Nominal vs. Effective Corporate Tax Rates Applied by Multinational Enterprises

In-Depth Analysis for the TAXE Special Committee
Nominal vs. Effective Corporate Tax Rates Applied by MNEs and an Overview of Aggressive Tax Planning Tools, Instruments and Methods

Abstract
This paper forms part of a series of analytical pieces on various key tax issues, prepared by Policy Department A at the request of the TAXE Special Committee of the European Parliament. The international tax system is at a critical juncture. The G20 and the OECD are leading an important international project for its reform: the Base Erosion and Profit Shifting (BEPS). The project was launched following unprecedented public and political anger at the aggressive tax planning activities of multinational enterprises (MNE). Reform at the EU level is also underway; both in parallel with the BEPS project but also beyond it. This paper provides some background to these developments. In particular, it explains a number of significant aggressive tax planning techniques and mechanisms used by MNEs and provides an overview of the empirical evidence on the scale of this behaviour. In other words, this paper looks at how and how much aggressive tax planning by MNEs takes place. The paper also provides a concise overview of the basic structure of the international tax system as well as the factors undermining it.
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CONTENTS

LIST OF FIGURES 4

1.  AN INTRODUCTION TO THE INTERNATIONAL TAX SYSTEM 5
   1.1.  The basic structure of the international tax system 5
      1.1.1.  Domestic tax law 5
      1.1.2.  Bilateral double tax treaties 6
      1.1.3.  Anti-avoidance measures 7
      1.1.4.  EU law 7
   1.2.  Flaws of the international tax system 7
      1.2.1.  Outdated System 8
      1.2.2.  Competitive Tax Policies of National Governments 9
   1.3.  Corporation tax systems in EU Member States 11

2.  TAX PLANNING TECHNIQUES AND MECHANISMS 15
   2.1.  Techniques and Mechanisms 15
      2.1.1.  Exploitation of Transfer Pricing Rules 15
      2.1.2.  Debt Shifting 17
      2.1.3.  Hybrid Mismatch Arrangements 18
      2.1.4.  Tax Treaty Abuse 19
      2.1.5.  Artificial avoidance of Permanent Establishment status 20
      2.1.6.  Tax Rulings 20
   2.2.  An Example of a Tax Planning Structure 21

3.  EMPIRICAL EVIDENCE 23
   3.1.  Statutory Corporate Income Tax Rates vs Effective Tax Rates 23
   3.2.  Studies using other methods 24
      3.2.1.  Aggregate approaches 24
      3.2.2.  Specific Profit Shifting Channels 25
      3.2.3.  Conclusion 26
   3.3.  How can the empirical evidence be improved? 26

CONCLUSIONS 27

REFERENCES 28
LIST OF FIGURES

Figure 1: Corporate Tax Rate (1999-2015) 12
Figure 2: Effective Average Tax Rate (1999-2015) 13
Figure 3: Effective Marginal Tax Rate (1999-2015) 13
1. AN INTRODUCTION TO THE INTERNATIONAL TAX SYSTEM

1.1. The basic structure of the international tax system

Under public international law each state is entitled to tax persons (natural or legal) or transactions with which it has a sufficient nexus. States generally tax companies either on the basis of their residence (i.e. State A can choose to tax income earned by companies resident in State A – whether the income arises in State A or State B) or on the basis of the source of the income (i.e. State A can choose to tax income arising in State A – whether earned by companies resident in State A or State B). In the context of cross-border activity, two or more states might have a sufficient nexus and thus the right to tax. It is up to each state then to decide whether and how to exercise this right. Unless further action is taken, the uncoordinated nature of individual states’ domestic tax systems might result in the same income being taxed by more than one state. For example, a company resident in State A earning income in State B could be taxed by State A on the basis of its residence and by State B on the basis of the source of its income.

Concern with double taxation has traditionally been at the heart of the international tax system. States address this both unilaterally through their domestic law as well as through bilateral double tax treaties. Before seeing how this is done it is necessary to introduce another important distinction which is at the heart of the international tax system, namely that between “active” and “passive” income (at times referred to as “business” and “investment” income). The OECD has defined passive income as “[i]ncome in respect of which, broadly speaking, the recipient does not participate in the business activity giving rise to the income, e.g. dividends, interest, rental income, royalties, etc.”¹ Active income, by contrast, thus entails participation by the recipient in the business activity giving rise to it.

1.1.1. Domestic tax law

We start with a general description of trends in the domestic law of states for the taxation of companies in a cross-border context, including unilateral measures adopted by states to address double taxation.

States tend to tax domestic source income whether earned by a resident or a foreign company. However, they generally tax foreign companies on active domestic source income only if the level of domestic activity producing the income passes a certain threshold. This is partly done for administrative and practical reasons. It means that a state would not tax a foreign company on active domestic income unless it has more than a minimal amount of activity in that state; although the level of activity required and the nature of the test setting out the threshold varies. When such a threshold is crossed, for example if a foreign company establishes a branch in a particular state, rules are then necessary to determine which items of income can be attributed to that branch.

Passive source income earned by foreign companies tends to be taxed on a gross basis through withholding taxes. However, some states unilaterally choose to tax certain forms of passive income paid to foreign companies at lower rates or not at all; for example, interest paid on publicly traded debt or dividends paid to shareholders holding more than a certain percentage of shares in a domestic company.

¹ OECD Glossary of Terms.
Double taxation can also be addressed unilaterally by states through their choices as to how to tax resident companies. States might decide, unilaterally, not to tax foreign source income earned by resident companies – this is known as a territorial system of taxation. On the other hand, states which do tax foreign source income of resident companies – this is known as a world wide system of taxation - generally provide a deduction or a credit for the tax paid in the source country. Although the majority of OECD states, with the notable exception of the United States, are said to adopt a territorial system of taxation they generally do tax certain forms of foreign source income received by resident companies, particularly interest and royalties.

Under territorial systems of taxation, if a company sets up a subsidiary in a foreign state, income earned by the subsidiary will not be taxed by the parent’s state of residence, either when it is earned by the subsidiary or when it is paid up as a dividend. This is because the parent’s state of residence will not tax foreign source income (i.e. the dividend) of its resident (i.e. the parent). Under world wide systems of taxation, such dividends will be taxed by the parent’s state of residence (and a deduction or credit will generally be given for taxes paid in the subsidiary’s state of residence), however note that this provides an incentive for the foreign subsidiaries not to pay dividends back to the parent. The US employs a "deferral" system of this nature, and, as a result, US multinationals hold hundreds of billions of dollars in foreign subsidiaries. If those profits were to be paid back as dividends to their US parents they would be subject to US tax. Both worldwide and territorial systems of taxation thus give incentives to MNEs to hold mobile income-generating assets, such as patents, in low tax jurisdictions and either keep the income generated in said subsidiaries or pay them up as exempt dividends. Many states have sought to address this issue, with varying degrees of success, through rules such as the Controlled Foreign Companies rules discussed briefly below.

### 1.1.2. Bilateral double tax treaties

Double taxation might still arise despite these unilateral measures. States thus often address double taxation through bilateral international treaties. There are over 3,000 bilateral tax treaties in place and most of them are based on the Model Tax Treaty provided by the OECD. These treaties allocate primary taxing rights between "residence” and “source” countries. Broadly, under these treaties, source countries are allocated primary taxing rights over the active income of a business if the “permanent establishment” threshold is met, and residence countries are allocated the primary taxing rights over passive income, such as dividends, royalties and interest, subject to the source country’s circumscribed right to impose a withholding tax on dividends and interest. The latter thus means that under these treaties, source countries agree not to exercise their right to tax passive income paid to non-residents or to do so at reduced rates. This, as shall be seen, is often critical in tax planning structures. This basic allocation of taxing rights whereby active income is taxed in the source state and passive income is taxed in the residence state underpins the international tax system once both domestic law and bilateral double tax treaties are taken into account. It is often referred to as the “1920s compromise” given that it owes it origins to the work of the League of Nations almost a century ago.

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3 See for example, Fritz Foley et al. (2007).
5 See Graetz and O’Hear (1997) and Jogarajan (2013).
1.1.3. Anti-avoidance measures

Various “anti-avoidance” measures have been introduced by states over the years, although these have been of varying strength and effectiveness. Two widespread measures are Controlled Foreign Company (CFC) and limitation on interest deductibility rules.

CFC rules were first introduced by the United States (known as “Sub-Part F”) in the 1960s and have since been adopted by many other states. Under these rules the income of subsidiaries located in low tax states is taxed in the hands of domestic parents. CFC rules vary in their breadth, narrower CFCs merely targeting “diverted” passive income.⁶

Companies are generally allowed to deduct interest paid from their taxable profits. This gives MNEs an incentive to undertake high interest payments from companies in high tax jurisdictions to associated companies in low tax jurisdictions. Limitation on interest deductibility rules address tax planning through “excessive” interest payments. Interest deductions can be limited by reference to a variety of tests, ranging from the arm’s length principle to fixed ratios such as equity to debt, interest to assets or interest to EBITDA ratios.

Extensive hard and soft rules are also in place to counter transfer pricing issues which afflict the international tax system. These are addressed in later sections of this note.

1.1.4. EU law

There are other sources of law which contribute to the international tax system, most notably, for the purposes of this paper, European Union (EU) Law. EU law has had a considerable impact on the domestic tax law relating to cross-border corporate activity of the 28 EU member states. For a start, these states’ laws must comply with EU legislation in the field of direct taxation. For example, the Interest and Royalties Directive forbids Member States from introducing withholding taxes on cross-border payments of interest amongst associated companies (subject to a 25% minimum shareholding requirement). The Parent/Subsidiary Directive, amongst other things, abolished withholding taxes on payments of dividends between associated companies (subject to a 10% minimum shareholding requirement). However, only four directives have been passed to date and they are limited in scope.

The jurisprudence of the Court of Justice of the European Union (CJEU) has been of greater consequence in this respect. In a series of cases starting in the mid 1980s the CJEU found a number of features of domestic international tax regimes of Member States to be incompatible with the fundamental freedoms which underpin the Internal Market, and have thus had to be removed. The full ramifications of this still-developing case law are not yet known. To date, it has led to the dismantling of important parts of domestic international tax regimes and other features might be subject to the same fate in the future. For example, the CFC regimes of many Member States had to be modified (generally weakened) as a result of the seminal decision in Cadbury Schweppes plc v IRC.⁷ Viewed prospectively, this case law considerably constrains EU Member States’ freedom in designing their domestic international tax regime.

1.2. Flaws of the international tax system⁸

The most significant flaws of the existing system stem from two related sources. First, the underlying framework is simply not suited in the context of multinational enterprises

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⁶ See Kane (2014).
⁸ Section 1.2. is based on Devereux and Vella (2014).
operating across a number of states. Second, the system effectively invites states to compete with each other in numerous dimensions, which undermines its already fragile condition. Each is discussed briefly in turn.

1.2.1. Outdated System

The basic allocation of taxing rights between source and residence countries which underpins the current international tax system might arguably be a reasonable compromise in a simple world in which there are no multinational companies, and where there are clear conceptual distinctions between, for example, active and passive income. This may or may not have been the case in the 1920s; but it is certainly not true in the 21st century. Change, including in technology, transport, finance and business practice, has undermined the effectiveness and stability of the international system. This has weakened some fundamental concepts and design features of the system. Critically, the concepts of source and residence, which are at the heart of the system, have been eroded over time.9

A modern multinational company has shareholders scattered across the world, a parent company resident in one country, a potentially large number of affiliates undertaking an array of activities, such as research and development, production, marketing and finance that are located in many different countries10 and consumers that could also be scattered across the world. In such a scenario, there is no clear conceptual basis for identifying where profit is earned; all those locations may be considered to have some claim to tax part of the company’s profit. Conceptually, the residence / source distinction does not offer much help. For example, ultimately the individuals who have the right to receive the profit are the shareholders, and so their countries of residence could reasonably be thought to be the set of “residence” countries for the company. And the “source” of income is ultimately a sale to a final consumer, and so the consumers’ country of residence could be thought of as the set of “source” countries.

Of course, the existing system does not define residence and source in these ways. Rather it generally attempts to apply the concepts to transactions between related entities within the multinational group. However, the concepts are simply not suited to inter-group trade. Suppose two wholly-owned subsidiaries of the same multinational company, S1 and S2, resident in different states, State A and State B respectively, trade with one another. Then the system requires one of the countries to be designated as the residence state and the other to be designated as the source state. If S1 holds a patent which is exploited by its sister company S2, and the latter pays a royalty to the former, then State A is designated as the country of residence giving it the right to tax the royalty (which will be deducted from S2’s profits in State B). But this situation seems unlikely to be what the originators of the system had in mind in the 1920s. Instead the residence / source distinction is being applied to a context of intra-group trade which is quite different to that for which it was designed.

The allocation of the right to tax royalties in the country of residence and active business income in the country of source gives rise to difficult pricing issues, which are at the heart of many of the ills afflicting the current international tax system (these are discussed in Section 2.1.1). But the allocation of different types of passive and active income is far broader and more problematic than this. A clear example is provided by the development of hybrid instruments, which render the distinction between debt and equity difficult to maintain.

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9 See the discussion in Schön, 2009, pp. 68-70.
10 See OECD 2013 a, Chapter 3 on global value chains.
Over the years a plethora of rules has been introduced and developed to shore up the existing international tax system. For example, a complex and extensive body of hard and soft law has been developed to deal with the fact that applying the basic rules of the system to intra-group trade gives rise to interminable pricing issues (these are discussed in Section 2.1.1.). Whilst following the logic of the basic framework of the system, these rules introduced considerable complexity into the system and are hard to justify from a policy perspective. Indeed, they lead to outcomes that make little or no sense from an economic perspective. Critically, they left the system open to manipulation – even introducing new avenues for this purpose. Therefore, the problems of the existing system cannot solely be laid at the door of the founders in the 1920s; there are clearly examples where the system has subsequently been developed in ways that are designed to conform with the basic structure of the current international tax system, but which is far from any economic reality.

1.2.2. Competitive Tax Policies of National Governments

National governments have various objectives when deciding their international tax policies. Raising revenue is of course one objective. However, it is not the only one; governments may also seek to attract inward investment and to provide domestic companies with a competitive advantage.\(^{11}\) There are many examples of policies aiming to meet such objectives. This subsection will take examples from the UK\(^{12}\) and the US for illustrative purposes, however many other countries pursue similar policies in the same manner.

The previous UK government’s objective of attracting investment was actively pursued over the past five years through aggressively lowering the UK headline corporation tax rate, introducing the Patent Box regime, and reforming the Controlled Foreign Companies regime,\(^{13}\) in particular the Finance Company Partial Exemption (FCPE) regime. This ought to have made the UK an attractive place for companies to locate their headquarters. However, given that capital allowances in the UK are amongst the least generous of all OECD and G20 countries,\(^{14}\) the UK appears to be less committed to attracting inward investment by capital-intensive companies.

The UK’s continuing commitment to making its corporate tax system more competitive can be understood as both attracting corporate locations to the UK and also providing domestic companies with a competitive advantage. By the Government’s own admission, for example, the UK maintains generous interest deductions in order to give UK businesses a competitive advantage.\(^{15}\) The UK thus allows a deduction for interest, even when the returns generated by the debt-funded activities are not taxed in the UK. This can be seen as a form of state-approved base erosion.

However, domestic measures aiming at attracting inward investment and giving domestic businesses a competitive advantage also undermine the international tax system. This can be seen in two examples we now consider: the UK FCPE regime, and the US “check-the-box” regulations.

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\(^{11}\) See for example: Devereux, Lockwood and Redoano, 2008; Devereux, Griffith, and Klemm, 2002.

\(^{12}\) In response to the report by the House of Lords Select Committee Economic Affairs [House of Lords, Select Committee on Economic Affairs, 2013] on the corporate tax system, HM Treasury was explicit about its range of objectives for corporation tax. See Government response to House of Lords Select Committee on Economic Affairs 1st report of Session 2013-14. (SC/13-14/EA66).

\(^{13}\) Note that a number of multinationals cited the previous CFC regime as one of the reasons they had relocated, or were considering relocating, their holding companies out of the UK.

\(^{14}\) Bilicka and Devereux, 2012.

The UK FCPE regime has been recently introduced in the UK. The regime will provide an effective tax rate of 5 per cent on finance profits from overseas intra-group financing. The regime has been described by the Government as a “pragmatic and competitive approach”, and by a leading tax practitioner as “almost government-approved tax avoidance”. In effect, it can be seen as facilitating the use of offshore finance companies by UK multinationals to erode the tax base of other states. The same tax practitioner gave the following example: “a UK-headed group with some bank debt has a genuine operating company, elsewhere in the world, that needs finance for its business. If the UK plc sets up an offshore finance company, it can funnel that bank debt through the finance company to the operating company, get a deduction in the UK for the bank interest, a deduction in the operating company for the loan, and then the really good news – the tax in the finance company will only be 5.5%. That’s a quarter of the corporation tax rate of 22% which we’re now heading for. In summary, a double deduction in exchange for just a 5.5% charge.”

This example also brings to the fore the unclear underlying objectives of the current international tax system. Under the setup described above, and subject to anti-avoidance rules in the operating company’s country of residence, the profits are taxed at a low rate by the UK. However, if a different legal set up is employed to achieve the same economic outcome, the profits might be taxed in a different jurisdiction. If the UK parent funded the operating company directly through debt, the interest payments would reduce the taxable profits of the operating company and the profits would be taxed at a full rate in the hands of the parent in the UK. If the UK parent funded the operating company through equity, the profits would be taxed in the operating company’s country of residence and dividends received by the UK parent would be exempt. There is no clear reason for having these different tax outcomes for economically equivalent transactions, and this, in turn, raises questions about the coherence and justifiability of the underlying tax rules.

A key point about the FCPE regime is that the UK government appears to have introduced it both to benefit existing UK businesses by lowering their overall tax charge abroad, and also to attract other business to the UK by a more generous tax regime. The incentives for a government to undertake such a strategy will remain; any proposal leading to greater taxation by the UK of such income as part of a cooperative move towards reducing base erosion and profit shifting is therefore likely to meet with difficulties.

Our second example is the US “check-the-box” regulations. Consider the following arrangement. P, a parent company resident in the US develops intellectual property. P wholly owns S1, an operating company resident in State A, a high tax jurisdiction, which, in turn, wholly owns S2 a company resident in State H, a tax haven. S2 acquires from P rights to the intangible property outside the US through a “buy-in” payment and a cost-sharing agreement. S2 then grants a licence over the IP to S1, receiving a royalty in return. S1 is afforded a deduction for the royalty payment; however, S2 does not pay tax on the royalty income as it is located in a tax haven. This arrangement thus allows the income represented by the royalty to avoid taxation.

Until 1997, the US controlled foreign company regime, “Subpart F”, would have defeated this scheme by taxing P on S2’s income. The check-the-box regulations introduced in

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16 HM Treasury and HM Revenue and Customs, 2011, para. 6.2.
17 Goodall, 2012. Note that since this example was given the UK headline corporate tax rate was reduced to 20%.
18 The scheme partly works by exploiting the well-known difficulties in pricing intangibles.
1997 allowed US multinationals to avoid this regime in such situations. They essentially gave US multinationals an election as to whether a foreign entity would be treated as opaque or transparent for US tax purposes. In the example given above, by checking the box for S2, it would be ignored for US tax purposes. As a result, from a US corporate tax perspective there is only one company, S1, with a branch in State H, and transactions between the two are generally ignored. Crucially, Subpart F does not come into play.\textsuperscript{19}

It has been observed that the check-the-box regulations “revolutionized the US international tax practice”.\textsuperscript{20} Gruber\textsuperscript{t} and Altshuler provide empirical evidence in support of this claim.\textsuperscript{21} Their evidence suggests that the introduction of the check-the-box regulations had a significant effect on US multinationals’ tax planning behaviour: in 2002 US multinationals paid $7 billion less in host country taxes than they did in 1997 as a result of intra-group payments that are deducted by the payor and not taxed in the payee’s country of residence. The position of the US has been that if US multinationals are avoiding non-US tax, then it is not a concern for the US, and this has led to the abandonment of proposals to repeal the check-the-box rules.\textsuperscript{22}

From one perspective, it could be argued that the UK and the US are merely enforcing their systems to ensure that they collect their own taxes. Accordingly, an outbound equity-financed investment from the UK which yields a dividend back to the UK is not liable to UK tax. The fact that the income was initially in the form of an interest payment between two other countries could be argued to be irrelevant. Similarly, the US will tax any dividend arising from the royalty that is eventually distributed back to the US (although this means that the profits tend to remain overseas in the expectation of a future tax holiday).\textsuperscript{23} Again, the fact that a royalty was paid by one foreign subsidiary to another could be regarded as irrelevant for US tax purposes. In this view, the UK and the US are only passive accomplices to the base erosion. The income in question arises in high tax jurisdictions, and is extracted from those jurisdictions through a deduction provided in their domestic law. The UK merely chooses to tax the payment giving rise to a deduction at a low rate, and the US chooses to refrain from taxing it at all. The high tax jurisdiction would be in the same position if the payment had been made into a jurisdiction which would have taxed it at a full rate.

However, from another perspective, the income arising as interest in the offshore finance company could be thought of as being diverted from the UK; in the absence of the diversion the income would be subject to tax in the UK as an interest receipt. Similarly, the royalty that is received in S2 could be thought as having been diverted from the US, where it would have been subject to tax. From a global perspective, the multinationals achieve non-taxation or very light taxation.

\textbf{1.3. Corporation tax systems in EU Member States}

As noted, the impact of the competitive process amongst states is reflected in the downward trend of corporate tax rates in recent years. As can be seen in Figure 1, governments, in the EU, but also across the OECD, have gradually cut statutory rates of corporation tax, partly to attract mobile activities and profits.

\begin{itemize}
  \item \textsuperscript{19} This simplistic example is intended to capture the basic effect of the check-the-box rules.
  \item \textsuperscript{20} Lokken, 2005, p. 196.
  \item \textsuperscript{21} Grubert and Altshuler, 2005.
  \item \textsuperscript{22} Oosterhuis, 2013.
  \item \textsuperscript{23} See for example, Fritz Foley, Hartzell, Titman, Twite, 2007.
\end{itemize}
Two further measures can be constructed which take into account the tax base as well as the tax rate. The first is the Effective Average Tax Rate (EATR). This measures the difference in the before- and after-tax net present value of a profitable real investment project. As it measures the effect on real investment projects, it also takes account of the definition of the tax base, and in particular the generosity of capital allowances. There is strong empirical evidence that differences in the EATR across countries affect the location of investment projects. The EATR is relevant in a context where a firm needs to decide among a set of mutually exclusive projects. This is the typical decision faced by a multinational choosing to locate investment in one of a number of countries. In other words, the EATR affects inbound FDI into a country.

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24 The description of these measures is taken from Maffini (ed) (2015).
25 Devereux and Griffith (2003); Devereux and Griffith (1998).
26 The EATR is relevant for real investment in real assets. It is less relevant for comparing location of headquarters, which depends more on the tax treatment of foreign subsidiaries and on CFC rules.
The second measure is the Effective Marginal Tax Rate (EMTR). The EMTR is the tax component of the user cost of capital and identifies the percentage rise in the cost of capital for an investment project due to taxation.\textsuperscript{27} Conditional on locating in a particular State, it affects the scale of investment: a higher cost of capital is associated with lower investment. Like the EATR, the EMTR depends on both the statutory tax rate and the definition of the tax base. However, the tax base plays a more dominant role in the determination of the EMTR\textsuperscript{28} and this largely accounts for the difference in the two measures.

\textbf{Figure 2: Effective Average Tax Rate (1999-2015)}

\textbf{Figure 3: Effective Marginal Tax Rate (1999-2015)}

\textsuperscript{27} It is the percentage difference between the before- and after-tax cost of capital for a hypothetical investment project breaking even. This approach to the cost of capital was first proposed by Jorgenson (1971) and Hall and Jorgenson (1967).

\textsuperscript{28} This is because the EMTR reflects the taxation of an investment that just breaks even, while the EATR reflects the taxation of an investment which is more profitable. Capital allowances become relatively less important as the rate of profit earned increases, and so are less important in affecting the EATR.
As illustrated in Figures 2 and 3, both the average EU EATR and EMTR have been on a downward trend (although the EMTR has decreased less because many states have partially compensated cuts in the corporate tax rate with increases in the base), a further indication of the process of tax competition.
2. TAX PLANNING TECHNIQUES AND MECHANISMS

The need to reform the international tax system rose to the top of the political agenda following extensive press coverage of the tax affairs of a few well-known MNEs, including Starbucks, Google and Amazon. The initial press coverage was followed by the robust examination of the tax affairs of some MNEs before various national committees, most notably in the United Kingdom, the United States and Australia. Vivid illustrations of techniques and mechanisms used by MNEs to shift profits to low tax jurisdictions where revealed in this press coverage and these committee hearings.\(^{29}\)

At the start of the BEPS project the OECD sought to identify and classify these techniques and mechanisms in a more comprehensive and systematic fashion. The 2013 BEPS Report thus identified key pressure areas\(^{30}\) which were developed in the 2014 BEPS Action Plan.\(^{31}\)

There have been no notable suggestions that the BEPS project mis-identified the weaknesses in the international tax system or missed out some of the major techniques and mechanisms used for shifting profits. Indeed, some of these techniques and mechanisms, particularly the use of intra-group debt and the exploitation of weaknesses in existing transfer pricing rules, have long been identified as particularly problematic areas. The debate instead has been twofold. First, how these techniques should be addressed and these areas of the international tax system reformed. Second, and more importantly, whether an international tax system with this fundamental structure can ever be reformed in a way that makes it fit for the 21\(^{st}\) century or whether there is a need to move to a completely different international tax system, such as a formulary apportionment system (such as the CCCTB proposed by the EU Commission), a destination based cash-flow tax system or a residual profit split system.\(^{32}\)

This section of the paper discusses some of the most significant techniques and mechanisms used by MNEs for base erosion and profit shifting as identified in the BEPS project.

Before moving on it should be emphasized that aggressive tax planning strategies are often composed of a number of different mechanisms which need to work together to achieve the required result. This will be seen in the example given at the end of this section. Furthermore, it will also be seen that these strategies generally exploit the interaction of the tax systems of different states.\(^{33}\)

2.1. Techniques and Mechanisms

2.1.1. Exploitation of Transfer Pricing Rules\(^{34}\)

As noted in Section 1, for international tax purposes a multinational group of companies is not generally viewed as a single entity. Instead, the basic rules are applied to each company within the group, even when these companies are transacting with one another. This opens the door to very extensive problems and abuse.

\(^{29}\) See for example United States Senate (2014).


\(^{31}\) OECD (2013 b).

\(^{32}\) For a discussion of some of these alternatives see for example, Auerbach, Devereux and Simpson (2010), Auerbach and Devereux (2012), Devereux and de la Feria (2012), Avi-Yonah and Benshalom (2011) and Avi-Yonah, Clausing and Durst (2009).


\(^{34}\) Part of the analysis in 2.1 builds on Devereux and Vella (2014).
When associated companies trade with one another they can easily manipulate the price paid and/or other conditions related to the trade to achieve a particular result. Consider the following example. A company in a low tax jurisdiction (State A) sets up wholly-owned subsidiary in a high tax jurisdiction (State B). The parent company in State A manufactures widgets at a cost of £100 which it sells to its subsidiary in State B. The subsidiary sells them to consumers in State B for £200. In this case, given that the tax rate in State B is higher than that in State A, if unregulated the parent will charge the subsidiary as high a price as possible in order that a higher percentage of the profit is taxed at the lower tax rate offered in State A. If, say, the parent charged £199 only £1 of taxable profits would be taxed at the higher tax rate in State B. Whereas if it charged £101 then £99 of taxable profits would be taxed at the higher tax rate in State B.

The current international tax system relies on the Arm’s Length Principle (ALP), as embodied in the domestic legislation of many states, in articles 7 and 9 of the OECD Model Tax Treaty and most double tax treaties, to address this problem. Under the ALP, intra-group prices are expected to be aligned with the prices which would be charged by independent parties. However, this approach has very well documented weaknesses. Such an approach necessarily struggles with transactions which are undertaken by related but not by unrelated parties, as comparables cannot be found. It fails to provide a satisfactory solution to the division of profits arising from synergies, which are multinational profits which a group of companies acting independently would not create. It can justify wildly varying prices, thus undermining its legitimacy and creating uncertainty. Note, in particular, the difficulty in valuing intangibles. This difficulty as well as their mobility and increasing importance to the overall value of the firm, have resulted in many aggressive tax planning strategies relying on shifting intangibles around group companies. Finally, the rules on the application of the ALP are complex and impose extremely high compliance costs.

Weaknesses in the ALP can be exploited for aggressive tax planning purposes. We here discuss two well-known mechanisms. The first involves the use of Cost Contribution Arrangements (CCA). The OECD’s Transfer Pricing Guidelines (TPG) define a CCA as “a framework agreed among business enterprises to share the costs and risks of developing, producing or obtaining assets, services, or rights, and to determine the nature and extent of the interests of each participant in those assets, services, or rights.” CCAs are required to be consistent with the ALP, and, therefore, “a participant’s contributions must be consistent with what an independent enterprise would have agreed to contribute under comparable circumstances given the benefits it reasonably expects to derive from the arrangement.” The problem is that ALP-compliant CCAs provide a relatively simple mechanism to shift profits amongst affiliates.

Consider the following example. P, a company resident in State A, a high-tax jurisdiction, is in the process of developing valuable intangible property. It funds, through equity, a wholly-owned subsidiary, S, resident in State H, a tax haven. P and S enter into a cost-contribution agreement, whereby S contributes to the cost of developing the intangible property and in return it will receive a proportionate share of the income generated by the intangible property. Unrelated parties might well enter into such an agreement, and to that extent, therefore, the transaction complies with the ALP. In this case, however, the transaction merely serves to shift profits from a high to a low tax jurisdiction, as part

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35 See for example, Avi-Yonah (1995); Avi-Yonah and Benshalom (2011); and Keuschnigg and Devereux (2013).
36 See Brauner (2010), p. 554.
37 OECD (2010 b), para. 8.3.
38 Ibid. para. 8.8.
of the profits will now be received by S in State H rather than P in State A. It is only a fiction that S actually contributes to the cost since the funds simply go round in a circle from P to S and back again.

A second mechanism involves shifting risk from one affiliate to another. In establishing the ALP for a transaction, the TPG require MNEs to undertake a “comparability analysis” by virtue of which the economically relevant characteristics of the “controlled transaction” (i.e. the transaction between the related parties) are identified. A comparability analysis, which has been described as being “at the heart of the application of the ALP”, serves a dual purpose: first to seek comparables between independent parties which have the same characteristics, and second, to make adjustments which eliminate the effect of any differences. The TPG lists five comparability factors which ought to be taken into account, including a functional analysis, which “seeks to identify and compare the economically significant activities and responsibilities undertaken, assets used and risks assumed by parties”.

Risk thus forms part of the functional analysis required by the TPG. Its assessment is important because “in the open market, the assumption of increased risk would also be compensated by an increase in the expected return”. However, this means that MNEs can shift profits from group companies in high tax jurisdictions to group companies in low tax jurisdictions by shifting risk from one to the other. It comes as no surprise that “risk allocations today are at the heart of much tax avoidance planning.” The OECD itself recognizes that “many corporate tax structures focus on allocating significant risks or hard-to-value intangibles to low-tax jurisdictions, where their returns may benefit from a favourable tax regime.” Critically, risk transfers amongst wholly-owned group companies offer an attractive tax planning route for MNEs, because from an economic perspective the transfer is of no consequence for the group as a whole.

Consider the following example. P, a company resident in State A, a high tax jurisdiction, is the parent of a wholly-owned subsidiary, S, which is resident in State H, a tax haven. S engages P to develop intangibles but retains the risk on the project. This allows S to pay P a lower price than it otherwise would and, therefore, allows a greater portion of the profits to arise in State H. If P and S were unrelated parties, risk would be an influential factor in establishing the price. However, in this case risk is not borne by S in any meaningful sense. Ultimately the risk is borne by the shareholders of the company. Risk cannot be passed on or shared by a company with its wholly owned subsidiary, just as companies cannot bear tax incidence and therefore cannot be worse off by paying corporate tax.

Actions 8, 9 and 10 of the BEPS Action Plan address transfer pricing issues.

2.1.2 Debt Shifting

Companies may be funded externally through debt or equity. These two instruments are treated asymmetrically in the tax laws of most jurisdictions around the world. When a company resident in State A, a high tax jurisdiction, is the parent of a wholly-owned subsidiary, S, which is resident in State H, a tax haven, S engages P to develop intangibles but retains the risk on the project. This allows S to pay P a lower price than it otherwise would and, therefore, allows a greater portion of the profits to arise in State H. If P and S were unrelated parties, risk would be an influential factor in establishing the price. However, in this case risk is not borne by S in any meaningful sense. Ultimately the risk is borne by the shareholders of the company. Risk cannot be passed on or shared by a company with its wholly owned subsidiary, just as companies cannot bear tax incidence and therefore cannot be worse off by paying corporate tax.

If S relied on debt-funding from third party creditors as well as equity funding from P, then risk would be partly borne by the creditors who may demand a higher rate of interest. Similarly, if a third party insures S, then the risk would be partly borne by the insurer. There may therefore be a role for risk in allocating profit; however, not in the way the TPG currently deal with it.

For a discussion of the problems created by this asymmetrical treatment of debt and equity see Vella (2011).
company pays a return on its debt funding (i.e. interest) it can deduct that payment from its taxable profits; however, when a company pays a return on its equity funding (i.e. dividends) it generally cannot deduct that payment from its taxable profits in the same way. The asymmetry in the tax treatment of debt and equity provides an incentive for setting up companies with a high debt-to-equity ratio.

The deductibility of interest can be used by MNEs for tax planning purposes. In particular, internal group debt can be used to shift profits from high-tax to low-tax jurisdictions (this is sometimes called “debt-shifting” or “profit-shifting”). As seen in Section 1, under double tax treaties the primary taxing rights on interest is vested in residence countries, although source countries do at times retain circumscribed rights to impose a withholding tax on such income. Furthermore, in the context of the EU, the Interest and Royalties Directive forbids Member States from introducing withholding taxes on cross-border payments of interest amongst associated companies (subject to a 25% minimum shareholding requirement). This means that the profits of company A, resident in State Y, a high tax jurisdiction, can be shifted to its sister company, B, resident in State Z, a low tax jurisdiction, by the mere expedient of B extending a loan to A. When A pays interest back to B, it can make use of the interest deduction to reduce its taxable profits which would have been taxed at the high tax rate of State Y. The payment received by B will be taxed in its state of residence, State Z, at its low tax rate, and not in the source state, State Y, under a double tax treaty between the two which allocates taxing rights on passive income to residence states. From a group perspective the tax planning aim is achieved, income which arose in a high tax jurisdiction, is now shifted and taxed in a low tax jurisdiction.

As seen in Section 1, thin capitalization rules seek to counter the excessive use of debt between related parties as a means of obtaining a favorable tax treatment. These rules are used extensively in OECD countries, and, whilst varying in detail, they essentially place a limit on interest deductibility if the gearing ratio of the borrower goes beyond a certain limit. The limit tends to be set out either prescriptively, as in Germany, or by reference to a principle such as the arm-length price, as in the UK.

Action 4 of the BEPS Action Plan addresses base erosion through interest deductions and other financial payments.

2.1.3 Hybrid Mismatch Arrangements

A hybrid mismatch arrangement has been defined as “an arrangement that exploits a difference in the tax treatment of an entity or instrument under the laws of two or more tax jurisdictions to produce a mismatch in tax outcomes where that mismatch has the effect of lowering the aggregate tax burden of the parties to the arrangement.” These arrangements thus exploit the fact that different jurisdictions around the world deal with specific tax issues in different ways.

An entity might be classified as transparent in one jurisdiction but opaque in another, thus giving rise to a number of arbitrage opportunities. For example, a company in State A might exploit this by creating a subsidiary in State B, which is deemed to be transparent in State A but is considered to be opaque in State B. If the subsidiary borrows from a third party, the interest it pays back might be deductible from taxable profits twice. From State A’s perspective, given that the subsidiary is transparent it

46 For a survey of thin capitalization rules in the EU see Dourado and de la Feria (2008) and Hinny (2008).
47 Hinny above.
considers the interest to have been paid by the parent company in State A, whilst from State B’s perspective, given that the subsidiary is opaque, it considers the interest to have been paid by the subsidiary. If the subsidiary (Sub 1) then owns a subsidiary of its own – an operating company in State B (Sub 2), by being consolidated for tax purposes, Sub 1 can surrender this tax benefit to Sub 2. This allows the deduction to be set off against different income arising in State A and State B. A double deduction is thus achieved for the one interest payment.\(^50\)

As there is no “correct” place to draw the line between debt and equity instruments, hybrid instruments with characteristics of both might be classified as debt in one jurisdiction and equity in another. Tax planners can exploit these differences to their advantage. To take the simplest example, a company in State A might issue an instrument to a sister company in State B which is considered to be debt in the former but equity in the latter. When a return on the investment is paid, it would be deemed to be deductible interest in the former and a tax preferred or even tax free dividend in the latter. This payment would thus erode the tax base of State A, but not result in an inclusion in State B.\(^51\)

Action 2 of the BEPS Action Plan addresses hybrid mismatch arrangements.

2.1.4 Tax Treaty Abuse

Whilst the double tax treaty network has grown remarkably over the years, there still are many pairs of states which are not covered by a treaty. This might be so for a number of reasons. A state might be willing to provide treaty benefits, e.g. lower withholding tax rates, to residents in some (high tax) jurisdictions but not others (low tax jurisdictions). However, where an MNE would like to undertake a transaction between related entities resident in two jurisdictions which do not have a double tax treaty in place, they can circumvent this problem through the treaty abuse practice known as treaty shopping.\(^52\) Treaty abuse has been described as “one of the most important sources of BEPS concerns”.\(^53\)

Consider the following example. If a company (P) resident in a high tax jurisdiction (State A) sets up a finance subsidiary (Sub 1) in a low tax jurisdiction (State B), any interest payment from P to Sub 1 would serve to shift profits from a high to a low tax jurisdiction. If however, State A imposes withholding taxes on interest payments to non-residents then the arrangement would not convey the desired tax benefits. As seen in Section 1, states generally agree to reduce or even eliminate withholding taxes on interest payments in double tax treaties, but State A and State B might not have entered into such a treaty. If however, State A has an existing double tax treaty with State C then the MNE can use a conduit company (Sub 2) in State C to achieve the desired results. P would thus set up Sub 2 in State C, which would in turn set up Sub 1 in State B. Sub 2 will extend a loan to Sub 2 which in turn will extend a loan to P in State A. The interest income received from P by Sub 2 will mostly be offset by the deduction for interest paid by Sub 2 to Sub 1. Withholding taxes on the interest paid by P to Sub 2 are reduced or eliminated by the double tax treaty between State A and State C and the interest payment between Sub 2 and Sub 1 will either not be subject to a withholding tax under the domestic law of State C or is reduced or eliminated by a double tax treaty.

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\(^{50}\) Ibid., pp. 45-46.

\(^{51}\) This particular example has been addressed at an EU law level through a recent revision of the Parent/Subsidiary directive.

\(^{52}\) The focus here is on treaty shopping, however, other forms of treaty abuse exist.

between State B and State C. The final result is a lower withholding tax payment than would arise if P paid the interest directly to Sub 1.

Some states have adopted a number of approaches to combat treaty abuse, including both domestic anti-avoidance legislation and specific measures included in double tax treaties, most notably the Limitation on Benefits provisions adopted by the United States in its treaties.

Action 8 of the BEPS Action Plan addresses treaty abuse.

2.1.5 Artificial avoidance of Permanent Establishment status

As noted in Section 1, a state tends not to impose tax on the active income of foreign companies unless the level of activity in that state passes a certain threshold. The threshold used in the OECD model treaty is that the foreign company must have a “permanent establishment” (PE) in the source state. Outside the context of the digital economy, BEPS concerns around the PE rules have been said to arise primarily where “one member of a group (e.g. a commissionnaire) clearly has a physical presence and tax nexus with the jurisdiction but is allocated limited profits because of low risk, whilst another member of the MNE group is shielded from tax by the technical operation of the PE rules and is allocated a large share of the relevant group income (e.g. by virtue of assuming or being allocated business risk, of holding valuable assets, etc.).”

The different strategies that can be used to achieve BEPS through the artificial avoidance of PE status have been grouped under four headings: artificial avoidance of PE status through commissionaire arrangements and similar strategies; artificial avoidance of PE status through the specific activity exemptions; splitting-up of contracts and the undertaking of large scale business in a state by insurance companies without having a permanent establishment in that State. We can take one example for illustrative purposes.

P is a manufacturing company resident in a State A, a low tax jurisdiction. It sets up a subsidiary, Sub, in State B, a high tax jurisdiction, and enters into a commissionaire arrangement with it. Under this arrangement Sub will sell goods produced by P in its own name but on behalf of P, meaning that it will not qualify as P’s PE in State B under Article 5(5) of the OECD Model. S received a small commission for the services it provides P, which gets taxed in State B, however, this arrangement leads to a lower tax bill than if P operated through a PE in State B.

Action 7 of the BEPS Action Plan addresses the artificial avoidance of PE status.

2.1.6 Tax Rulings

A taxpayer setting up an aggressive tax planning structure might seek legal certainty from the relevant tax authority through a tax ruling. Seeking and obtaining a tax ruling is not in and of itself an indication that a taxpayer is engaging in aggressive tax planning, however, tax rulings can play an ancillary function to such planning. For example, taxpayers might seek an Advance Pricing Agreement to obtain certainty on the price of an asset transferred between affiliate companies for transfer pricing purposes, and that transfer might be at the heart of an aggressive tax planning structure.

After describing the mechanisms used for aggressive tax planning, the recent proposal by the European Commission to amend Directive 2011/16/EU described this ancillary role played by tax rulings in the following terms:

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55 Ibid..
“Such practices are in many cases assisted by the rulings issued by national administrations, which confirm to a company how a specific transaction will be taxed under existing legislation and therefore provide legal certainty for the structure put in place. Even though Member States are obliged to ensure that they issue tax rulings in compliance with existing EU and national law, a lack of transparency regarding such rulings may impact on other countries which have links with the beneficiaries of the rulings.”

Of course, situations could also arise when a tax ruling facilitates an aggressive tax planning structure by going beyond what is permitted by national and EU law.

2.2. An Example of a Tax Planning Structure

Tax planning structures generally employ a number of techniques to reach the required result. This is best seen through a practical example. The following is the tax planning structure which attracted the most attention public and political attention in recent years.

P is a parent company in State A, a high tax jurisdiction. It carries out extensive R&D in State A and operates a popular internet service which is used around the world. P sets up a subsidiary, Sub 1, in State B, a low tax jurisdiction. Whilst incorporated in State B, Sub 1 is tax resident in State C, a tax haven, for the purposes of the laws of State B and C because its central management and control is in State C. For the purposes of State A, Sub 1 is resident in State B, given that it considers companies to be resident in the jurisdiction in which they are incorporated.

Sub 1 pays P a "buy in" payment for rights over existing IP (using funds provided by P itself). P and Sub 1 also enter into a cost sharing agreement as a result of which Sub 1 acquires rights over the future IP developed by P outside State A. The structure partly relies on the difficulty in valuing the IP at the time of the buy in payment. Note that if the "correct" price were paid and taxed in State A, the tax planning structure would be less attractive.

Sub 1 creates two wholly owned subsidiaries. Sub 2 which is resident in State D and Sub 3 which is resident in State B. Sub 1 licenses the IP to Sub 2 which in turn licenses it to Sub 3. Sub 3 licenses the technologies around the world (outside State A) and collects revenues from advertising using these technologies. Subsidiaries in various jurisdictions sell advertising space in their own name but on behalf of Sub 3, meaning that Sub 3 does not acquire PE status and thus does not pay tax in these jurisdictions. These jurisdictions only tax the relatively small profits made by these subsidiaries for performing services for Sub 3.

Sub 3 receives payment from consumers in these jurisdictions but only pays a small amount of tax in State B as its taxable profit is reduced considerably by the royalties paid to Sub 2 (these royalties are high partly because Sub 3 bears little risk). No withholding

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56 EU Commission, Proposal amending Directive 2011/16/EU as regards mandatory automatic exchange of information in the field of taxation, p. 2.

57 Such structures have at times been called "Double Irish Dutch Sandwich" structures, however there are a number of variations to them. See Kleinbard (2011), Ting (2014 a) Ting (2014 b). Recent changes in Irish corporate tax residence rules will challenge elements of this structure when they come into force at the end of 2020. However these changes were “greeted calmly” in Wall Street and it is thought that the 5 year window during which this structure will continue to be effective will be sufficient time for these MNEs to amend the structure to achieve their desired results. One commentator has thus opined “the Irish Department’s decision to toughen Ireland’s idiosyncratic corporate residency determination rules is unlikely to significantly impede the basic mechanisms of the strategy...” since “the Irish ‘management and control’ residency rules is not doing heavy lifting in this avoidance arrangement’. See Brothers (2014). See also Holder (2014) and Ting (2014 c).
tax is charged by State B on the royalties paid to Sub 2, as they are both EU Member States and, therefore the Interest and Royalties Directive applies. Sub 2 pays royalties to Sub 1, and the deduction for this payment effectively wipes out most of the taxable profit of Sub 2 in State D. State D does not charge withholding taxes on royalty payments to non-residents. Had Sub 3 paid royalties to Sub 1 directly State B would have charged a withholding tax - the interposition of Sub 2 in between Sub 1 and Sub 3 thus ensures that no withholding tax is paid on these payments. Sub 1 receives the royalty income, but State C charges no corporation tax.

State A has a worldwide system of tax, meaning it taxes corporate profits of State A residents wherever they arise. However, it also has a deferral system meaning that it will only tax those profits once Sub 1 pays them up to P as dividends. For this reason, and the high corporate tax rate in State A, Sub 1 does not pay dividends to P meaning that these profits sit outside State A where they are used, amongst other things, to takeover non State A corporations. P hopes that State A will introduce a tax holiday as it did in the past, which would allow it to repatriate these profits without incurring a hefty tax charge.

State A has anti-avoidance rules (Controlled Foreign Company rules) which might be thought capable of taxing the profits of Sub 1 in the hands of P even if undistributed. However, State A also has check-the-box rules which mean that P elects to view Subs 1, 2 and 3 as transparent from a State A tax perspective. Once this election is made the transactions between these subsidiaries are ignored, meaning that the income received by Sub 1 is viewed as active income thus bringing it outside the scope of State A's controlled foreign company rules.

As can be seen this tax planning structure relies on a number of techniques and features of the international tax system as well as the tax system of these states to achieve the desired result:

- Weaknesses in transfer pricing rules, including the use of Cost Contribution Agreements and the treatment of risk;
- The difficulty in correctly pricing intra-group transactions for transfer pricing purposes;
- No corporation tax in State C;
- Residence rules of State B;
- Difference in residence rules between States A and C;
- Avoidance of PE status;
- Tax Deferral system in State A;
- Check-the-box rules in State A;
- The elimination of withholding taxes on certain payments between EU Member States as a result of the Interest and Royalty Directive;

- The willingness of State D to be used as location for a conduit company.
3. EMPIRICAL EVIDENCE

There can be little doubt that MNEs engage in base erosion and profit shifting activities. Indeed, over a hundred empirical research papers can be cited which evidence such activities. However, there is doubt as to the extent of these activities because much of the empirical evidence in this area is not entirely satisfactory.

After reviewing the existing empirical literature on base erosion and profit shifting, the 2013 BEPS Report concluded:

“...with the data currently available, it is difficult to reach solid conclusions about how much BEPS actually occurs. Most of the writing on the topic is inconclusive, although there is abundant circumstantial evidence that BEPS behaviours are widespread.”

Similar conclusions have been reached by leading academic tax economists in subsequent surveys of existing literature. Riedel, for example, concluded her 2014 survey by explaining:

"Researchers have taken various routes to identify tax-motivated international income shifting. As MNEs have an incentive to hide avoidance activities from the public, identification approaches are indirect and rely on a number of assumptions, which – if violated – lead to biased estimates.... It is thus too early to draw final conclusions on the quantitative importance of international tax avoidance activities.”

The main reason for the inconclusive nature of this research is the poor data which is currently available to researchers, although there are also some methodological and conceptual issues too.

This section of the briefing paper starts by providing an overview of research which analysed the effective tax rates of MNEs. It then considers research using other methods to measure base erosion and profit shifting. Finally, it concludes by noting, as the OECD has recently done, that for the empirical evidence on base erosion and profits shifting to improve there must be a significant improvement in the data available to researchers.

3.1. Statutory Corporate Income Tax Rates vs Effective Tax Rates

The difference between normal and effective tax rates (ETRs) might have an intuitive appeal as it compares the headline rate of corporate income tax with the rate of tax actually paid on pre-tax profits (i.e. pre-tax profits divided by the tax actually paid). This method has been used by researchers, campaigners and consultancies to reach a variety of results. To take one example, Avi-Yonah and Lahav compared the overall ETRs of the largest 100 MNEs based in the in the United States, with the ETRs of the largest 100 MNEs based in the EU over the period 2001-2010. They found that despite the fact that the United States statutory rate is ten percentage points higher than the average corporate statutory rate in the EU, the ETR for the largest MNEs based in the United

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58 OECD (2013 a).
59 Dharmapala (2014) and Riedel (2014). This part of the briefing paper relies on these two papers.
62 Ibid., p. 4.
63 OECD (2013 a), supra, pp. 61-63 outlines the results of some of these studies.
States (on average approximately 30%) is the same or lower than the ETR for the largest MNEs based in the EU (on average approximately 34%). However, this measure cannot be understood as comparing the rate of tax which was paid with the rate of tax which would have been paid had the company not engaged in base erosion and/or profit shifting. In fact, there could be many legitimate and uncontroversial reasons for the difference between the two. Low ETRs could partly be the result of base erosion and profit shifting, however, they could also be due to high-levels of tax deductible expenses, tax credits for research and development, losses carried forward, generous capital allowances, accelerated depreciation and so on. For this reason, after reviewing these studies, the OECD concluded:

“It is questionable whether any of the foregoing studies provide conclusive evidence that BEPS behaviours are prevalent. In fact, none of these studies identifies data specifically related to BEPS and the differences or similarities in ETRs observed in the studies could well be attributable to factors other than BEPS. It is thus difficult to build up an aggregate picture of the scale of BEPS.”

For similar reasons, Miller cautions about an alternative strategy proposed to quantify revenue losses from profit shifting for the UK. This strategy compares the amount of tax paid as declared in firms' accounts with an estimate of the tax due. As Miller points out, this strategy does not account for the deliberate features of the tax system which might lead to a tax rate which is lower than the headline rate (such features have been described above) or genuine commercial reasons for paying tax in other jurisdictions. She thus concludes that these estimates of avoidance “are likely overstated (and possibly by a wide margin).”

3.2. Studies using other methods

Given the issues outlined above, researchers have resorted to other methods to measure the extent of base erosion and profit shifting. We here follow the lead of Riedel (2014) and the OECD (2015) and group these studies under two headings, those employing aggregate approaches and those which look at base erosion and profit shifting through specific channels.

3.2.1. Aggregate approaches

A number of research studies have adopted an aggregate approach, comparing the pre-tax profit of MNE subsidiaries in high tax jurisdictions with that of subsidiaries in low tax jurisdictions. These studies take the difference in pre-tax profitability between the two, or the change in pre-tax profitability in response to a change to the tax rate between the two, as evidence of profit-shifting to low tax jurisdictions. The studies reach different results. Heckemeyer and Overesch conducted a meta-survey of these studies, and predict a tax semi-elasticity of pre-tax profit of about 0.8, in absolute terms. This suggests that reported profits decrease by about 0.8% if the international tax differential that can be exploited for tax arbitrage increases by 1 percentage point.

Riedel warns that these studies should be treated with caution, as these differences could be attributed to at least three non-tax related factors. High corporate tax rates may

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64 Avi-Yonah and Lavah (2011).
65 Ibid, p. 63 (emphasis added).
66 Miller (2013).
69 Heckemeyer and Overesch (2013).
imply that MNEs require a higher pre-tax return in order to invest in a country; the difference could be due to the fact that MNEs strategically sort high return projects to low-tax affiliates and vice-versa; and corporate taxation may affect affiliates’ pre-tax profits through changes in effort provision. If the first of these three points were to be significant, these results would underestimate the extent of profit shifting, if the second and third point were to be significant these results would overestimate the extent of profit shifting.\textsuperscript{70}

These considerations have led researches, including Riedel herself, to look for alternative approaches which do not suffer from the same weaknesses. Dharmapala and Riedel (2013) thus exploit profitability shocks to the affiliates of MNEs as a source of empirical identification and find that MNEs shift around 2\% of additional income to lower tax entities. There are reasons to believe, however, that this is a lower bound. Another alternative, first proposed by Egger et al (2010) compares corporate tax payments by MNEs with payments by national enterprises.\textsuperscript{71} Egger et al find that in European high-tax countries, the corporate tax burden on MNEs is more than 30\% lower than the burden on national enterprises. Finke finds a gap of 27\% in 2007 for German companies, although this declined after the 2008 corporate tax reform.\textsuperscript{72} The weakness with this approach is that there are good reasons to believe that part of this difference is not due to profit shifting.

3.2.2. Specific Profit Shifting Channels

Another group of research studies focuses on specific profit-shifting channels, such as the strategic use of intra-group debt and transfer pricing.

A significant empirical economic literature provides support for the view that decisions on the capital structure of companies within multinational groups are influenced by tax considerations. This literature essentially looks at whether the leverage ratio (debt to equity ratio) of foreign subsidiaries within multinational groups is affected by corporate tax rates. If debt is used for profit shifting purposes, one would expect the leverage ratio of subsidiaries located in high tax jurisdictions to be higher than that of subsidiaries in low tax jurisdictions. This literature seems to find empirical support for this phenomenon. Desai et al, for example, look at 3,200 US multinational firms operating in more than 150 countries through approximately 30,000 affiliates. They find strong evidence that affiliates of multi-national firms alter their overall level and composition of debt in response to tax incentives. Specifically, they find that 10\% higher local tax rates are associated with 2.8\% higher debt/equity ratios, with internal borrowing being particularly sensitive to taxes.\textsuperscript{73}

Several studies have examined the use of transfer pricing as a profit shifting mechanism. Clausing (2003), for example, uses US trade data and finds that a “tax rate 1\% lower in the country of destination/origin is associated with intra-firm export prices that are 1.8\% lower and intra-firm import prices that are 2.0\% higher, relative to non-intra-firm goods.”\textsuperscript{74} Further studies have reached findings which are consistent with these results.\textsuperscript{75}

\textsuperscript{70} Riedel (2104), pp. 3-4.
\textsuperscript{72} Finke (2013).
\textsuperscript{73} Desai, Foley and Hines, (2004). See also, for example, Altshuler and Grubert (2003); Buettner, Overesch, Schreiber, and Wamsen (2009) and Huizinga, Laeven and Nicodeme, (2008).
\textsuperscript{74} Clausing (2003), pp. 2207–2223.
\textsuperscript{75} Bernard, Jensen, and Schott (2006); Cristea and Nguyen (2013); Davies, Martin, Parenti and Toubal (2014).
It has been argued that studies of such specific channels provide the most convincing evidence on base erosion and profit shifting as these “empirical tests are more direct and offer less room for results being driven by mechanisms unrelated to income shifting.”\textsuperscript{76} However, studies of certain specific channels are thin (treaty abuse) or entirely missing (hybrid mismatch arrangements).

3.2.3. Conclusion

There is extensive evidence for the existence of base erosion and profit shifting by MNEs using a variety of approaches. However, estimates of the extent of this behaviour vary considerably. Riedel thus concluded her recent survey by noting:

“Studies unanimously report qualitative evidence in line with international tax avoidance behaviour. The quantitative estimates vary across approaches though, with results at the lower (upper) end suggesting that MNEs transfer less than 5% (30% or more) of their income earned at high-tax affiliates to lower-tax entities. While the range of estimates is wide, academic evidence points to smaller shifting volumes in the population of (medium-sized and large) MNEs than recent media reports which feature groups with virtually no taxable income in high-tax countries.”\textsuperscript{77}

Not only is the range of 5% to 30% wide, but, as discussed above, the results of some of these studies ought to be interpreted with considerable caution.

3.3. How can the empirical evidence be improved?

As noted in the introduction to this section, the OECD has identified weaknesses in existing data, as well as methodological and conceptual issues, as underlying the problems faced in this literature. A leading tax researcher has similarly argued “[i]n my view the single most important factor hindering meaningful statistical analysis of BEPS is the lack of suitable data.”\textsuperscript{78}

Action 11 of the BEPS Action Plan seeks to address this issue by “(e)stablish(ing) methodologies to collect and analyse data on BEPS and the actions to address it”. However, the recently published Discussion Draft on Action 11 inauspiciously fails to make recommendations about the new types of data that might be useful in helping to analyse BEPS in the future. It merely states that working Party No 2 is seeking stakeholder and public input through this consultation before making recommendations in this area. As a result, it is as yet unclear whether and to what extent the issue of new data will be addressed in the BEPS project. Not to do so, would be a truly regrettable missed opportunity given that the “most important element of the work in Action 11 should therefore be the creation of new data to support research and analysis of the scale of BEPS.”\textsuperscript{79}

\textsuperscript{76} Riede (2014), supra, p. 7. The OECD has provided listed the pros and cons of both approaches. OECD (2015) at pp. 64–65.

\textsuperscript{77} Riedel, supra, p. 7.

\textsuperscript{78} Devereux, M.P (2015).

\textsuperscript{79} Ibid.
CONCLUSIONS

This briefing paper provided an overview of some of the basic mechanisms and techniques used by MNEs for aggressive tax planning. They exploit areas of weaknesses in the international tax system, which the BEPS project was set up to address. However, a two-fold debate is currently underway. First, how these techniques should be neutralised and these areas of the international tax system reformed. Second, and more importantly, whether an international tax system with this fundamental structure can ever be reformed in a way that makes it fit for the 21st century or whether there is a need to move to a completely different international tax system, such as a formulary apportionment system, a destination based cash-flow tax system or a residual profit split system. In another publication, this author (with a co-author) has argued that the forces of tax competition amongst states are likely to undermine the international tax system even after the BEPS reforms are introduced.80 If this proves to be true, a more radical alternative would be required.

It has also been seen that whilst the existence of base erosion and profit shifting by MNEs is not in doubt, there is considerable uncertainty as to its scale. The lack of adequate data constitutes the main barrier to better evidence on this front. An important step forward would be made in understanding and ultimately combating aggressive tax planning by MNEs if such data were collected and made available to national and supra-national authorities and researchers. A serious belief in the importance of improving the empirical evidence on base erosion and profit shifting must be backed by a serious and genuine commitment by states and supra-national institutions to improving the data available to researchers.

80 Devereux and Vella (2014).
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