2, taxing outbound portfolio investment at a higher rate than domestic portfolio investment in order to offset the business level tax on domestic investment would be unlikely to achieve parity between domestic and foreign investment. For small open economies, businesses in any one country would be owned by investors from all over the world, and the personal taxes levied on those investors in their home country would be unlikely to affect the required rates of return post-business-level tax. The net effect of levying a higher rate of tax on outbound portfolio investment would therefore be to make it less attractive to domestic investors than domestic portfolio investment. Even for the US, a large country, the required rates of return after business level taxes (whether origin-based, or levied only on the parent company) and before personal taxes, would be determined in the world markets at least partly by the actions of non-US investors.

2.2.4 Ease of administration

Introducing a tax on worldwide profit as it accrues would give rise to at least three types of problems of administration. These are all related to the issues already outlined. First, it would be necessary to implement and administer robust rules on residence. We have already discussed options as to how to define residence. But, given that this concept would become an even more crucial aspect of the tax system, then rules determining residence would become even more

[68] Shay et al (2015), p. 719 *et seq.*

important than under the current system. Second, and related to this, it would be necessary to implement and administer strict rules regarding inversions—or any other ways in which resident companies may move their residence elsewhere. The difficulty faced by the US in creating anti-inversion rules is an illustration of this problem.

Third, and perhaps most importantly, taxing worldwide profit even when it is not repatriated requires having a mechanism for identifying and auditing the foreign activities of resident businesses—primarily the subsidiaries and branches of resident parent companies. Taxing only repatriated profit is relatively straightforward in that there would be flows of income into the domestic country. But consider a small resident company in country A owned by a non-resident shareholder, and which has a subsidiary in a foreign jurisdiction, country B. In principle, the tax authority in A would need to administer a tax on the profit of the subsidiary in B. That would be easier with the cooperation of the tax authority in B. For a large and powerful country such as the US, it may be possible to require the foreign country to cooperate, following the model established by the Foreign Account Tax Compliance Act (FATCA) legislation. But it is by no means clear how smaller countries—certainly if acting individually—would be able to achieve this. Small, low income countries find it hard enough to tax income arising within their own jurisdiction. It seems inconceivable that they could ever implement a tax on profit arising on the other side of the world on an accruals basis. They could perhaps start with the worldwide consolidated financial statements of the parent, but there could be significant difficulties in auditing such statements. It seems likely that this is why no countries apart from the US have seriously considered this option.

If the tax on worldwide profit were implemented as a minimum tax (as under the US GILTI provision discussed above), then it could be necessary to run two kinds of taxes in parallel: the current corporate income tax (possibly with a tax on foreign source income, but with deferral of taxation until repatriation) and the minimum corporate tax (at a lower tax rate, but including accrued profit). This could lead to substantial costs, both on the side of the tax authorities and on the side of the taxpayer. This burden might be slightly compensated to the extent that the necessity to allocate income to foreign and domestic entities would lose some of its relevance; nevertheless, as long as there exists a tax wedge between the full corporate tax on domestic profits and a lower minimum tax on foreign profits, the requirement to exercise existing controls on transfer pricing and controlled foreign corporations, for example, will not go away.

2.2.5 Incentive compatibility

What incentives are there for a country to implement a tax on the worldwide income of its resident parent companies?

If the tax replaced any origin-based taxation in that country, then this would be a radical move in the tax competition game. That is, suppose that country A unilaterally replaced the existing system with such a tax. Then the resident subsidiaries of non-resident multinationals would not be taxed in country A. That would have two profound effects. First, it would make country A an extremely attractive location to undertake productive activity. But, second, it would place its own resident companies at a competitive disadvantage, since they would continue to be subject to tax.

This disadvantage suggests that this is unlikely to be the choice made by country A. Rather, it is more likely that the worldwide tax would be combined with a tax on an origin basis. If the tax on worldwide profit simply supplemented the existing origin-based tax, then there would be no competitive gain with respect to inward investment. But there would be a different trade-off. On the one hand, country A would address possible problems arising from profit shifting to low tax jurisdictions and hence raise additional revenue from its own resident multinational companies. But, as a consequence, it would raise the tax liabilities of its own resident multinationals relative to non-resident businesses. This would be a disadvantage to domestic multinationals competing in markets around the world with non-resident businesses.

From the perspective of other countries, the worldwide tax in country A would give their own resident companies an advantage over multinational companies with parents in A. If A were a large enough country, with substantial outbound investment—the US, for example—then this may affect the choice of tax rates in other countries. Specifically, if country A offered a credit for taxes paid in other countries, there would be an incentive for those countries to capture as much revenue from affiliates of multinationals resident in A, up to the point that they would not pay any further tax in A. This would simply represent a transfer of tax revenue from country A to other countries. Of course, the merits of this strategy would depend on the extent to which other countries depended on inward investment from country A.

However, to the extent that other countries did follow such a strategy, the main gain from introducing such a system would be the higher revenue achieved by other countries. Country A would in effect be introducing a minimum tax, which would underpin the taxes on profit levied in other countries.[69] Those countries might also gain, to the extent that companies resident in A would seek to move elsewhere. The appropriate response of other countries to country A introducing a tax on the worldwide profit of its resident companies, with a credit for taxes paid in other countries, would therefore be a note of thanks to the government of country A.

[69] Note that this would not be true if country A offered only a deduction for foreign taxes.

2.3 Conclusions

At the time of writing, there is some support for the idea of a tax imposed in the country of residence of a parent company on the accruing foreign income of that company. The US introduced a provision to do so in its 2017 reform, and members of the OECD/G20 Inclusive Framework are also considering the idea in the form of a minimum tax.

The strongest argument in favour of such a system is that it would be the best way of supporting a personal tax levied on the worldwide capital income of domestic residents. In the absence of outbound, and inbound, portfolio investment, and hence cross-ownership across countries of multinational businesses, this would be a convincing argument. But in the modern global economy, with cross-border portfolio investment, it is not necessarily the case that parent companies are owned primarily by domestic shareholders. This is especially true in smaller and more open economies. But even in larger economies, such as the US, the direction of travel is clearly for there to be more cross-border portfolio investment. That means that the link between resident individuals and resident businesses has weakened and is likely to continue weakening over time.

In practice, it is quite possible for a business resident in country A to be owned by shareholders in country B, have almost all of its activities in country C, and sell to residents of country D. In such a situation, the case for basing the international tax system on the fact that the ultimate parent is in A is not persuasive. It is hard to see a case for such an allocation of taxing rights based on fairness, when countries B, C, and D would seem to have a stronger claim. It would create economic distortions in that businesses would seek to locate their parents in countries with low tax rates, or in countries that did not comply with this approach. Governments may seek to prevent existing companies switching the residence of parents (although this has proved to be hard in practice and adds complexity to the system), but new businesses would be likely to locate elsewhere.

And there is a problem of incentive compatibility: the incentive for countries that seek to compete with each other would be not to introduce such a system for fear of deterring parent companies from locating in their jurisdiction. If such a system were already in place, then these countries would have an incentive to undermine it, by reducing their tax rates or abandoning the tax on foreign income. It is therefore hard to see how this could possibly be a stable system for the long term.[70]

[70] For a policy analysis of the minimum tax being considered by the Inclusive Framework at the time of writing see Devereux et al (2020).

3. Country of residence of owners

A much more radical reform would be based on attempting to tax business profit as it accrues, but in the hands of the ultimate owners.[71,72] In principle, this fits well with the aim of the tax system being to support the taxation of capital income under the personal income tax. Broadly, this mirrors the fact that personal income taxes are typically levied in the residence country of the individual, on worldwide income. Where that income accrues inside a business, it is natural to assign that to the owners, whether or not the income is actually distributed. A business level tax on profit would then be unnecessary, or it could be used as a withholding tax which is creditable against personal taxes.[73]

A major advantage of such an approach would be that the location of tax on profit would be identified as the location of the owner of the business. While individuals are not immobile, they are certainly much less mobile than the key elements of a multinational business.[74] Locating the taxation of business profit—of a multinational, or a business resident only in one country—in the place of residence of the owner, would therefore have a considerable advantage for reducing or even eliminating both profit shifting and distortions to the location of real economic activity. Since the ultimate location of tax would depend only on the country of residence of the owner, there should be no profit tax considerations at the business level.

Where the owner and business are resident in the same country, then—as noted in Chapter 2—to some extent business level taxes serve the purpose of supporting the personal tax on capital income. In this case, a business level tax can be seen as a proxy for the personal income tax of the shareholder.[75] This is generally known

[71] Conceptually, business profit may also be taxed in the location of businesses' owners through a formulary apportionment approach. Under this approach, the worldwide profit of a business would be allocated to countries in proportion to the share of owners in that country. See the discussion in Cui (2018), who sets out the administrative difficulties entailed in such an approach.

[72] Conceptually, too, profit could be taxed as it accrues in the hands of all suppliers of finance—both equity and debt. In this section we limit our analysis to suppliers of equity finance, that is shareholders of companies.

[73] The United States Treasury (1992) and Warren (1993) both examined a 'shareholder allocation' proposal that used a business level tax as a withholding tax.

[74] Throughout the discussion which follows, it should be borne in mind that multinational enterprises with widely-owned shares are unlikely to be able to shift their shareholders to low tax jurisdictions to lower their overall tax liability. However, if the shares are held by a small number of (wealthy) shareholders, there is perhaps a greater likelihood of such a shift. In such cases, corporation taxes levied in the shareholders' residence provide a further incentive—beyond incentives created by personal taxes—for these shareholders to move their residence to low tax jurisdictions.

[75] Three taxes may be levied in this case: corporation tax on the corporate profit as it accrues, personal income tax on dividends when the profit is distributed, and capital gains tax on an increase in value of the company. Note that any such increase in value may reflect any profit that the company has made and not yet distributed; but it may also reflect a rise in anticipated future profit. There have been numerous ways in which relief has been given to reduce the double taxation of corporate profit and dividends, from an explicit tax credit to a lower tax rate on dividend income.

as *pass-through* treatment—broadly business profit is allocated to shareholders who for tax purposes include their share of profit in their personal income. This is broadly how commercial and professional partnerships are taxed around the world and how some closed companies (e.g. S-corporations and LLCs in the US) are taxed in some countries on a mandatory or elective basis.

What about cases in which the shareholder and company are not resident in the same country? Returning to the example above, suppose an individual in country B purchases shares in a company in country A. An origin-based tax would tax the profit of the company in A. It could be argued that this is still a proxy for the personal income tax that B would like to collect on that profit; but—as we have discussed in Chapter 2—unless A remits the tax revenue to B, then the government of B is likely to feel that it is not a very good proxy, since it will not receive the revenue necessary to provide public goods and services. Even in an international context, then, it is worth considering whether the profits of a company could be allocated to its shareholders for the purposes of including those profits in the taxable income of the shareholder.

In principle, there could be two broad ways in which profit is taxed in the hands of the owners of the business. One approach—which is used for commercial and professional partnerships and for S-corporations in the US, for example—would be to allocate all profit to owners and ignore any dividend payments or other flows of profit from the business to the owner. The other approach is simply to tax flows of dividends (and possibly other forms of remuneration). This would allow the tax on the underlying profit to be deferred until it is remitted to the owners.

In the pass-through case, in principle, in any tax year for the individual, the individual would need to declare in her tax return her share of any profit accrued within companies which she has owned within that year.[76] Note that 'her share' would depend on the proportion of each company that she owned during the year, and complications arise when that changes during the year. For example, suppose that she began the year owning 10% of company X, but after four months she purchased a further 50%, and then after eight months she sold 20%, meaning that by the end of the year she owned 40%. For a precise allocation of profit to this shareholder, it is generally supposed that the profit accruing in each of these periods would need to be calculated, so that the correct proportion could be allocated to the shareholder for each part of the year.[77] In practice, and as an approximation to this, the shareholder could be allocated a share of the total annual profit of the year

[76] There is a problem of matching the year end of the company and the tax year of the shareholder. It is more straightforward to rely on the financial year of the company, and to allocate a share of retained earnings at this point in time to be included in some subsequent tax return of the shareholder.

[77] If the shareholding changed more frequently, then in principle the profit would need to be calculated on a daily—or hourly, or minute-by-minute, or even second-by-second, basis.

based on her average shareholding during the year.[78,79] Problems mount if pass-through treatment is applied to more complex businesses, with a large number of owners (some of them corporate, tax exempt, or non-resident), possible continuous trading in the shares, and multiple classes of stock.[80]

A second option would be to tax only the dividends and capital gains received by a shareholder, which could again in principle mean that the corporate level tax could be abolished entirely or used as a withholding tax. Note, however, that as the capital gains received by a shareholder may partly reflect expected profit, this option would not be a strict tax on business profit as it accrues. Different versions of such an approach have been proposed. In the 1990s a number of US scholars proposed taxation of securities in listed companies according to 'mark-to-market' in order to capture undistributed changes in the corporation's value, sometimes combined with a pass-through approach for closely held entities.[81] Toder and Viard (2014) proposed that non-listed businesses should be taxed on a pass-through basis, broadly as described above. Shareholders of listed companies would be taxed on the dividends and also on the accrued capital gain on the value of their shares, on a mark-to-market basis. Grubert and Altshuler (2016) made a similar proposal, also in a US context, with dividends and capital gains being taxed as personal income. The main difference is in the determination of the capital gains. Grubert and Altshuler proposed to tax capital gains on realization, but to introduce an interest charge to offset the gain from deferral of taxing accrued gains.[82] In this case there is no need to observe the current market price, and so the system could be applied to all businesses. A problem with both of these proposals is that—in the US context, at least—they would raise less tax revenue. Grubert and Altshuler therefore proposed to keep the corporation tax, but at a much lower rate, and a later paper from Toder and Viard (2016) proposed the same.

One complication arises here that was discussed in the context of taxing parent companies above: how to treat ownership of shares through financial intermediaries such as mutual funds. The principle is that the tax should be allocated to the ultimate shareholders. But that calls into question the taxation of intermediaries. For example, suppose that pension funds do not pay tax on the accumulation of their

[78] For S-corporations, where stock is sold mid-year the default rule is that the selling shareholder is allocated a pro-rata share of the annual profit. So, for example, if a shareholder sells a 50% share of the business six months into the year, she would be allocated 25% of the company's annual profit. But shareholders can also agree to elect that they close the books at date of sale, with a profit allocation being made up to that date.

[79] This is not necessarily the only, or best, way to proceed. The price at which shares in the business are transacted should depend on the future profits and taxation of the business. For example, the proceeds from selling a share should reflect the post-tax stream of profit that is expected to arise within the business. If the purchaser of the shares were liable to a tax which matches her share of the income (that is, on the total income accruing in that financial year), then it is not clear that the seller of those shares needs to face further tax at the end of the financial year.

[80] For a discussion of these issues, see United States Treasury (1992) and Warren (1993).

[81] See, among others, Bankman (1995), Dodge (1995) and Knoll (1996).

[82] This is based on the proposal by Auerbach (1991).

returns, as is common. Then should we view the pension fund as being the shareholder, or should we look through the pension fund to identify the beneficiaries—who may not receive their pensions for many decades to come? If there is a deliberate policy of providing a tax advantage to pensions, then looking through the pension fund would undo this advantage. This would suggest treating the pension fund as the shareholder, which would certainly be a simpler approach. However, taking this approach is also problematic, in that the financial intermediary is likely to be mobile, and able to locate in a low tax jurisdiction. This is similar to the problem of the relocation of parent companies discussed in the last section.

A key question for our analysis, however, is how either of these two broad ways of passing the tax on business profit to the owners of the business deals with the international problems with which we wrestle in this book. Let us consider them in turn.

The first option of passing through profit to owners does not really address the problems of the taxation of multinational companies, since that approach is silent on how to identify and locate profit. The options for identifying that profit are therefore those that are considered elsewhere in this chapter—it could be based on an origin basis, the residence of the parent company, or a destination basis. But unlike the current system which is based on separate-entity taxation of corporations it leaves open the option of fully allocating all profits to the owners of the corporations wherever they are resident on a current basis.

It might be natural to think of applying this option to the worldwide profit of the business, based on the residence of the parent company, since that is the company in which the ultimate owner directly owns shares. Where the shareholder is resident in the same country as the parent company, this would be an effective way of taxing the worldwide income of the shareholder. But this does not easily deal with international portfolio investment, such as the case when a shareholder in country B owns shares in a company in country A. In principle, the profits accrued in A should be allocated to the shareholder in B, and taxed by the government of B.[83] This is an approach taken by many countries in the context of 'controlled foreign corporations' and 'passive foreign investment companies'—but this does not reflect the treatment of the overwhelming majority of cross-border business holdings.

There would be one very significant problem with a cross-border implementation of this option: enforcement. The tax authority of the country of residence of the shareholder would require information from all companies (or other businesses) in which a domestic resident has an interest. That might be acquired from

[83] This problem is avoided for S-corporations in the US, since they are not permitted to have non-resident shareholders. And US shareholders of non-resident companies do not receive pass-through treatment either. S-corporations are permitted to own non-resident subsidiaries, but those subsidiaries are treated as C-corporations and hence are liable to US corporation tax.

the resident shareholder, but then responsibility for information collection is passed to the shareholder. Otherwise the tax authority could collect information from the company directly. It might just be conceivable for a large country such as the US to impose such a requirement on non-US companies. It is hard to see many other countries being able to impose such a requirement, especially small low-income countries on companies all over the world. Another alternative would be for the tax authority in the residence country of the company to collect the information and distribute it to all countries that have individuals who own shares in that company. This would require a dramatic increase in cooperation among tax authorities; although there has certainly been a sharp increase in recent years in cooperation among tax authorities through exchange of information, and country-by-country reporting, such exchange has not yet reached the levels that would be required here. Each tax authority would in effect be helping other countries to collect a residence-based tax on the foreign shareholders of local companies; it is not clear that they would have an incentive to do so.[84]

The second option described above bypasses the first of these problems. If we take the approach in its pure form, of abolishing the business level tax of profit, and relying solely on taxes on dividends and capital gains of the owners, then we no longer have the problem of identifying the relevant profit of a multinational in any particular jurisdiction. In effect, we would be taxing the worldwide profit of the business directly owned by the individual. Note, though, that tax on dividends may be deferred from the time at which profit accrues, and tax on capital gains may reflect profit that is expected to accrue in the future.

However, even with this option, there remains the problem of dealing with international portfolio investment, when a shareholder in country B directly owns shares in a company in country A. In principle, if the aim is to tax the owner of the business on the accrued income from owning that business, then it is natural to aim to do this for worldwide accrued income. Toder and Viard (2014) propose to tax the accrued capital gains of any company listed on a domestic or foreign exchange; but they would not tax the income of non-listed, non-resident, companies owned by domestic residents. Against this background, others have proposed to combine 'pass-through' treatment for closely held companies with mark-to-market treatment for shares in listed companies (Dodge, 1995).

Grubert and Altshuler (2016) do not address the problem of international portfolio investment. However, the enforcement problems for taxing dividends and realized capital gains of non-resident businesses may be less significant than taxing the profit of the business directly; at least the shareholder is presumably aware that she has either received a dividend or realized a capital gain, even if these are derived from non-resident businesses. If an interest charge is also levied to effectively

[84] It remains to be seen to what extent the current plans to implement a worldwide minimum tax on corporate profits will address these issues and ramp up international assistance in tax matters.

convert the tax on realized capital gains to a tax on accrued capital gains, then it is plausible that the shareholder could be taxed on her worldwide income from her ownership of businesses at a rate equivalent to her personal income tax rate. There may of course be problems of evasion, but these are similar to those for any other form of foreign income that the owner may seek to hide from the tax authorities. Again, this problem could perhaps be addressed with suitable agreements on exchange of information.

A final point to note, however, is that it is no coincidence that these proposals have been made in the context of a large country such as the US. While it is conceivable that the US, and perhaps other large and developed countries, might be able to identify and tax all dividends and realized capital gains from the worldwide holdings of US citizens, that seems unlikely for many other countries. In particular, low income countries tend to rely much more on taxes on business for the administrative reasons that businesses are more likely to have financial records and to be registered with the tax authority. Moving away from taxing the business to taxing the owners of the business would be problematic where tax administrations lack resources.

But then the number of residents in low income countries that own shares in foreign companies is likely to be small. While this may help if such a reform were introduced, it also illuminates one likely consequence of such a reform. Ownership of companies worldwide is heavily biased towards high income countries. So moving towards a system in which corporate profits are taxed in the place of residence of the shareholders could have a substantial negative impact on revenues in low income countries.

4. Destination country

A fourth broad location to which the rights to tax multinational profit could be allocated is the market country. This is at the opposite end of the spectrum of a multinationals' activities: where it makes sales to third parties. There may be different forms of taxes on a destination basis, and we discuss two of these at length in Chapters 6 and 7.

But before analysing possible mechanisms for allocating some, or all, profit to the market country, we must first examine the rationales, costs, and benefits of doing so. We distinguish two bases for allocating taxing rights to the market country. These correspond to whether we think of the market country as one of several 'origin' locations, or as a distinct location in its own right simply because sales are made there. In the latter case, borrowing again from the literature on VAT, we call this the place of 'destination'. It may seem that identifying the conceptual basis for taxing profit in the market country is a purely academic exercise, which can be ignored by practical policy makers. We disagree; the basis for allocating taxing rights to the market country—and indeed the reasons for doing so—should be important in determining whether and how to do so.

4.1 Market countries as countries of origin

First, taxing rights can be—and are—allocated to market countries because some economic activity and possibly ownership takes place in these countries.[85] In other words, taxing rights can be allocated to market countries on an origin basis. At the time of writing, such a reform is being discussed by the OECD/G20 Inclusive Framework. The justification for doing so could be that the activities—defined broadly—of foreign businesses in market countries are not taken into account, or not given sufficient weight, under existing rules. For example, a foreign business' investment in a market country may create valuable intangible assets that generate a return not fully taken into account under existing rules.

The jurisdiction of 'the market' is where what valuation experts describe as 'customer-based intangibles' reside. Such intangibles are an important part of the value of many successful multinational enterprises. In many technology businesses, for example, technological advances lead to customers installing a particular company's hardware, software, or both. Once that base of customers is established, the company has a competitive advantage for subsequent generations of products and services independent of any technological superiority. Similarly, in many businesses one successful product, whether based on technology, identification of consumer tastes, or some blend of both, can give a favourable image to a company, which can help to sell other products in the future. The intangibles that reflect these elements of value are often described as an 'installed customer base' or 'customer relations' or even 'goodwill'. Once developed they can have value far in excess of any specific technology that fuelled their initial creation. Arguably, these intangibles are inherently located in the jurisdiction of final purchaser for the product or service, which is the market jurisdiction, because that is where the customer is. In the recent debate on taxation of the digital economy, the concept of taxation on the basis of 'digital investment' is built on this approach.[86]

In addition, new products and services are typically protected by patents, trademarks, and/or copyrights—and these clearly also constitute an important element in generating returns to a business. Within the logic of an origin-based tax—such as it is—there is an argument for sourcing these returns to the market jurisdiction: the value of these products is determined in substantial part by the legal protections offered through patent, trademark, copyright, and other laws in the market jurisdiction itself. A patent-protected drug cannot generate profit in a

[85] For discussion, see Schön (2009).
[86] See Schön (2018, 2019).

market that readily permits generic products to be sold without regard to patent rights. Similarly, a handbag maker cannot readily earn profit if fake versions of the product are readily available. It is predominantly the law of the market country that protects these elements of value.

A tax on profit in the market country can therefore be seen in part as a return to several sources of profit, related to the country of the customer. In this sense, the market country is simply one of a number of 'origin' countries. Even if the tax system were to continue to be based primarily on an origin basis, then the market country should be considered as a source of profit, alongside other countries, such as the location of production, or R&D. On the other hand, there are considerable difficulties in measuring the return to 'marketing intangibles' and other such factors that are being used in the current debate to justify enhancing taxing rights of market countries on an origin basis.

4.2 Market countries as countries of destination

However, there is a second and distinct basis for allocating at least some taxing rights to the market country—as the 'destination' of sales. Under this basis of taxation, taxing rights would be allocated to a market country by mere virtue of sales in that country—even if the foreign business making the sale has no other economic presence in the market country. This basis of taxation is not followed under the existing regime. But it does form the basis of value-added taxes.

The case for a destination basis of taxation may be made on two grounds. The first is that the market creates value in and of itself. This may be thought to justify taxation in the market country even if a foreign business sells remotely and has no economic activity there. It may be argued that if taxing rights are allocated according to the principle of value creation, then they should be partly allocated to market countries, as the creation of value requires both a supply and a demand side. Without customers to purchase the goods produced by a business there would be no business profit to allocate. This view has supporters and detractors.[87] However, more generally, and as discussed in Chapter 3, we do not believe that taxing rights can or should be allocated on the basis of value creation. We therefore move on to the second and more persuasive reason for taxing on a destination basis.

A key advantage of taxing profit in the destination country is similar to that of using the country of residence of the shareholders; individual customers are relatively immobile. At least in most cases, we would not expect an individual customer to change her location in order to reduce the tax charge of the multinational

[87] See, for example, the discussions in Schön (2018); Hellerstein (2018); and Devereux and Vella (2018b).

from which she buys a product.[88] Thus, unlike an origin-based tax, or a tax in the location of the parent company, it would be hard for the multinational to affect the location of the tax levied on its revenue.

In principle, the relative immobility of the place of destination has significant advantages in terms of economic efficiency, robustness to avoidance, and incentive compatibility. As we have discussed elsewhere, the existing system creates significant distortions to the location of economic activity, and the ownership of assets within a multinational, because under an origin basis these factors determine the location of the tax base. But where a multinational sells its product to a third party depends on the location of that third party. In principle, a tax based on the destination of sales would avoid such location distortions.

A similar argument applies to profit shifting: if income is taxed in the place of destination, then it is very hard for a multinational to manipulate the source and hence the location of taxation of that income, or indeed the amount of income. As a result of these two factors, competition among countries should also be curtailed. If country A lowers its destination-based tax rate, that should attract neither economic activity nor tax revenue from country B, since the taxable income depends on sales in A.

These are powerful reasons for exploring a tax based on the place of destination. But what of our other criteria? In particular, could a tax on profit in the place of destination be said to be fair? It could perhaps be argued that having a tax based solely on the destination of sales is rather arbitrary. Under the existing system, we are used to the concept that the return from an activity should be taxed in the place of the activity (even if the existing system does not always achieve that); thus, in principle say, the return from undertaking research and development (R&D) should be taxed in the place where the R&D is undertaken. A system based solely on the destination of sales would not achieve this. And so arguably, there may be a problem in terms of the fairness of the allocation of the tax base among countries.

However, as we set out in Chapter 2, it is difficult to employ the concept of fairness in relation to taxes on profit. To compare the effects of such a tax on individuals, we need to look though the company or business to identify which individuals are worse off as a result of the tax. In general, that depends not just on the location of the tax, but also on the base of the tax and the market conditions in which the multinational operates. In some circumstances we can be more precise. For example, in principle a tax on economic rent in the destination country—such as the destination-based cash flow tax (DBCFT) described in Chapter 7—should fall on consumption out of non-wage income by residents in the destination country. That is likely to be progressive in that since spending out of wage income is unaffected, the tax falls only on other forms of income, notably capital income. However, this

[88] As we discuss in detail in Chapters 6 and 7, this is more likely if the customer is a business, depending on the precise form of the destination-based tax.

leaves the welfare of the multinational's owners, likely to be resident in other countries, unaffected by the tax.

There is also a question about fairness among governments; a destination-based tax would allocate taxing rights to the country of destination, rather than any other location in which the multinational operates.[89] Switching from an origin-based tax to a destination-based tax, the effect on the distribution of taxing rights depends (amongst other things) on the balance of trade. Under a DBCFT, for example, moving from an origin to a destination basis would mean that each country would forego tax on its exports, but collect tax on its imports. Where trade was balanced, these effects would net out. In the short and medium term, and ignoring all other factors, a country with a trade deficit would see a rise in its tax base, whilst a country with a trade surplus would see a fall. Note that it would be wrong to assume simplistically that countries with 'small' markets would 'lose out' in a move to a destination basis of taxation. First, countries with 'small' markets may have limited real activities that attract taxing rights under the existing origin-based regime. Second, less revenue should be lost to profit shifting under a destination basis of taxation than is currently lost under the existing origin-based regime. Looking to the future, in an origin-based regime, countries with 'small' markets will continue to face competitive pressure to cut rates to attract real activity. This will make it increasingly difficult for these countries to raise revenue on this basis. These pressures would be reduced or even eliminated under a destination-based tax. We discuss these issues in more detail in the context of more specific proposals in Chapters 6 and 7.

But identifying gainers and losers may tell us little about whether the system is more or less fair. For that we have to rely on principles of how taxing rights should be fairly allocated among countries. However, despite considerable writing on the notion of 'inter-nation equity', these principles are not clear.

One possibility is to return to the notions of ability to pay and the benefit principle. As we set out in Chapter 2, the 'ability to pay' case for a business level tax on profit is not strong. But in this context, the issue is whether a destination-based tax would be useful as a support for a personal income tax—either for taxes on labour income, or for taxes on worldwide capital income. As we noted above, in the context of origin-based taxation, a destination-based tax can provide support for taxes on labour income, as long as remuneration paid to employees is deductible from the tax base in the country of the employee, as it would be under a DBCFT. And a DCBFT would also fall on the owners of capital, albeit in the destination country rather than the country of the owners of the business.

[89] Although this is not a necessary feature of such a tax; in principle, the destination country could share tax revenues with other countries. Clearly this would need some international agreement.

The benefit principle approach is most closely associated with origin-based taxation, although the link between the benefit of publicly provided goods and services in a country, and the profit made there, is unlikely to be strong. The 'benefit principle' case for a tax in the market country would probably need to rely on the argument that the market country is also a source of profit, and that the size of the contribution to profit is affected by the provision of publicly provided goods and services. This does not add up to a strong case on fairness grounds, but that is also true for origin-based taxes on profit.

So, although there may be questions about fairness, these are rather more general than applying only to destination-based taxes. As argued above, the case for a destination basis instead is based on its performance with respect to the criteria of economic efficiency, robustness to avoidance, and incentive compatibility.

That leaves the costs of administration as the remaining criterion. In principle, there could be many forms of taxation on a destination principle; these are likely to differ in how well they meet the criteria of low costs of administration. The cost of administration of alternative destination-based taxes depends on what form the tax takes. Chapters 6 and 7 outline in detail two options—and refer to other related taxes—that are either wholly, or partly, based on the destination principle. The Residual Profit Allocation by Income (RPAI) identifies the worldwide residual profit of a multinational and allocates that to jurisdictions based on third party sales in each jurisdiction. The DBCFT is more akin to a VAT, zero-rating exports but taxing imports. Each raises several important issues of administration, including for example, the treatment of remote sales into a country. However, these issues are relatively detailed, and we defer further discussion to Chapters 6 and 7.

5. Final thoughts

This chapter has explored four options for the allocation of the rights to tax the profits of multinational businesses amongst countries: the origin country, the residence countries of the ultimate business parent and of the ultimate owners, and the destination country. For each of these four locations, there are different options for the form of taxes that could be levied. This chapter is not intended to be an exhaustive account of all possible options. Rather we have tried to identify the key issues arising with taxes in each of these four locations. We have examined each in the context of the five criteria we set out in Chapter 2: economic efficiency, fairness, robustness to avoidance, ease of administration, and incentive compatibility.

Of the four locations, one may not represent a business level tax at all—instead it would allocate all profit earned by the multinational to the ultimate individual owners of the business, and tax it in the hands of those owners—full pass-through treatment or taxation on the basis of dividends and (unrealized) capital gains. This approach scores well on most of the criteria. The real issue is whether it could be successfully implemented; if so, there would arguably be no need for a business level tax on profit at all. On the basis of current—and at the least the short-term future—levels of information collection and provision, full pass-through is unlikely to be possible and mark-to-market taxation seems feasible only with regard to shares in listed corporations. But information levels have risen dramatically over the last twenty years or so and are likely to continue to improve; so this option should not be ruled out indefinitely.

The approaches by origin and by the residence of the business parent perform particularly badly on the grounds of economic efficiency and incentive compatibility. And the problems are fundamental with respect to these locations, rather than being a feature of particular forms of taxation. In particular they apply both to the separate accounting approach and to most forms of formulary apportionment. That is because there is a clear problem for national governments: raising tax revenue on either of these bases tends to drive away real economic activity. Tax competition between countries to attract real economic activity (but also taxable income) has driven down effective tax rates and would be likely to continue to do so with taxes based on either of these locations.

The performance of these locations with respect to robustness to avoidance and the costs of administration depends on the form of the tax. Here there are clear differences between, for example, separate accounting and formulary apportionment. One issue which we discuss in more detail in the next chapter is the cost of transition. The existing system—with all its faults—is based on separate accounting. Undertaking radical reform away from this system would have transition costs and also uncertainty about how well any reformed system would work in practice. Before undertaking a reform, it is reasonable to require a good case that the benefits of any reformed system would outweigh these costs.

The fourth location is the destination country—where sales are made to third parties. This has not traditionally been part of the international system for taxing profit, although of course value added taxes and sales taxes are levied in this location. The relative immobility of the customer creates significant advantages with respect to economic efficiency, robustness to avoidance, and incentive compatibility. These advantages may well be strong enough to justify reform in the direction of allocating taxing rights to the destination country, as long as a suitable form of tax can be implemented, and the transition costs are not too large. The remainder of this book sets out options for reforms which move in this direction.