Taxing Multinational Companies

3.1 INTRODUCTION

In debates about fair taxation, corporate income taxes play an important role. The main reason is that globalization and technological change, including digitalization (see Chapter 2), seem to make it increasingly difficult to tax in particular large, multinational companies. At the same time, these companies are considered to be highly profitable and increasingly powerful. Doubts that these companies pay their fair share of taxes are fueled by a growing number of media reports as well as academic research about tax planning and tax avoidance. There have been various spectacular cases of tax avoidance, which have given rise to highly critical public debates in particular about digital companies like Google or Apple. For instance, an article about current OECD initiatives to rein in tax avoidance published in the New York Times on October 9, 2019 begins as follows:

"Digital tax dodgers, take heed: International leaders have advanced a plan to prevent large multinational companies like Apple, Facebook and Amazon from avoiding taxes by shifting profits between countries."[1]

While companies with digital business models seem to find it easy to avoid taxes, other companies have also been criticized for failing to pay their share of tax. One example is Starbucks. Here a recent newspaper article complained that "Starbucks' UK-based European business paid just GBP 18.3 million in tax last year, while paying the coffee giant's parent company in Seattle GBP 348 million in dividends collected from licensing its brand."[2]

A more general reason why corporate taxation is prominent in debates about tax fairness is that corporations are widely perceived as being rich and powerful. At the same time, they are often seen as impersonal and somehow evil entities. Of course, they are owned and run by individuals. Their profits ultimately accrue to their owners, even if the managers with handsome compensation may be those who benefit most from wealth created by corporations. This income should be taxed as should any type of income, in particular if those who receive it are significantly richer than the average taxpayer. There is a view, which also underlies recent proposals for wealth taxes from left-wing American politicians, that owners of firms that turn out to be highly profitable have often been unusually lucky and enjoy some immunity from competition that is likely to entail efficiency losses. Luck plays a role for any kind of income, however, and corporate taxation need not target the rich and lucky more precisely than other taxes, including those on the profits of non-incorporated firms, and on capital gains.

Another important dimension of the fairness debate in corporate taxation is about the distribution of taxing rights between countries. The existing rules are often seen as biased in favor of the established industrial countries, where the headquarters of most multinational companies are located. Emerging economics like China, India, or Brazil argue that firms from industrialized countries benefit from access to their markets but do not pay appropriate taxes in these 'market countries'.

Unfortunately, there are no clear criteria for what determines a 'fair' distribution of taxing rights in corporate taxation. The distribution of taxing rights is largely a matter of negotiation. In recent tax policy debates, it has been emphasized that corporations should pay tax where they produce and create value. But that does not really help, among other things because it is not clear whether value creation takes place where factories are located, where entrepreneurial risk is borne, where research and development is carried out, or where goods are sold to private consumers. All of these activities somehow contribute to wealth creation. Fairness criteria do offer some guidance to the distribution of taxing rights: offshore financial centers and tax havens where companies have no or little economic activity should not have taxing rights, inasmuch as no contribution to value creation takes place there. Beyond that, there is no theoretical guiding principle.

Practical details do matter very strongly in the design of tax systems, the playground of cat-and-mouse games between governments and taxpayers. For example, value-added taxes are collected from sellers not because it matters in theory whether consumers or shop owners pay them, but because it would be too easy for consumers to lose track of their tax obligations, and too difficult for governments to find out if they do. Because the corporate profits of companies that need to keep and publish detailed accounts are relatively easy to assess, governments will tax them to the extent they can, and company

[1] New York Times, October 9, 2019, "Tech Giants Shift Profits to Avoid Taxes. There's a Plan to Stop Them." https://www.nytimes.com/2019/10/09/us/politics/tech-giants-taxes-oecd.html.

[2] The Guardian, 2019, "Starbucks pays £18.3m tax but £348m in dividends." https://www.theguardian.com/business/2019/jun/27/starbucks-emea-pays-183m-tax-but-348m-in-royalty-payments.

EEAG (2020), "Taxing Multinational Companies",
EEAG Report on the European Economy, CESifo, Munich, pp. 56–69.

owners will do what they can to avoid paying corporate taxes.

Reforms to the distribution of taxing rights are driven by the growing bargaining clout of market countries who want revenue not because it is fair, but because they need and can get it. They increasingly use unilateral tax policy measures to raise higher taxes from multinational companies. This leads to double taxation, tax uncertainty, and conflicts with other countries. As in other policy areas like tariffs, for instance, cooperative solutions are likely to lead to better economic outcomes. In this chapter we discuss the development of corporate tax systems over the last few decades and the need for reform.

3.2 WHAT ARE THE ECONOMIC FUNCTIONS OF CORPORATE TAXATION?

Appropriate reforms of the international system of corporate taxation require clarity about what we expect from corporate taxation. The most important role of corporate taxes is to serve as a backstop to the personal income tax. Without corporate taxes, owners of corporations could accumulate income without paying income taxes for a long time. In addition, taxpayers could shift income from the personal to the corporate sphere and avoid paying taxes. This would conflict with the principle of universal taxation: that all taxpayers should be treated equally and bear their fair share of the overall tax burden.

Corporate taxes also have another role, that of ensuring that companies contribute to ease crowding effects of their activities on publicly provided infrastructure or more generally for the benefits they get from public services. This 'benefit tax' perspective raises the question of whether profit is the right tax base. While taxing pure profits does not distort a firm's production choices (because maximizing profits net of a proportional tax has the same solution for any tax rate), this is not a desirable feature when those choices have external effects. In particular, lossmaking firms pay no profit taxes, but they too benefit from public services.

From both perspectives, corporate taxes should in principle aim to be equivalent to taxes on other types of income. In practice, corporate income is usually taxed twice: at the firm level and at the level of the shareholder who receives dividends or capital gains. From a fairness perspective, the sum of these two taxes should be equal to income taxes on other types of income, like labor income, for instance. Usually taxation at the shareholder level is low, taking into account that these profits have already been taxed at the firm level. However, various developments undermine effective taxation of corporate profits at the firm level.

First, there is ample evidence documenting that multinational companies systematically use tax planning opportunities to reduce their tax burden, as we will discuss further below. While usually perfectly legal, this is not desirable from a policy point of view. Therefore, most countries have introduced far-reaching anti-tax avoidance legislation. As we will explain below, there is a danger that national tax policies fighting tax avoidance undermine economic integration. An internationally coordinated approach is needed. Following calls by the Ministers of Finance of the G20 countries, the OECD has started the Base Erosion and Profit Shifting (BEPS) project to propose and coordinate measures and policies against tax avoidance.

A second development is that international mobility of capital and people has increased significantly, while tax and social policy remain a responsibility of national governments. This creates incentives for governments to cut taxes on companies and wealthy and highly skilled individuals, and reduce public transfers. These implications of mobility raise concerns that the tax system will become less progressive and the tax burden will increasingly be shifted away from mobile taxpayers to immobile factors, like low-skilled labor and land.

Third, attention of policymakers has recently focused on the taxation of the so-called 'digital economy'. As mentioned above, firms with digital business models find it easier than other firms to operate in countries without a local physical presence. They also rely more on immaterial assets, which are highly mobile internationally. This allows them to avoid taxes more easily. The European Commission has therefore proposed the introduction of new 'digital' taxes on the revenue of companies with digital business models, and some countries including France have already introduced them, triggering protests from the United States, where most of the large digital companies reside.

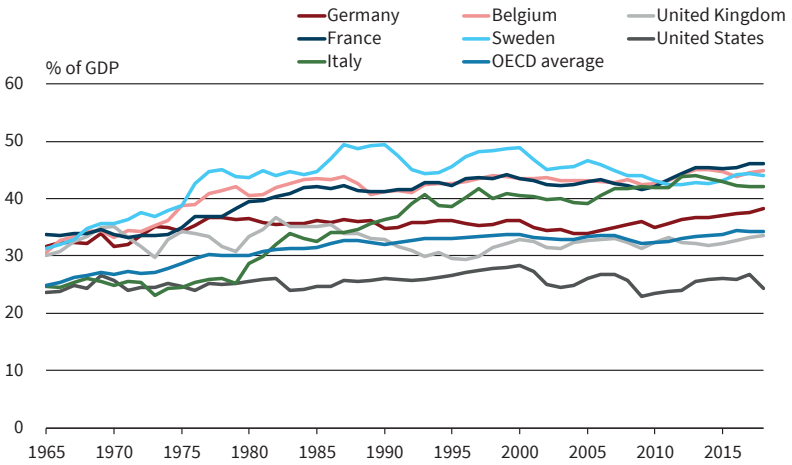
3.3 CORPORATE TAXES AND THE DEVELOPMENT OF TAX REVENUE AND TAX STRUCTURES OVER TIME

Over the last few decades, tax policy was prominent in public debates in many countries, and a large number of tax reforms have taken place. Interestingly, despite these reforms, the composition of tax revenue has not changed very much over the past decades, at least not for the average of the OECD countries. But that does not mean that tax systems and the distribution of the tax burden has not changed. As will be explained further below, a key trend of the last few decades was a reduction of tax rates on retained earnings of corporations. At the same time, their share in overall income has increased. As a result, tax revenue collected remained stable, but the tax burden on corporate profits has declined.

3.3.1 Level and Composition of Tax Revenue in the OECD Countries

Figure 3.1 describes the development of tax revenue as a percentage of GDP in several OECD countries. The (unweighted) average tax revenue to GDP ratio increased steadily, from 25 percent in 1965 to over 30 percent in the late 1970s. In 2000, it had reached a level of just under 34 percent, and in 2016, it reached an all-time high of 34.4 percent.

Figure 3.1
Tax Revenues for Selected OECD Countries, 1965–2018



Source: OECD Revenue Statistics. © CESifo

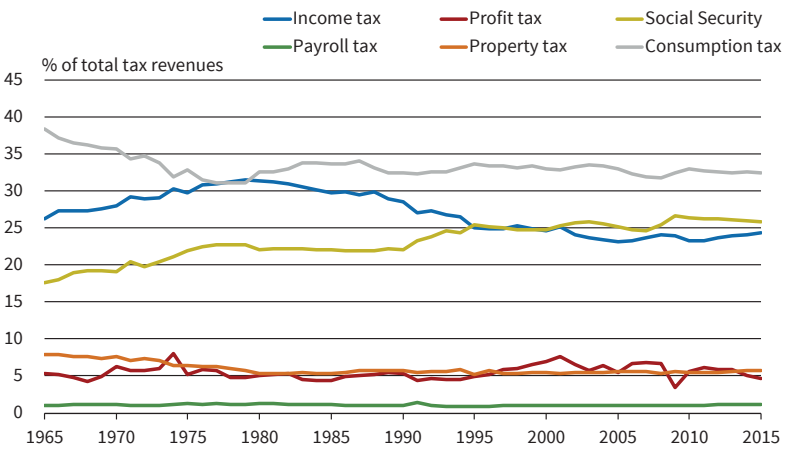
This suggests that governments do not seem to find it particularly difficult to raise revenue, and does not support concerns that the growing mobility of tax bases across borders will undermine the power to tax so much that funding the public sector becomes impossible. The share of overall output going to the public sector is growing, possibly as a consequence of aging trends. As we will discuss in greater detail below, the constraints imposed by international mobility and globalization on tax policies affect the structure of taxes more than the overall revenue collected.

Figure 3.1 also shows that the development of tax revenue differs significantly across countries. The United States is a country with a stable and low revenue ratio. In the United Kingdom, the revenue ratio is higher but also relatively stable. The strongest revenue growth has occurred in the continental European welfare states, like France, Belgium, and – albeit to a lesser extent – Germany. In Italy, the tax revenue ratio was similar to that of the United States until the late 1970s. Since then it has expanded massively. Today it is as high as that of France or even Sweden.[3]

Of course, the growth of overall tax revenue could come at the cost of a change in the revenue structure, which shifts the tax burden from mobile to less mobile sources. Interestingly, the structure of tax revenue has been remarkably stable over time, as illustrated by Figure 3.2. The most significant change is the growth in social security contributions. This development reflects the expansion of the welfare state and social insurance spending as well as, to some extent, the ease of collecting revenue from internationally immobile and readily observable wage income. The share of property and profit taxes in revenue is almost constant. The share of personal income taxes in overall revenue was 27 percent in 1965. Today it is 26 percent. The share of consumption taxes in overall revenue has declined slightly, from 37 percent in 1965 to 32 percent today. This decline is mainly due to the fact that tariffs and excise taxes have been reduced in most countries. They have partly but not fully been replaced by value-added taxes (VAT).

Overall, we can conclude that the composition of tax revenue has remained surprisingly stable over the decades. This is particularly surprising with regard to corporate income taxation, because the debate about tax competition suggests that collecting corporate taxes should have become more difficult.

Figure 3.2
Tax Revenues Sources For Selected OECD Countries, 1965–2015



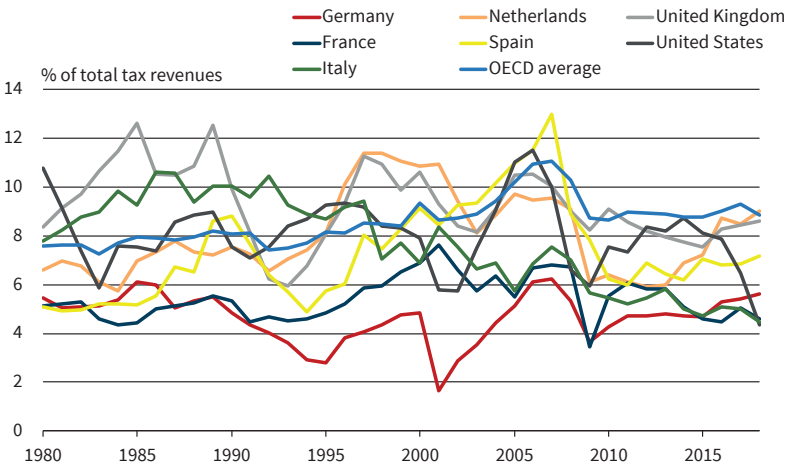
Note: The figure depicts unweighted country averages for each series.
Source: OECD Revenue Statistics. © CESifo

[3] In Italy, expenditures began to increase in the 1970s, but until the late 1980s it used to be covered by deficits and some seigniorage. Currently, tax revenue finances service of a large public debt, even if interest costs have declined recently.

3.3.2 Why Is Corporate Tax Revenue Stable Even Though Tax Rates Have Declined?

Figure 3.3

Share of Corporate Tax Revenues in Total Tax Revenues in OECD Countries, 1980–2018

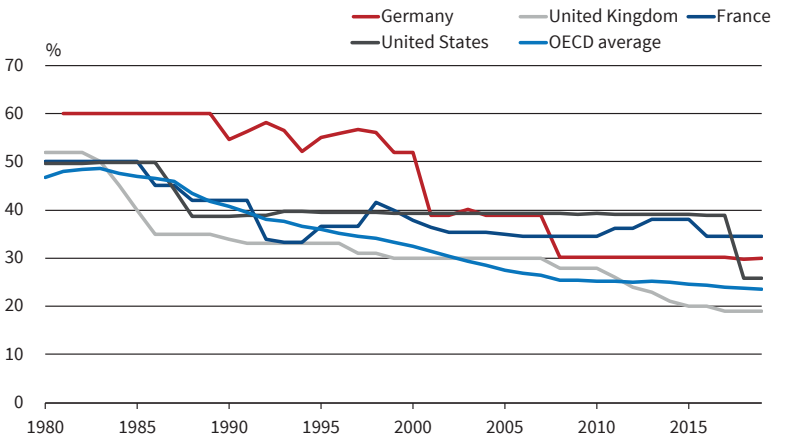


Source: OECD Revenue Statistics. © CESifo

Figure 3.4

Corporate Income Tax Rates in OECD Countries, 1980–2019

Including sub-central government corporate income tax rates



Source: Tax Foundation. © CESifo

Figure 3.3 illustrates the development of the share of corporate taxes in overall tax revenue for selected and mostly large OECD countries. Corporate tax revenue is volatile and depends strongly on the business cycle, but there is no long-term downward trend. The figures for individual countries confirm that the share of corporate taxes has not changed much in the last two decades.

The stability of corporate tax revenue is surprising because one of the most important tax policy trends of the last decades is the steady fall in corporate income tax rates. Figure 3.4 illustrates the development of corporate tax rates in various countries since 1980. The average statutory corporate tax rate in the OECD fell from 47 percent to 24 percent. Some countries were even more radical. The United Kingdom reduced its tax rate from 52 to 19 percent. Germany, traditionally a high-tax country, reduced its corporate tax rate from 60 percent to 30 percent. The United States also reduced the corporate tax rate in the 1980s, but since then seemed unimpressed by the pressures of tax competition for many years and kept its corporate tax rate at a comparatively high level of just under 40 percent (including state level tax), until the tax reform enacted in 2017 reduced the tax rate to 26 percent.

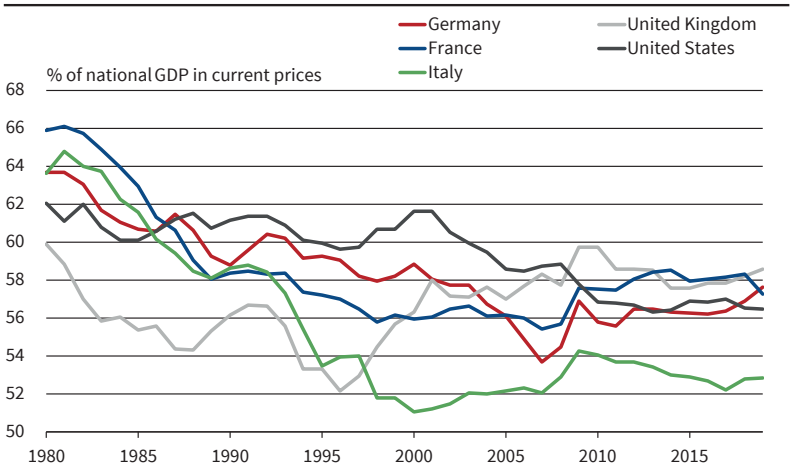
One would expect that these tax rate reductions lead to a decline in corporate tax revenue. However, tax revenue have been surprisingly stable, as documented above.

There are different explanations for this seemingly inconsistent development of tax rates and tax revenue. It is clear that, if the rates are really lower, the tax base must have increased. The question is why. First, taxable profits may have increased because many countries have combined tax rate cuts with measures to broaden the tax base. These include cuts in depreciation allowances and restrictions on loss offset and the deductibility of interest costs and royalty payments. Second, tax profits may have increased previously due to lower labor costs or lower interest rates. In many countries, the share of wage incomes has declined in recent decades (see Figure 3.5) while the share of corporate profits has increased. Interest rates have been falling more or less steadily over the last two decades. Third, taxable profits may grow because taxpayers shift income from the personal income tax base to the corporate tax base, to benefit from the lower corporate tax rates. This would also mean that profits increase, but just as a consequence of tax avoidance. If this played a large role, though, we should observe an erosion of income tax revenue, which is not really the case.

These findings suggest that the tax burden on corporate profits has indeed decreased; this is what one would expect in the presence of competition for mobile investment as well as tax bases shifted across countries through tax planning. The decline in effective tax burdens may not be as large as suggested by the falling statutory tax rates, because many countries have combined tax rate cuts with base broadening measures, in particular reductions in the deduct-

Figure 3.5

Adjusted Wage Share for Selected Countries, 1980–2019



Source: AMECO. © CESifo

ibility of interest payments and restrictions on loss offsets.[4] But these base-broadening measures have not been strong enough to maintain the effective tax rate on corporate income.

3.4 THE PROBLEM OF TAX INCIDENCE

Thinking about the distributional implications of changes in different taxes requires a clear understanding of tax incidence. In tax policy debates, assumptions made about tax incidence – that is, who bears the burden of certain taxes – are often implicit. One might simply assume that the burden of income taxes falls on income taxpayers, that of consumption taxes on consumers, and that of corporate taxes on shareholders. From an economic point of view, however, what matters is the true incidence of taxes, which includes their effects on pre-tax incomes and expenditures. Economic research on tax incidence shows that simple assumptions are often misleading.

There has been a long debate on the incidence of the corporate income tax. In a seminal contribution, Harberger (1962) discussed the incidence of the corporate tax in a theoretical model of a closed economy with two sectors and labor and capital mobility across sectors. When only one of the two sectors pays corporate income tax, then the burden of that tax, under certain conditions, is fully and jointly borne by all capital owners. Later, the analysis was extended to open economies. A benchmark result in this literature is that the burden of sourcebased corporate income tax in a small open economy is fully shifted to immobile factors of production (Gordon, 1986). This suggests that land and immobile labor bear the tax burden when capital is mobile across the borders of countries or regions that impose corporate income taxes. Empirical studies have shown that a significant part of the burden of corporate taxes falls on wages. For instance, in a study for Germany, Fuest et al. (2018) find that, for each additional euro of corporate tax collected, wages fall by 65 cents.[5] A key factor is that wage setting often implies a degree of rent sharing between firms and employees. If corporate taxes reduce the available rent, some of the tax burden is shifted to labor.

Along the same lines, empirical studies about the incidence of the value-added tax usually find that consumers do not bear the full burden of the value-added tax. For instance, Benedek et al. (2015) analyze VAT changes in 17 eurozone countries between 1999 and 2013, and show that on average, less than 40 percent of the tax changes were passed on to consumer prices.

For social insurance contributions, a widespread assumption is that both employer and employee contributions are ultimately borne by employees. Empirical studies, however, generate very heterogeneous results. For instance, Saez et al. (2012) analyze a cohort-based reform of social insurance contributions in Greece and find that changes in employer contributions were fully borne by employers, while employees had to bear only the increase in employee contributions. This may be due to the fact that employers did not want or could not pay employees different wages because they belonged to different cohorts, so that this result is unlikely to carry over to other reforms. But it does show that incidence depends on the institutional context. Similar considerations apply to other taxes including personal income taxes.

What does this imply for the analysis of tax incidence in general? There is no generally accepted answer to this question. Saez and Zucman (2019) propose a distinction between the incidence of the current tax system and the distributional impact of tax reforms. They argue that the analysis of the current tax system's incidence should abstract from behavioral reactions and price changes while the analysis of tax reforms should factor in those changes.[6] This is not

[4] For an analysis of the economic factors driving this trend, see Becker and Fuest (2011). They show that tax rate cuts with base-broadening policies are efficient, among other things, if profitability and mobility are positively correlated.

[5] In a study with international data, Arulampalam et al. (2015) find a similar magnitude. Azémar and Hubbard (2015) analyze data for 13 OECD countries and also find that a significant part of the corporate tax burden is shifted to labor, with the magnitude depending on the wage bargaining system. For a survey of the literature about the incidence of corporate taxes to wages, see Fuest (2014).

[6] "Current distributional analysis shows the current tax burden by income groups and should assign taxes on each economic factor without including behavioral responses: taxes on labor should fall on labor earners, taxes on capital on the corresponding asset owners, and taxes on consumption on consumers. This allows to distribute both pre-tax and post-tax current incomes and measure the economically relevant tax wedges on each factor without having to specify behavioral responses. Tax reform distributional analysis shows the

convincing. The distributional analysis of the existing system unavoidably refers to a counterfactual with a different tax system, with different prices and quantities, and has to take incidence into account. Assuming that value-added or sales taxes fall on consumers and that payroll taxes fall on workers just because the taxes are called consumer or payroll taxes is misleading. After all, all of these taxes are collected and paid into state coffers by firms, and their changes often trigger changes in prices and quantities. These changes need to be taken into account.

3.5 CORPORATE TAX COMPETITION

The decline in corporate income tax rates seen in recent decades is usually seen as a consequence of tax competition. Corporate tax competition is a process where individual countries try to attract internationally mobile economic activity by cutting taxes. This economic activity can take different forms. To understand the phenomenon of corporate tax competition, it is helpful to distinguish between competition for 'real' economic activity and competition for 'accounting profits'.

3.5.1 Corporate Tax Competition for 'Real' Economic Activity

Taxation affects the location of real investment – that is, of production plants, research labs and other facilities companies use to develop and produce the goods and services they offer. Since capital and people are internationally mobile, countries can attract economic activity by offering attractive tax conditions.

Whether tax competition for real economic activity is desirable is controversial.[7] There is a large literature arguing that tax competition will lead to suboptimal results. The reason is that national tax policies affect the welfare of other countries. If national tax policy maximizes national welfare but does not take into account its effect on the welfare of other countries, it will generally be suboptimal from a global perspective. From this perspective, policy coordination that focuses on global welfare is always welfare enhancing. Since countries are asymmetric, side payments may be necessary to assure that tax coordination increases the welfare of all countries participating in the agreement, but in principle tax competition is never optimal in this setting.

The opposing view argues that national tax policy usually does not maximize national welfare, either because of time inconsistency problems or because the political process leads to distortions in decision-making. From this perspective, tax competition can be seen as a welcome constraint on the power of governments to tax.

In the current political debate, the right of countries to autonomously set corporate taxes and determine the effective tax burden on domestic investment is not disputed. It is perceived as a fundamental part of national fiscal sovereignty. This fiscal sovereignty also applies to other taxes, not only to corporate income taxes.[8]

3.5.2 Corporate Tax Competition for Accounting Profits

Countries are interested not only in attracting investment and jobs; they also want to collect tax revenue. Where companies pay taxes depends not only on where their plants, research facilities or management is located, but also on their legal and financial structures. For instance, multinational companies can save taxes by financing subsidiaries in high-tax countries with high levels of debt and those located in low-tax countries with more equity. As a result, a larger part of the firm's global profits is reported in low-tax countries without any change in the location of 'real' economic activity. From the perspective of individual countries, this creates incentives to cut tax rates in order to attract 'accounting profits'.

Tax competition for accounting profits is in the focus of the current debate on international taxation because it is related to tax avoidance and profit shifting by multinational firms. While tax competition for real economic activity is more or less accepted, tax competition for accounting profits is widely criticized and seen as harmful and a form of beggar thy neighbor policy. However, the policy debate about tax competition for accounting profits is usually framed from the perspective of multinational companies who are criticized for using tax avoidance opportunities generated by tax differences across countries.

3.6 THE PROBLEM OF TAX PLANNING AND TAX AVOIDANCE BY MULTINATIONAL COMPANIES

Multinational companies can use tax planning to reduce the profit taxes they pay without changing the location of their real economic activity, as mentioned in the preceding section. Examples include income shifting through debt, transfer pricing, or the location of immaterial assets, like patents and brand names. Companies can also exploit classification conflicts between countries to avoid taxes ('hybrid mismatch arrangements'). For instance, if country A classifies a payment related to a hybrid financing arrangement as interest on debt while country B classifies the same payment as a dividend, it may be deductible in country A and tax exempt in country B. The result is that

impact of a tax reform and should describe the effect on pre-tax incomes, post-tax incomes, and taxes paid by income group separately and factoring in potential behavioral responses." Saez and Zucman (2019, p. 1).

[7] For surveys, see Fuest et al. (2005) and Keen and Konrad (2012).

[8] However, note that the EU member states have agreed to restrict national sovereignty for some taxes. For instance, the standard value-added tax rate has to be between 15 and 25 percent.

it generates 'white income', that is, income which is taxed nowhere.

For the sake of clarity, it should be emphasized that the term 'tax avoidance' refers to legal activities while 'tax evasion' refers to illegal non-payment of taxes. The fact that tax avoidance is legal does not imply that it is desirable or that governments should do nothing against it. Quite the opposite is true: it is part of the definition of tax avoidance that it is an unintended and usually undesired consequence of tax legislation. At the same time, it should be clear that taxpayers cannot and should not be expected to pay more than the minimum tax implied by the tax law. Therefore, to rein in tax avoidance, countries should change the tax law.

These general principles are applicable to international issues in corporate profit taxation. Tax avoidance by multinational companies gives rise to various problems. First and most importantly, corporate taxes have the function of making sure that owners of companies contribute to income taxation just as everybody else does. If companies can legally avoid paying taxes, the tax system is unfair and needs to be changed. Second, tax avoidance can distort competition between firms with different tax avoidance opportunities. Third, tax avoidance itself can distort the behavior of firms and absorbs significant resources, which should go into socially productive activities.

The policy relevance of opportunities for capital and taxable profits shifting across country borders is obvious. In particular, this is because richer individuals are unsurprisingly more inclined and better able to take advantage of opportunities for tax avoidance offered by elaborate anonymous corporate structures made available by specialized tax haven lawyers (Tørsløv et al., 2018; Zucman et al., 2018).

3.6.1 How Empirically Significant is the Problem of Tax Avoidance?

Attempts to estimate the magnitude of tax avoidance face the challenge that tax avoidance is by definition an activity which is difficult to measure – if it were not, it could easily be stopped.

Estimates of profits shifted or revenue lost due to tax avoidance need to define a counterfactual situation without tax avoidance. For a meaningful interpretation of estimates, it is important to take into account the assumed counterfactual, as well as limitations of the data used.[9]

Different studies about profit shifting and tax avoidance produce very different results. One class of studies uses micro data to measure how the reporting of profits changes when tax rates change. A meta-regression study by Heckemeyer and Overesch (2013) finds an average semielasticity of reported profits with respect to the tax rate differential of 0.8. The implication is that if a country cuts its tax rate from 30 to 20 percent, it will increase its tax base due to profit shifting. Specifically, the country will increase its tax base by 8 percent. This result is hard to reconcile with the findings of some descriptive studies based on macro data, which are much larger. For instance, Crivelly et al. (2016) estimate that global corporate tax revenue losses through profit shifting are equal to USD 123 billion per year in the short term and up to USD 647 billion in the long term. In contrast, Janský and Palanský (2018) argue that these losses are only USD 80 billion. Tørsløv et al. (2018) find losses amounting to USD 182 billion. Their estimates imply that multinational firms shift 36 percent of their profits to tax havens. To be compatible with results of micro studies, this would require a 45 percentage point difference in the tax burden between high-tax and low-tax countries, which is much more than the real tax rate difference.

An alternative reason for this difference could be that descriptive macro studies capture more long-term effects. Another potential reason is that the differences are due to specific assumptions about counterfactuals. For instance, Tørsløv et al. (2018) compare the relationship between profits and the sum of wages for subsidiaries of multinational firms in tax havens and local firms. They find that the ratio of profits over wages is much higher for subsidiaries of multinationals compared to local firms. For local firms in tax havens, in contrast, this measure does not differ much from that found for local firms in high-tax countries. Tørsløv et al. (2018) conclude that any profitability of multinational firms above the profitability for local firms is due to profit shifting. This approach relies on strong assumptions – among others, that in the absence of profit shifting, 'true' profits of subsidiaries of multinational firms would be the same as those of local firms. Another possible and even simpler counterfactual would be to assume that the only reason for multinational firms to have subsidiaries in tax havens is tax avoidance. In that case, all profits found in tax havens would be counted as reflecting tax avoidance. However, one could also argue that the true amount of profit shifting is much lower. For instance, if subsidiaries of multinational companies happen to systematically use more IP that is not capitalized, profit shifting may be much lower than measured by the approach described above.

A further and more serious issue with existing profit-shifting estimates was recently pointed out by Blouin and Robinson (2019). They argue that a large part of the literature on profit shifting suffers from a fundamental statistical error regarding foreign profits of foreign subsidiaries, at least of US multinational

[9] For surveys of the literature on tax avoidance by multinational companies, see Riedel (2014) and Beer et al. (2018). Riedel (2014) discusses different estimation methods used to estimate profit shifting and what the methods imply for the interpretation of the results. Beer et al. (2018) offer a meta-study of the empirical literature on tax avoidance by multinational firms. See, however, the critique of Blouin and Robinson (2019) with respect to Beer et al. (2018).

companies. This leads to double counting of foreign profits, in particular profits reported in tax havens. The reason is that foreign subsidiaries of US multinationals report profits of other subsidiaries further down the ownership chain as 'equity income'.[10] If these profits are counted as profits of multinational firms reported in tax havens for tax purposes, the amount of profit shifting is overestimated drastically. Blouin and Robinson (2019) propose a method to correct for this double counting and conclude that the share of profits multinational companies shift to tax havens is in the range of 4 to 15 percent, not close to 40 percent as some widely cited studies suggest.

While the difficulties in estimating the amount of profit shifting and tax revenue losses through tax avoidance are partly due to methodological problems, they also reflect a lack of reliable and internationally comparable data. Country-by-country reporting is a recent initiative that aims at collecting this type of data. Since 2016, multinational companies in most OECD countries are required to report income earned and profit taxes paid in all countries where they operate to the tax authorities of the country where they are headquartered. The availability of reliable data about the profits and tax payments of multinational companies is important.

Despite the unresolved debate about the overall magnitude of international profit shifting, it is fair to conclude that tax avoidance by multinational firms is significant. If the downward trend in corporate tax rates continues, and given that some companies do manage to reduce their effective corporate income tax burden to very low levels, then there is a danger that the basic functions of corporate income taxation described in Section 3.2 are called into question.

3.6.2 Tax Avoidance and the Digital Economy

The digital transformation of the economy is one of the most important structural changes of our time (see Chapter 2). It also affects the tax system. Companies with digital business models have a number of characteristics that make it particularly easy for them to avoid corporate income tax: they rely more on immaterial assets than other companies. They can also sell products and services in countries without a physical presence, in particular through the internet. Without a physical presence, current tax rules imply that these firms do not need to file for income taxation.

Of course, non-digital companies that export to other countries but do not have a physical presence there do not pay income tax in those countries either. And the general problem of tax avoidance is not restricted to the digital economy. The digitalization of economic activity can make it easier to elude taxation, but does not change the basic structure of elusive schemes, and information technology can also make it easier for tax authorities to track and deter elusive schemes.

But digital companies have also attracted attention because of their spectacular profitability, either current or expected and reflected in share prices. These very high profits are often criticized as reflecting monopoly power or illegitimate use of customer data. Germany's Chancellor Angela Merkel, for example, thinks that the growing collection and use of consumer data accompanying digitalization poses fairness problems. She supports taxing 'data' in the interests of equity:

"In my opinion, the pricing of data, and especially consumer data, is one of the central equity problems of the future […] It represents a global threat of great unfairness […] we need to factor this into our taxation system."[11]

All of this suggests that taxing the profits of these companies is all the more important. These factors explain why proposals have been made in particular in Europe to introduce new tax rules for digital companies, including taxes on revenue rather than profit.[12] France has even introduced a digital services tax. These new taxes raise two issues. First, since they primarily target US digital firms, they are similar to tariffs and have therefore triggered retaliation from the US. Secondly and more fundamentally, tax avoidance is not restricted to companies with digital tax models.

In the meantime, the project of dealing with tax avoidance by introducing taxes specifically targeting digital companies has been given up in most countries. Instead, attention in the digital tax area focuses on reforming the concept of permanent establishment to include the notion of 'digital presence'.[13] While this is a medium- to long-term project, international efforts coordinated by the OECD to fight tax avoidance have focused on broader reforms, which would target tax avoidance not just by digital firms but by all companies.

3.7 REFORMS OF THE INTERNATIONAL CORPORATE TAX SYSTEM

What can be done to make sure that the international corporate tax system works well? Reforms should aim at reducing tax avoidance and undertaxation as well as double taxation. It is helpful to distinguish between fundamental and far-reaching reform proposals on the one hand, and the more piecemeal approaches that are currently on the international policy agenda on the other.

[10] These are not the same as dividends, so that correcting reported profits for dividends does not solve the problem.

[11] Die Zeit, May 28, 2018, "Angela Merkel fordert Besteuerung von Daten." https://www.zeit.de/politik/deutschland/2018-05/steuerreform-angela-merkel-daten-eu.

[12] See European Commission (2017, 2018).

[13] See Becker et al. (2019).

BOX 3.1 IS THERE A TAX GAP BETWEEN THE DIGITAL ECONOMY AND THE TRADITIONAL ECONOMY?

The European Commission has analyzed the implications of digitalization for taxation policy, as well as for economic and fiscal policy as a whole. In its analysis, it emphasizes the importance of digitalization for economic development and indicates that the emergence of a digital internal market is to be seen as the precondition for the European economy tapping the economic potential of digitalization.[1]

At the same time, the Commission believes that there is an undesirable difference in tax treatment between companies with conventional business models and companies in the digital economy, which distorts competition in the latter's favor, leading to an unfair distribution of the tax burden. This difference in tax treatment not only arises through tax avoidance internationally, but also benefits digital companies that operate only at a national level. According to the numbers presented by the Commission, the latter have an effective average tax burden of just 8.5 percent, versus the 20.9 percent burden on companies with traditional business models.[2] The European Commission uses these figures to justify its demand to introduce a 'digital tax' on the revenue of digital companies.

Although this justification may seem plausible at first glance, it is not viable. This quickly becomes clear on closer inspection of the differential tax treatment criticized by the Commission. When comparing the tax burden borne by the digital economy with that of other sectors, the European Commission cites research conducted by the Centre for European Economic Research (Zentrum für Europäische Wirtschaftsforschung – ZEW, 2017). According to ZEW's research:

"Digital business models are taxed at an average rate of 10.2 percent, which is lower than the rate of 11.73 percent imposed on companies with traditional business models."

The crucial point here is the explanation of how these figures arise. These are not tax payments by digital firms that have been measured and compared to those made by other companies; they are calculations of the effective average tax rate (EATR) based on Devereux and Griffith (2003). This method considers a hypothetical investment project with a given pre-tax profit and structure of capital goods. A hypothetical tax burden on this project is then calculated. The result depends heavily on the assumptions made about the type of capital goods that are used in the project, because different taxation rules apply to different capital goods. In the digital economy, intangible assets (like internally developed software, for example) occur more frequently than in conventional business models, where machinery and buildings play a more important role. Since most taxation systems feature longer depreciation periods for machinery and buildings than for self-produced intangible assets, which are normally subject to immediate write-off, the effective tax burden on conventional business models is greater. Moreover, these calculations assume that digital business models benefit more from tax breaks for research activities. However, in the ZEW (2017) study that is the source for the Commission figures, this situation is also clearly explained:

"This is due to a higher assumed share of non-mandatory capitalisation costs in the investment structure […] as well as more favourable write-off rules for digital capital goods and the application of tax incentives for research, development and innovation."

In other words, the European Commission criticizes here that national tax policy offers tax breaks for capital goods that largely benefit the digital economy. As a remedy, it proposes to introduce completely new taxes to offset the advantages created by this tax policy. Obviously, a far more effective approach would be to examine whether such unequal treatment in the tax system is justified and to abolish any unjustified tax breaks.

Different tax depreciation rules are basically justified if the economic lifetime of different economic goods differs. Differences in the effective tax burden arise from tax depreciation rules deviating in different ways from economic depreciation. Differences in the tax treatment of selfproduced assets have a similar effect. If there is an undesirable difference in tax treatment, this can be fixed by adjusting depreciation rules accordingly.

Differences in the tax burden that arise from more intensive research activity in the digital economy and the tax breaks for research related to it are expressly desirable. To offset such subsidies by increasing the tax burden on the digital economy is economically damaging. Tax breaks for research exist because the R&D activities of individual companies generate positive externalities or generate advantages that benefit other companies, without contributing to their costs. Without tax breaks, expenditure on research would be inefficiently low.

All in all, it is misguided to use a difference in tax treatment arising from different write-off conditions and tax breaks for research to justify the introduction of new taxes on digital business models.

[1] European Commission (2017, p. 2).
[2] European Commission (2017, p. 6).

3.7.1 Fundamental Reforms

3.7.1.1 Formula Apportionment

Currently the international corporate tax system relies on the method of 'separate accounting', which means that every entity (subsidiary or permanent establishment) of a multinational company calculates its profits separately. Taxes are then assessed by the countries of residence of each corporate entity.[14]

Profits are supposed to be calculated on the basis of arm's length pricing, meaning that transactions between entities of the multinational firms are priced as transactions between unrelated firms. But transactions within multinational firms usually differ fundamentally from transactions between unrelated firms. Therefore, separate accounting creates opportunities for profit shifting.

An alternative approach to the taxation of multinational companies is formula apportionment. Under this system, the starting point for taxation is the consolidated, worldwide profit of multinational groups. This profit is then allocated to the countries where the multinational firm operates, on the basis of a formula that may include payroll, assets, or sales. Each country then applies its tax rate to its share of the firm's profit.

In theory, this may be sensible from a 'benefit tax' perspective (which, however, might call for the tax base to be different from profits). In practice, introducing worldwide formula apportionment would require considerable efforts for tax coordination: countries would have to agree on common rules for the determination of profits. Consolidation implies that losses made in one country would reduce taxable profits in all other countries. Countries would have to trust the administrative procedures of other countries because the worldwide profit of each multinational firm would have to be determined and audited by one tax administration. Formula apportionment would prevent various forms of profit shifting available today. For instance, interest payments on intra-group debt would no longer change the allocation of profits across countries. However, new opportunities for tax planning and tax avoidance would arise. For instance, multinational groups would be able to reduce their tax burden by buying or selling subsidiaries in a way that is not possible under separate accounting.

Some countries (including the United States and Germany) use formula apportionment for corporate taxation at the state or local level. In the European Union, formula allocation has been discussed for a long time in the framework of the CCCTB project (Common Consolidated Corporate Tax Base). However, even within the European Union it has proved infeasible so far to find agreement on common rules for the determination of corporate profits. The debate is ongoing, but global formula apportionment is not a realistic option.

3.7.1.2 Destination-Based Cash Flow Taxation

The idea of destination-based corporate income taxation (Bond and Devereux, 2002; Devereux and De la Feria, 2014) is motivated primarily by the observation that corporate tax bases as they are defined today are very mobile, whereas the final consumers of most goods and services are not. Destination-based corporate taxation would mean that corporations pay taxes where their customers are, not where they produce the goods and services they sell. This would imply, among other things, that revenue from exports is fully exempt from domestic corporate taxation while the costs of imported goods are taxable. This 'border adjustment' would make the corporate income tax similar in some respects to the value-added tax. In fact, the combination of a cut in the corporate income and payroll taxes, financed with a higher value-added tax, would make the existing tax system equivalent to introducing a destination-based corporate income tax.

As explained by Auerbach (2017), a destination-based cash flow tax would remove a number of problems of the existing tax system:

1. Transactions with related foreign parties (other entities of the same multinational group) would play no role for the tax system. The border adjustment would offset domestic taxes on revenue from exports or deduction of expenses associated with cross-border transactions. There would be no incentive to manipulate transfer prices to shift profits to low-tax countries.
2. Corporate residence would no longer be a determinant of tax liability. This would eliminate the incentive to change residence to avoid taxes.
3. The border adjustment would have the effect of imposing a tax based on where products are sold, not on where they are produced. This removes incentives to relocate production plants to low-tax countries.

Despite these advantages, replacing the existing corporate tax with a destination-based system would be challenging. First, it would lead to a significant redistribution of taxing rights across countries. It is clear that the losers will not easily accept this. Second, many companies would find it difficult to adjust. For instance, importers would lose the right to deduct the cost of imported goods from their corporate income tax base. Prices may adjust to compensate them to some extent, but that will take time. Third, many countries will find it difficult to agree to a system that implies that domestic companies who use the local

[14] In some cases, residence can largely be a matter of arbitrary choice, in particular for firms that do not directly engage in production and sales activities but manage portfolios of immaterial assets (like patents or brands), or for holding companies that administer controlling interests in other corporations.

infrastructure but produce mainly for export do not pay any tax in the origin country.

In the United States, the destination-based corporate tax was discussed seriously as an option for US tax reform in 2016 (see Tax Reform Task Force, 2016), but it was ultimately dismissed. This is not surprising, given that a sudden switch to this tax would raise the challenges just mentioned. But one should note that there is a trend in many countries towards higher value-added tax rates and lower corporate taxes. Combined with reductions in payroll taxes, these reforms may be interpreted as a gradual shift towards de facto destination-based cash flow taxation.

3.7.2 Current Reform Proposals on the International Policy Agenda

As a reaction to the problem of tax avoidance by multinational companies, the G20 countries have initiated a process of international tax policy coordination, which aims at reducing 'base erosion and profit shifting' (BEPS). In the framework of this project, 15 actions have been defined.[15] They include, for instance, tax challenges arising from digitalization (BEPS Action 1), guidelines to prevent 'Hybrid mismatch arrangements' (BEPS Action 2), denial of treaty benefits in cases that could otherwise result in double non-taxation (Action 6), changes to the definition of permanent establishments to ensure that the intended scope of the definition is not circumvented through artificial arrangements (Action 7), country-by-country reporting to improve the information available to tax authorities about where multinational companies report their profits (BEPS Action 13), or mutual agreement procedures to avoid double taxation and reduce uncertainty for taxpayers (BEPS Action 14). An increasing proportion of participating countries are adopting these measures.[16]

The current debate about the reform of international corporate taxation focuses on two particular projects. These are usually referred to as the OECD 'Pillar 1' and 'Pillar 2' proposals because, as in the case of BEPS, the forum where these reforms are developed is the OECD. The OECD (2019b) defines these two reform projects as follows:

"Pillar One addresses the allocation of taxing rights between jurisdictions and considers various proposals for new profit allocation and nexus rules;

Pillar Two (also referred to as the 'Global Anti-Base Erosion' or 'GloBE' proposal) calls for the "development of a co-ordinated set of rules to address ongoing risks from structures that allow MNEs to shift profit to jurisdictions where they are subject to no or very low taxation."[17]

[15] See OECD (2020), International collaboration to end tax avoidance. http://www.oecd.org/tax/beps/.
[16] The current developments in the adoption of these measures is documented in OECD (2019a).
[17] OECD (2019b, p. 3).

The debate on both pillars is ongoing, but already fairly advanced.

3.7.2.1 Market Country Taxation (OECD Pillar 1)

This reform effectively intends to redistribute taxing rights to countries where multinational firms sell their products while their products are developed and produced in other countries. At first glance, this reform project seems related to the fundamental reform idea of introducing destination-based corporate taxation. But closer inspection shows that the two concepts are in fact very different. In the OECD proposal, there is no plan for any border adjustment. The allocation of taxing rights to the market countries will work differently.

The basic idea is as follows: The profits of multinational firms will be split into a component called the 'routine profit' and a second component called the 'residual profit'. The routine profit would be calculated as a 'normal' return on the firm's assets. Profits above this threshold would be classified as residual profits. The reallocation of taxing rights will primarily apply to the residual profit. A fraction of the residual profits will be allocated to the market countries where the companies sell their products. This fraction will be determined through a formula that could include, for instance, sales to final consumers. The market countries may claim additional profit shares when they host 'baseline marketing and distribution functions'.

The starting point for this operation is the consolidated profit of the multinational firm. In principle, it would be possible to do this using the global profits of multinational firms. But since many of these firms have very different operations, the current plans are to do the consolidation separately for different business lines and regions.

Another key aspect of Pillar 1 is a binding mechanism to deal with cases where disputes between countries arise regarding the application of the proposal.

From an economic perspective, moving taxing rights to market countries has pros and cons. Consumers are less mobile than factories and much less mobile than immaterial assets. Therefore, moving taxing rights to market countries reduces the pressures of tax competition, and it makes many tax avoidance strategies more difficult. Market country taxation also addresses the perception that digital companies do not pay enough tax. At the same time, countries may want to tax companies where they produce because that is where they benefit from public services.

Ultimately, the decision to move taxing rights to market countries is a political decision reflecting the increasing economic and political weight of countries like China, India, or Brazil, where companies from OECD countries sell a growing part of their products and services. Given this situation, the question arises whether there are simpler ways to extend market country taxing rights. Splitting profits into routine

and residual profits, and doing so separately for business lines and regions, leads to a high degree of additional complexity. One option for simplification that should be considered would be to use overall rather than residual profits as a basis for profit allocation. Of course, complexity has the advantage of offering many margins for adjustment, which may help to generate political consensus. But complexity also has considerable costs. In particular, it tends to create new opportunities for tax planning.

3.7.2.2 'Unilateral Minimum Taxation' With Source-Based Enforcement (OECD Pillar 2)

This proposal aims at ensuring that all corporate profits are taxed at least at a minimum tax rate. What that minimum tax rate is – 10 percent, 15 percent, or any other number – remains to be defined. The most important point of the reform is that the introduction of this minimum tax does not depend on all countries agreeing to implement it. Instead, the proposal aims at allowing a subgroup of presumably high-tax countries to effectively enforce the minimum tax. To achieve this, two measures will be implemented.

The first is often referred to as an income inclusion rule. Consider a simple example: a multinational company is headquartered in country A. It has a subsidiary in country B. If the profits of the subsidiary in B are taxed below the minimum rate, country A will tax these profits. Country A would levy a tax on foreign profits that could be equal to the minimum tax, with a tax credit granted for taxes paid in B.

The second measure is the introduction of an undertaxed payments rule. This implies the following: If the headquarters residing in country A makes a payment for some input to its subsidiary or any other recipient in B, this payment will be fully deductible in A if and only if the recipient in B is taxed at least at the minimum rate.

A key challenge for this reform is that tax administrations will have to determine for each entity of each multinational company, and even for each border-crossing payment, whether the minimum tax criterion applies. This requires a reliable information basis. A pragmatic way of dealing with the administrative challenges this poses would be to define a group of countries that are trusted for complying with the minimum tax requirements. If the leading OECD countries and all EU countries were part of this group, a significant part of all transactions and entities would be covered.

3.7.2.3 The Role of Transparency and Data: Country-by-Country Reporting

The taxation of multinational companies is complex, as are the proposals to change it. In the public debate, a key challenge is that reliable information regarding the contribution of multinational firms to tax revenue and the magnitude of tax avoidance is not easily available. This is why civil society organizations as well as politicians have called for measures to make more information available about where multinational companies operate, where they report their profits, and where they pay taxes. This has led to the idea of country-by-country reporting – that is, asking multinationals to submit regular reports about how their worldwide business activities (employees, assets, sales, profits) and their corporate income tax payments are distributed across countries.

This has been taken up by the OECD tax coordination efforts under BEPS Action 13. It states that all large multinational enterprises should prepare a country-by-country (CbC) report with aggregate data on the global distribution of income, profit, taxes paid, and economic activity across tax jurisdictions in which it operates.

A key question is who gets access to these CbC reports. BEPS Action 13 states that the reports should be shared with tax administrations in these jurisdictions and used to deal with important transfer pricing problems as well as to flag tax avoidance risks. Since 2016, many countries have put this into practice. Some policymakers and civil society organizations want to go one step further and have called for public country-by-country reporting – that is, public access to these reports. On April 12, 2016, the Commission presented a proposal for public country-by-country reporting for multinational firms with a total consolidated revenue of EUR 750 million or more.[18]

An important challenge for country-by-country reporting is that precise common standards are needed to make sure that the information provided is reliable and comparable across countries. This is not trivial, as different countries have different accounting standards. The question of whether or not the reports should be publicly available is a matter of the trade-off between the desire for transparency and the right to privacy and protection of sensitive business information. If the reports are made available, this should be done internationally and in a coordinated way. Publishing them only for multinationals headquartered in the EU would give these companies a competitive disadvantage and create incentives for relocation.

But the country-by-country reporting data, once standards have been developed, should be used to better inform the policy debate about problems and progress in making sure that multinational companies pay their share of tax. This could be achieved, for instance, if the European Union required its member states to provide the country by country data they collect and published a yearly report with a detailed analysis – but one that does not reveal information about individual firms – about where multinationals based in the European Union operate and where

[18] The proposal is an amendment to the Accounting Directive 2013/34/EU.

they pay their tax. This report could contribute significantly to improving the informational basis of political and public debates about international tax policy.

3.8 CONCLUSION AND POLICY IMPLICATIONS

The analysis in this chapter has shown that the international corporate tax system needs to be reformed. It creates considerable incentives to engage in tax planning and tax avoidance. This distorts competition and leads to an unfair distribution of the tax burden. Many countries react to these problems by introducing unilateral policies to counter tax avoidance. These may lead to double taxation as well as create new tax avoidance opportunities. In addition, these policies may lead to conflicts between countries and thus undermine economic integration. Given this situation, our conclusions for tax policy are as follows:

1. Fairness is an important property of tax systems. Although views about fairness differ widely, a situation where different companies are taxed very differently and some companies are able to avoid part of the taxes on their profits is clearly unfair. There is thus a need for a policy response.
2. A lack of clarity exists in respect of the magnitude of profit shifting and tax avoidance by multinational companies. Data collected in the framework of country-by-country reporting has the potential to improve the information basis of the discussion about tax avoidance. However, currently this data suffers from a lack of clarity and standardization regarding what exactly is reported. Better standardization is needed to make sure that this data is appropriate and internationally comparable.
3. Plans in the European Union to make this data public for EU companies are harmful. In its current state, the data would give rise to misinterpretations. In the absence of global coordination, the publication of this data would put European companies at a competitive disadvantage. Rather than making this data public, it should be made available for economic analysis by researchers, safeguarding the anonymity of individual companies. We propose that the European Union publish a regular report on the basis of country-by-country data, combined with other available micro and macro data, to highlight the extent to which multinational companies pay taxes in European and other countries.
4. We think that the current proposals to reallocate taxing rights to the market countries are unnecessarily complex. This is primarily a result of splitting the profits into routine and residual profits and using only residual profits for the allocation of taxing rights to market countries. While this may protect the fiscal interests of the 'headquarter countries', this complexity runs the risk of generating new tax avoidance opportunities and new conflicts between countries about taxing rights.
5. The proposal to introduce a minimum tax on global profits by combining an income inclusion rule with an undertaxed payments rule can help to rein in tax avoidance using low-tax countries. Clarity is needed in the calculation of the effective tax burden on foreign entities or transaction partners. To limit the administrative cost of minimum taxation, a certification at the country level should be introduced that exempts transactions with countries where it is recognized that they comply with the minimum tax standard.

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