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Tax us, if you can: a game theoretic approach to profit shifting within the European Union

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Tax us, if you can: a game theoretic approach to profit shifting within the European Union

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Abstract

In this paper we theoretically analyse the European Union's ongoing political impasse regarding the choice of a single method to allocate multinational enterprises' profits across countries and we find that this strategic situation resembles a coordination game with distributional consequences. The two Nash equilibria involve no efficiency trade-off (only a movement along the Pareto frontier), but the conflictual distribution of welfare gains and the presence of heterogeneous preferences have been preventing the implementation of a new long-term comprehensive tax policy reform. A unitary taxation approach with formulary apportionment in the European Union is better suited to tackle artificial profit shifting via transfer pricing and would mean an evolutionary change without disrupting the current international tax policy environment. It would restore faith in fairness in the European tax system and allow for further coordination of the transfer pricing policies of the two main international political forces – the United States and the European Union.

Keywords: base erosion and profit shifting; Common Consolidated Corporate Tax Base; coordination games; European Union; transfer pricing.

JEL classification: C7, F23, H25, H26

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1 Introduction

International tax policy has been facing difficult times in the last few years, reflected in the spread of tax scandals like Luxembourg Leaks (2014), Panama Papers (2016), Paradise Papers (2017), West Africa Leaks (2018), Mauritius Leaks (2019) and multiple allegations upon 'big tech' companies regarding the non-payment of corporate taxes in Europe. Multinational Enterprises (MNEs), firms that own at least one affiliate abroad (either a subsidiary, an associated company, a branch or a representative office), try to elude tax authorities through borderline legal means, relying on regulatory loopholes, offshore entities and shell corporations, but also on secretive tax rulings that grant selective tax advantages and that only see the light of day through leaks and scandals.

Through artificial profit shifting schemes (*i.e.*, schemes that allocate profits in a way that does not reflect the real location of economic activity nor the creation of value), billions in taxes are lost every year – estimated between \$500 to \$600 billion a year (Shaxson, 2019), though highly uncertain. This uncertainty relies on tax havens' known financial secrecy, but also on sparse, incomplete and not publicly available official data that does not allow for a clear understanding of the current share of world trade that is accounted by MNEs – estimated at 50% already[1]. The fact that data is insufficient, not up-to-date and estimate-based has two implications. First, the demand for public statistics and data is high. Without hard data, the role and importance of MNEs can be heavily debated, but it can hardly be measured (OECD, 2018). Second, transfer pricing rules are fundamental to guide the complex and increasingly developed international tax system.

Transfer prices refer to "*the prices at which an enterprise transfers physical goods and intangible property or provides services to associated enterprises*" (OECD, 2017, p. 17), hence transfer pricing rules are needed to guide how transactions within a MNE are accounted for tax purposes and how taxable income should be allocated between different tax jurisdictions. Income shifting via transfer pricing is a reality, and the use of aggressive tax planning schemes to mislead markets and tax authorities allows MNEs to artificially shift profits to lower tax jurisdictions, challenging a fair international taxation and putting into check horizontal equity issues between MNEs and non-MNEs (Conover & Nichols, 2000; Dharmapala & Riedel, 2013; Liu, Schmidt-Eisenlohr, & Guo, 2017).

The standpoint of tax authorities and policymakers towards transfer pricing has been changing more intensively over the last few years. Some initiatives resulting from the G20/OECD Base Erosion and Profit Shifting (BEPS) project[2] shook things up and reinstated the topic of profit shifting under international discussion. But BEPS Action

[1] The latest information available (referring to 2014) shows that half of the world trade is accounted by MNEs and, more important, over a third occurs within them (*i.e.*, between related parties) (OECD, 2018). MNEs are also responsible for nearly one third of the world's Gross Domestic Product (GDP).

[2] The BEPS Action Plan was conceived in 2013 (emerging originally in the aftermath of the 2008 global financial crisis) and represents the first substantial and overdue renovation of the international tax standards in almost a century, publicly recognising that fundamental changes to the international tax system were needed to tackle tax avoidance (OECD, 2013). Over 135 countries and jurisdictions are working together to implement the BEPS package, a set of 15 commonly agreed actions to fulfil three principles: establish coherence of international tax rules, realign substance with taxation rights and increase transparency.

Plan alone has not been enough.

In Europe, we are passively witnessing the gradual decline and inadequacy of the international transfer pricing standard-based regulatory model (based in legally non-binding standards and guidelines), essentially due to the lack of adjustment of the approach on which the entire model is based – the arm's length standard (ALS). The ALS relies on the premise that related entities should be treated as if they were separate (independent) entities, hence intragroup transactions should be valued at market price, *i.e.*, as similar transactions between comparable unrelated parties. However, given the emergence of new ways of business, guided by unique and incomparable goods/services traded, there is a widespread agreement that fundamental changes to the current international corporate tax system (based on a century-old architecture) are needed and that the ALS, in its current form, is no longer adequate (Baistrocchi, 2006; Avi-Yonah, 2007; IMF, 2019; Matheson, Beer, Coelho, Liu, & Luca, 2021). That leaves us with two options: i) acknowledge that the ALS is outdated in its current form and needs to be overhauled within its context[3] (the argument on which the BEPS Action Plan is based); or ii) acknowledge that the ALS is no longer adequate to prevent profit shifting and new methods must be imposed (the argument of those who advocate a new corporate tax regime in the European Union (EU), based on a unitary taxation with formulary apportionment).

This paper follows the second line of thought and intends to fill the gap left, so far, by the insufficient research on how to control transfer prices for tax purposes and on how to better deal with transfer pricing manipulations. Theoretical research on transfer pricing has been focusing mainly on modelling approaches to provide MNEs' optimal intragroup transfer prices and on transfer pricing responses to income tax differences, whereas empirical research has been focusing almost exclusively on the relationship between corporate tax rates and MNEs profitability in international trade (Novikovas, 2011)[4]. Here, we explore the strategic interactions between different tax jurisdictions, focusing on how international transfer pricing policy coordination can help to mitigate artificial profit shifting between MNEs operating in the EU. And, to do so, we advocate the premise that the choice of a single method to internationally allocate MNEs' profits (*i.e.*, the choice of the transfer pricing policy to adopt) resembles a coordination game with distributional consequences, as initially stated by Snidal (1985) and further developed by Radaelli (1998).

Our findings show that we are not yet on an international long term fully coordinated equilibrium, which would imply overcoming the current political impasse and effectively apply a unitary taxation approach with formulary apportionment in the EU. The lack of

[3] For proposals within the ALS framework, see, for instance, Baistrocchi (2006) that suggests multilateral advance pricing agreements that could be used to produce a proxy for case-law with public good features; and Avi-Yonah (2010) that suggests using formulary apportionment to allocate the residual profit in the profit split method.

[4] See, for instance, Landy (2003), Hyde & Choe (2005) and Gresik (2006) for more information on transfer pricing models that provide a solid background for empirical and other theoretical research. For relevant transfer pricing empirical research see Eden (2003), Bernard, Jensen & Schott (2006) and Overesch (2007).

coordination among the EU Member States, given the distributional conflict over the welfare gains and the presence of heterogeneous preferences, has been then the main barrier preventing the implementation of a new long-term comprehensive tax policy reform capable of better dealing with artificial profit shifting in the EU.

The remainder of the paper is as follows. In section 2 we review how MNEs are challenging a fair international taxation by shifting income via transfer pricing, while in section 3 we discuss the insufficient change brought by the BEPS Action Plan to tackle this issue, by continuing to rely on an unsuitable standard-based regulatory model lacking in clarity. In section 4 we entail a game theoretic approach to profit shifting in the EU, looking at the strategic situation of choosing a common transfer pricing policy and the resulting ongoing political impasse. Finally, in section 5 we present the main conclusions.

2 Income shifting via transfer pricing

Globalization brought global value chains and the fragmentation of production processes, while simultaneously boosting the dissemination of MNEs, created to minimize high cross-border transaction costs. MNEs have been increasingly spreading across countries due to the substantial reduction in trade costs and the rapid technological advances (Pitelis & Sugden, 2000; Zachariadis, 2019), but their rapid dissemination and the increased globalization raised a critical question: how to divide the international tax base among different countries where MNEs operate? Tax systems interact among themselves and interfere with one another, which makes this a complex task.

International consensus among developed countries on this subject is reflected on the OECD Model Tax Convention on Income and on Capital (OECD, 1992), the foundation for the current international tax regime, first published in 1992 and periodically updated. Alongside with the OECD Transfer Pricing Guidelines for MNEs (OECD, 2017), first published in 1995, these conventions jointly provide guidance regarding the division of the international income tax base through non-binding principles and standards.

Transfer pricing policies, by largely determining the income and expenses (and therefore taxable profits) of associated enterprises in different tax jurisdictions, play a central role to achieve the binary goal of avoiding international double taxation and profit shifting within MNEs. However, if such policies are poorly designed, defectively regulated or significantly different across countries, that can be economically harmful both for national tax authorities and MNEs. Indeed, transfer pricing can have a dark side, mostly regarding transfer prices on cross-border transactions between affiliates. While these transactions can *simply* relate to the transfer of goods and services easily compared to those traded between independent entities in a free market, they can also relate to more complex transactions (such as the joint use of common facilities, intellectual property licensing or intricate business restructurings), where it is more difficult (if not impossible) to perform market benchmarks and, therefore, easier to use transfer prices that do not comply with the ALS. In such cases, artificial profit shifts – motivated by cross-country differences in corporate tax rates – can occur, usually to lower tax jurisdictions.

Empirical evidence suggests that the most common mechanism for MNEs to shift profits (around 70%) is through strategic distortion of prices on intra-firm trade (Heckemeyer & Overesch, 2013). The manipulation of transfer prices (particularly in transactions where no comparable prices exist – e.g., royalty fees, cost sharing agreements or knowledge-intensive intermediate goods) implies that an MNE may overprice the internally traded good sold in the lower tax jurisdiction and purchased in the higher tax jurisdiction, increasing the income generated in the lower tax jurisdiction at the expense of reducing income in the higher tax one. Other channels used by MNEs to shift profits across jurisdictions, besides the manipulation of transfer prices, are financing structures (e.g., intra-group loans, internal debt shifting or cash pooling) and the location of valuable intangible assets (intellectual property, such as brand or patents) (Bartelsman & Beetsma,

2003; Dharmapala & Riedel, 2013; Vicard, 2015; Mooij & Liu, 2018)[5].

One clear implication of illicit transfer pricing practices respects to the revenues in corporate taxes that fail to be levied – $245 billion accounted only by MNEs to tax havens, which, when combined with private tax evasion ($182 billion), is, for instance, equivalent to spending one nurse's annual salary every second (Tax Justice Network, 2020). MNEs engaging in tax evasion schemes resemble free riders, taking advantage of benefits they did not contribute for, directly affecting governments (by eroding national budgets) and indirectly citizens, who may be deprived of higher levels of public services and goods[6]. Moreover, tax evasion can put the future of markets' organization at risk. For companies that do not belong to an economic group (*i.e.*, to an MNE), this represents unfair competition that can jeopardize their long-term survival (UNCTAD, 2011): small and medium enterprises cannot rely on the high level of integration and complexity evidenced by MNEs and their success cannot rely on aggressive international tax planning strategies. For all of that, the lack of attention given to pure accounting income shifting among OECD countries and other major economies is unjustified (Bartelsman & Beetsma, 2003) – real income shifting due to national corporate taxes' 'race to the bottom' should not be the only challenge addressed in the policy debates.

To deal with the problem of profit shifting within MNEs, it is crucial to create a fair international tax network that can level the playing field for all types of organizations, allowing for a smooth international tax environment. Public policies should aim at promoting a fair, progressive and effective international taxation system, which starts by tackling the uncertainty that underlies some of the techniques that MNEs rely on to *legally* shift profits to lower tax jurisdictions – examples of which are aggressive tax planning schemes and tax rulings.

2.1 Aggressive tax planning: tax avoidance or tax evasion?

When an MNE engages in *tax avoidance* schemes, it is trying to minimize the payment of taxes through legitimate tactics and tax deductions (such as tax credits or tax deferral plans) that do not imply breaking any law. Technically, it relates to aggressive tax planning schemes and techniques (not illegal per se) that artificially erode MNEs' tax base in higher tax countries and shift profits to lower tax jurisdictions, aiming at maximizing after-tax profits. It is through these schemes that MNEs can justify, to some extent, consistent reported losses (that lead to no payable income tax) while making billions in sales. On the other hand, *tax evasion* implies crossing the line, understating the taxes owed and therefore incurring in a tax crime or offense as defined by law.

However, how can we distinguish between those MNEs that are wittingly engaging in

[5] See also Schön & Konrad (2012) for more information on other means of profit shifting.

[6] Following on Becker & Fuest (2012), a representative household has as utility function $U^i = C^i + \eta^i G^i$, where C^i is private consumption in country i, G^i is a publicly provided good, and η^i is the marginal utility of public consumption. Hence, higher amounts of the publicly provided good provide a higher degree of utility, and governments finance G^i through, among others, corporate income taxes.

tax evasion schemes and those that are *only* applying legal aggressive tax planning schemes but get caught up in a web of uncertainty? The concept of aggressive tax planning goes back to the early 2000's (Baker, 2015), defining it as "*planning involving a tax position that is tenable but has unintended and unexpected tax revenue consequences"* and further concluding that "*revenue bodies' concerns relate to the risk that tax legislation can be misused to achieve results which were not foreseen by the legislators (...) and to the risk that taxpayers will not disclose their view on the uncertainty or risk taken in relation to grey areas of law (sometimes, revenue bodies would not even agree that the law is in doubt)*" (OECD, 2008, p. 87). This suggests that these schemes rely on legislation loopholes to minimize taxes and that the lack of technical and human resources within national tax authorities allows for the continued use (and abuse) of such schemes, given the often lengthy period needed to unveil them.

To better enlighten national tax authorities on tax arrangements that may rely on uncertainty and grey areas of the law, BEPS Action 12 '*Mandatory Disclosure Rules*' (OECD, 2015a) brought a set of broad *recommendations* regarding the disclosure of aggressive tax planning schemes (such as the use of questionnaires and disclosure of tax rulings). These recommendations, combined with enhanced models of international information sharing, should assist in preventing the avoidance of taxes based on the lack of knowledge of the law and alleviate MNEs and tax administrations' administrative costs, which could result in quicker reactions to legislation loopholes and tax treatment mismatches. But what exactly are aggressive tax planning schemes? As stated above, the term itself is not completely clear and it is not updated, and although it has broadly been used in several OECD and EU soft law instruments (Piantavigna, 2017) – including in this Action 12 –, policymakers were not able to unambiguously identify what these schemes truly refer to. Under the EU law, aggressive tax planning is not a legal concept that allows for administrative or judicial action; therefore, it does not allow for the application of anti-avoidance rules *per se*. Suggesting that the definition focuses on results that are not foreseen by legislators, grey areas of tax law or uncertain tax positions demonstrates how vague and of little help the definition is to identify aggressive tax planning schemes (Baker, 2015). A clear distinction between *acceptable* and *aggressive* tax planning seems hard to define.

2.2 State aid in the European Union disguised as tax rulings

The meaning of state aid and tax rulings has been intertwined, although they could not be more different. Tax reliefs and advantageous tax treatments granted by Member States to specific enterprises constitute *state aid* if they are granted on a selective basis that awards an advantage to the recipient, placing them in a more favourable position regarding its peers and distorting competition within the internal market (European Union, 2008). Government support is only allowed when justified by special reasons, such as to promote economic development or important projects of common European interest, otherwise, it is deemed illegal under Article 107(1) of the Treaty on the Functioning of the European Union (TFEU). As per *tax rulings*, they are binding written

statements of government bodies regarding tax law. They provide legal certainty to taxpayers, enhance a higher degree of tax compliance and economic foreign investment and act as an instrument towards a more reciprocal relationship between tax authorities and taxpayers (European Parliament, 2015).

Tax rulings are meant to be in accordance with European and national legal limits, but that has not always been the case (DG Competition, 2016). The problem arises when tax rulings are used to endorse artificial and complex methods to establish taxable profits that do not reflect economic reality. In those situations, they are nothing more than an administrative tool to artificially shift profits and reduce companies' tax burden, by setting transfer prices without a clear economic rationale – which is not in line with EU state aid law, since it may allow for unfair competitive advantages. The distinction between the tax measures that may be acceptable under tax rulings or illicit under state aid law suffers from the same ailment as the definition of aggressive tax planning – it is unclear. The decision that a specific tax ruling may constitute state aid is made *ex-post* through a comprehensive case-by-case assessment, since EU Member States are not obliged to inform the European Commission (EC) of the establishment of these rulings[7].

Over the last decade, the EC's Directorate-General for Competition started to pay greater attention to tax rulings related to intragroup transfer pricing arrangements, which led to the detection of some Member States granting selective tax advantages through tax rulings (DG Competition, 2016). Repayments to correct the resulting distortion of competition were required, but three problems soon arose. First, when the tax ruling concerned US-headquartered MNEs, the gaps in the international tax system became more problematic: the US Department of the Treasury (2016) considered those decisions as a barrier to cross-border investment and stated that any repayment ordered by the EC may be considered foreign income tax, creditable against US taxes, so, in practice, these repayments could be reduce when repatriating the offshore earnings. Second, with this approach the EC is seeking retroactive recoveries related to tax years prior to the announcement of the investigation, which undermine the tax rulings' purpose of improving tax certainty. Finally, apart from recovering the unpaid taxes, no other penalty is imposed to the Member States or the MNEs, which does not incentive trustworthy behaviour and encourages the maintenance of such tax rulings within the EU[8]. Closer coordination between the EC and national tax authorities is needed, particularly *ex-ante* to a better understanding of the main features of tax measures that can be considered disruptive of competition. In most jurisdictions, tax rulings are still confidential.

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[7] Even *ex-post*, there is no agreement upon the limits of a tax ruling. Let us take the Apple case as example (European Commission, 2016a): in 2016, the EC concluded that Ireland had granted illegal tax benefits (state aid) to Apple through tax rulings that allowed an artificial allocation of profits, condemning it to pay €13 billion, plus interest, regarding unpaid corporate taxes from 2004 through 2014. Apple appealed the decision, but not alone. The Irish government also rejected the back taxes payment and appealed the ruling claiming national tax policy sovereignty. More recently, the General Court of the EU (2020) overturned the EC's decision, ruling in favour of Apple and Ireland, stating that the EC did not prove that the tax rulings were, in fact, the result of discretion exercised by the Irish tax authorities. The EC already appealed.

[8] The Member States involved registered, over the period in which the tax ruling was in force, economic gains that will not be lost or subtracted, such as an increase in domestic demand, exports, employment and investments, and positive technological spillovers to domestic firms that spur economic growth.

3 OECD/G20 BEPS Action Plan

The global financial crisis of 2008-09, combined with an increasing understanding of the link between tax havens, tax avoidance and the declining share of tax revenue collected from MNEs, triggered the development of a comprehensive response to tax avoidance, consubstantiated in the BEPS Action Plan, an OECD/G20 members' ground-breaking initiative to address these concerns and rewrite international tax policy. Ever since its conception, the BEPS Action Plan has been the main driver of the international effort to fight corporate tax avoidance, spurring the public and tax authorities' scrutiny and bringing the topic of tax-motivated profit shifting within MNEs to the forefront of public debate and international policy agenda (Picciotto, 2017). On the other hand, due to its avoidance of rules and by continuing to rely on an unclear and unsuitable standard-base regulatory model, unable to close the existing tax legislative loopholes, the BEPS initiative may be deemed as a missed opportunity to have done more and better.

3.1 One step forward: greater scrutiny, based on reliable data…

The BEPS Action Plan was an important step to disclose to the public, tax authorities and researchers, reliable publicly available data, vital to have the full picture and to better understand MNEs' cross-border activities. It is worth mentioning the role of BEPS Action 13, '*Guidance on transfer pricing documentation and Country-by-Country Reporting*' (CbCR), which created, among other aspects, a requirement to report a country-by-country breakdown of global profits and taxes paid that has been giving governments greater transparency regarding the exact location where MNEs' functions and creation of value take place and where profits are generated (OECD, 2015b)[9].

As a result of more data, tax authorities can now assume a more aggressive stance. BEPS Action 13 brought access to updated and sensible information, as well as mechanisms for automatic exchange of information among tax authorities, which allows high level transfer pricing and BEPS risk assessments and joint tax audits, while helping to diminish information asymmetries. The combined effect of more transparency, alongside with greater public and political pressure, has led tax authorities to step up their game, taking a more proactive approach to transfer pricing by investing in improved tax knowledge (which translates into professional training, qualification of human resources, multidisciplinary teams, creation of dedicated transfer pricing departments and investment in technology) (Anderson, Evans, Kazuch, Sadowski, & Tang, 2019). Consequently, transfer pricing controversy court cases seem to be intensifying, both in number and complexity (Austin, Alamuddin, & Bedford, 2019).

More information enables greater technical scrutiny from tax authorities, while

[9] The first set of aggregate and anonymised data from CbCR was already released in July 2020 by the OECD and has been of great value to understand the true cost of tax avoidance. Please see Tax Justice Network (2020) for the most recent and comprehensive study on tax abuse and evasion, based on this game-changing transparency aggregate CbCR data.

allowing the public to be better-informed about the MNEs from whom they purchase goods and services – and public tolerance for tax avoidance had reached historic lows. Particularly since the 2008 global financial crash, there has been a growing public distaste and concern for tax avoidance, leading to claims for more transparency, accountability and fairness (Oats & Tuck, 2019). Consumers are now more aware of corporate tax injustices, and greater transparency will mean that MNEs need to be more concerned with their reputational risk (*i.e.*, the risk of a negative impact on profitability due to unfavourable public perception).

3.2 … Two steps back: an unsuitable standard-based model

Avoidance of rules

The BEPS Action Plan (like most of the OECD work on international tax policy) relies entirely on soft-law, *i.e.*, in legally non-binding instruments and guidelines created with the intention to influence countries' behaviour, but with lack of formal enforcement mechanisms. Some countries have already incorporated legislative changes based on the Action Plan, while others did not (OECD, 2020) – an old problem already identified with many other OECD tax initiatives, where recommendations are not followed.

Despite robust evidence that profit shifting decreases with the degree of transfer pricing rules enforcement (Bartelsman & Beetsma, 2003), not all countries are truly willing to implement the recommendations provided by the BEPS package. They lack the right incentive to do so: literature suggests that countries have no incentive to tightly control MNEs international profit shifting activities because, by offering this indirect tax break, MNEs profits become more *mobile* and countries can still represent an attractive hosting activity location even if they set high corporate tax rates (Peralta, Wauthy, & Ypersele, 2006; Becker & Fuest, 2012). By applying a loose enforcement policy that allows MNEs to shift part of their profits to lower tax jurisdictions, countries do not have to give up on higher profit tax revenue on domestic firms.

From a legal and economic perspective, standards and rules have different meanings. Standards can only be fully and undoubtedly understood *ex-post* via case-law (Baistrocchi, 2006), hence requiring high human capital endowments and highly qualified personnel in national tax authorities and courts. This imposes an administrative burden for taxpayers and enforcement costs for tax authorities. On the other hand, rules give content to legal norms *ex-ante* and, given their self-enforcing character, usually have high promulgation, but low enforcement costs (Kaplow, 1992). Rules should, therefore, be preferred in cases of frequent misleading behaviour, while standards are preferable when deceptive behaviour is less frequently observed, to defer the cost of enforcement. With the increasing number of MNEs operating worldwide, increased tax complexity and increased tax scandals being unveiled, shouldn't we be moving from a standard-based to a rules-based regulatory model?

The continued lack of clarity and progressive unsuitability of the ALS

The ALS, developed back in the early 20th century, was, for years, seen as the most suitable approach to allocate international taxable income among jurisdictions, and it is still today the central norm of the OECD standard-based regulatory model (OECD, 1992; OECD, 2017). The profit earned by each entity should reflect the relative value created by their activity and there are several ways to determine the arm's length price, such as the use of comparable uncontrolled prices, profit splits or cost-plus methods. Nevertheless, its applicability is being put into question due to two main problems that the BEPS Action Plan did not help solving.

First, countries relying on the OECD standard-based model are struggling with the meaning of the ALS, accurately determined only *ex-post*, via local-country case-law. Taxpayers act on a case-by-case basis, having no clear sense on how they are expected to behave in the different tax systems in which they operate. By relying on case-law and standards, this model requires highly trained personnel in a decentralized network of domestic courts capable of producing transfer pricing case-law in line with what the international standards seems to propose (Baistrocchi, 2006). In this context, tax authorities can only promulgate administrative practices based on the interpretation of statutory law and court decisions, rather than issuing legally binding regulations, which may exert a less deterring effect on MNEs' tax avoidance activities. In fact, not only the BEPS Action Plan did not solve this ALS problem but is likely to have increased the uncertainty embodied in transfer pricing legislation within an ever-shifting global tax framework as governments, tax authorities, MNEs and tax consultants interpret the rules differently, implying that transfer pricing policies are often based on judgements on how the ALS *should* be applied. Transfer pricing seems, more than ever, far from being an exact science. As a result of this lack of guidance and to mitigate the growing likelihood of being enmeshed in this transfer pricing controversy, MNEs have been taking steps to make it more manageable, whether by increasing their compliance costs or engaging in advanced pricing agreements with the tax administrations, to determine, in advance, a set of criteria for the determination of the transfer pricing methods (Austin et al., 2019).

Second, the ALS suitability to reflect the high-tech 21st century economic reality and its feasibility to determine comparable market transactions for certain functions and products is being put into question, given the high levels of globalization, value of intangible assets and trade within MNEs, with national boundaries fading away (European Commission, 2021). The growing level of economic integration makes it increasingly difficult to clearly outline within an MNE where the value is created and which entity controls the relevant functions, detains the assets used and bears the risks of the transactions – these are spread throughout the MNE as a whole (Avi-Yonah, 2007). MNEs arise precisely due to organizational and internalization advantages. Thus, by applying a market rate of return separately to each component of the MNE, the result is less than the actual return of the organization as a whole.

Additionally, it may not always be easy to establish the fair market price or the conditions independent enterprises would have agreed to for specific transactions, given

the rise of complex transactions with a unique nature, especially in a market where intangibles are becoming an ever-more dominant value driver for MNEs (Bartelsman & Beetsma, 2003; Vicard, 2015). The ALS lacks the effective tools to deal with uniqueness and to find reliable comparable transactions with independent entities, wiping out this market-based comparability approach.

* * *

These shortcomings suggest that a reform of the current international transfer pricing regime is needed, moving forward towards new approaches as the separate entity approach loses significance. They also highlight the ALS lack of resilience towards tax avoidance and apparent inability to control tax-motivated profit shifting – problems that the BEPS Action Plan did not solve by not focusing on a fundamental reform and on the incompatibility of the ALS with the current reality of the global economy. Maintaining the ALS, that did not keep pace with MNEs' evolution, means that some jurisdictions do not receive their fair share of tax. Therefore, the solution to tackle international tax avoidance strategies and profit shifting by MNEs within the EU cannot rely entirely on the BEPS initiative[10] – and neither in the ALS as the fundamental transfer pricing regime.

[10] Especially given the fact that the OECD has already recognized that the EU law can be an obstacle to the full implementation of the proposals contained in this initiative, given a potential incompatibility issue (Piantavigna, 2017).

4 Artificial profit shifting in the European Union

The separate entity approach (*i.e.*, the ALS) is not the only norm available to manage how MNEs' taxable income is allocated among tax jurisdictions. The most discussed alternative is the unitary taxation with formulary apportionment (FA)[11], under which legally separated but economically integrated companies are treated and recognized as a single group for tax purposes (in accordance with their economic reality, organized around global value chains), eliminating the relevance of a comparability analysis (the ALS core), since it is through a multifactor allocation formula that MNEs' taxable income is assigned to each jurisdiction. The formula is based on apportionment factors, which should reflect the true economic contribution of each entity (such as the relative proportion of sales, payroll and assets) and assign to each country a share of its aggregated profits[12].

The literature strongly suggests the FA as the most robust transfer pricing approach to better deal with tax avoidance (being a simpler, fairer and more rational system than the current one), cutting off MNEs' tax incentives to shift artificial profits from higher to lower tax jurisdictions – hence, better suited to ensure the alignment of taxation and economic substance –, enhancing transparency and fairness of the international tax system (Rixen, 2011; Keen & Konrad, 2013; Avi-Yonah & Tinhaga, 2017; IMF, 2019; Lips, 2019). Unlike the ALS approach, under the FA intrafirm prices do not need to be established (as they would only be accounting prices set for internal reasons), which would ease compliance costs for taxpayers and tax authorities and provide more certainty regarding the amount of taxes to be paid on international business activities.

As political and economic integration move forward in the EU, and given MNEs' business activity strengthening in the European Single Market (Di Nino, Habib, & Schmitz, 2020), the FA seems to present itself as better suited than the ALS to allocate profits of related companies across Member States. By acknowledging the potential primacy of the FA approach at the regional level, in 2001 the EC suggested an action strategy to provide MNEs with a consolidated corporate tax base for their EU-wide activities (European Commission, 2001). Following that strategy, a first ground-breaking proposal for a Council Directive on a Common Consolidated Corporate Tax Base (CCCTB) was formally presented in 2011, later revised in 2016 (European Commission,

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[11] Throughout the paper, the '*FA approach*' refers to a unitary taxation with formulary apportionment, *i.e.*, we are not discussing applying the formula separately to each entity in an MNE, but rather on a combined basis, consolidating the accounts of all legally separate enterprises that are part of a single *unitary* business. Additionally, we only intend to give the reader an insight of the two most discussed and applied approaches intended to guide the international transfer pricing regime (the ALS and the FA). For a more comprehensive analysis and further alternatives for the international tax architecture (*e.g.*, minimum tax schemes, residual profit allocation or allocation of taxing rights to destination-based countries), please see IMF (2019).

[12] Assume that countries agree on a three-part apportionment formula, based (equally) on the location of sales, payroll and assets. Being τ_i the statutory corporate income tax rate in country i, S_i, W_i and K_i the sales, payroll and assets in country i, respectively, and π_{xi} the total profits of an MNE (according to the tax law in country i), then the tax due by the MNE to country i can be expressed as: $\frac{\tau_i}{3}\left[\frac{S_i}{\Sigma_j S_j}+\frac{W_i}{\Sigma_j W_j}+\frac{K_i}{\Sigma_j K_j}\right]\pi_{xi}$.

2011 and 2016b)[13], aiming at facilitating cross-border investment while, simultaneously, reducing cross-border profit shifting.

The incorporation of the CCCTB in the EU (a unitary taxation with FA at the supra-national level) would have the potential to mitigate profit shifting within the Community and to avoid a growing number of bilateral disputes, since MNEs would be subject to a single set of corporate income tax (CIT) rules. It would mean switching to a tax system where companies are taxed according to where profits are actually created (*i.e.*, where the value is truly added within an MNE), not where they are located. The 2016 proposal is based on a two-step approach, where, firstly, taxable profits are determined based on common consolidated accounts[14] and, subsequently, the EU-wide corporate tax base is allocated across Member States, according to the agreed common apportionment formula (based on three equally-weighted factors, namely assets, sales by destination and labour – the latter equally weighting payroll and employment). A common definition of the tax base and the consolidation of all EU-wide taxable profits would render artificial profit shifting by manipulating transfer prices obsolete. And while the average gains in terms of GDP, welfare and employment in the EU as a whole may be negligible (European Commission, 2016c), it would succeed in establishing a fairer European tax system, more compatible with the tax policy goals of efficiency, equity and simplicity, while, concomitantly, assuming a more suitable tool to assist in the integration of the European economy, where Member States are highly interconnected. This system prevents BEPS but does not constrain national governments over the choice of their tax rates, which would remain at the discretion of each Member State – thus preserving national tax sovereignty[15].

If the CCCTB appeared to be the most suitable approach to the European tax system, why has it not been implemented? This question is particularly relevant in the awakening of a new ambitious EU tax agenda for business taxation in the 21st century, under the '*Business in Europe: Framework for Income Taxation*' (BEFIT) initiative (European Commission, 2021). According to it, the EC plans to withdraw the CCCTB proposal in 2023, to give light to a new common corporate tax base proposal, in all similar to the underlying rationale of the CCCTB – a unitary taxation approach with formulary apportionment – , apart from some revised rules for the tax base calculation and for the formulary apportionment factors.

In attempting to answer the previous question, the following sections present a simple

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[13] The 2011 proposal relied on an optional FA system, while the renewed 2016 plan intended to be mandatory for EU tax-resident companies (including permanent establishments of non-EU companies) belonging to a consolidated group with revenues exceeding EUR 750 million. For MNEs falling below that threshold, the FA system was optional. For further details on the EU path towards the FA approach and regarding both proposals of the CCCTB, please see Weiner (2020).

[14] Although each Member State has its own accounting method to compute the tax base, European MNEs already use the uniform International Accounting Standards for worldwide financial reporting purposes (for the CbCR, for instance), which can be the starting point to define the common corporate tax base.

[15] On the other hand, this also entails a potential increase in international tax competition, insofar as Member States would no longer be able to use the tax base to attract real (*i.e.*, productive) investment, which would have to be performed through tax rate setting – thus increasing competitive pressure on the statutory tax rate (the remaining variable policy in a comprehensively harmonized corporate tax system).

game theory payoff matrix analysis. It builds on the theoretical conclusion that the international institutional game played by countries while choosing their transfer pricing policy resembles a coordination game with redistributive consequences (rather than a prisoners' dilemma), which has been leading the EU to a political impasse.

4.1 Lack of coordination as the main barrier to a transfer pricing reform

International tax competition has been modelled as a prisoner's dilemma game

Countries are self-interested players whose tax systems are constantly interacting and competing for CIT revenues. Literature has been successfully explaining international tax competition (*i.e.*, the increasing competitive pressure on governments to reduce corporate tax rates) through a prisoner's dilemma (Hallerberg, 1996; Radaelli, 1998; Rixen, 2011; Rogers, 2013). The assumption is that each country has an incentive not to cooperate, regardless of what the other does, so they will strategically engage in a '*race to the bottom'*. The solution is a combination of non-cooperative strategies and results in an outcome that is not Pareto efficient (see Panel A of Figure 1)[16].

Countries can obtain higher payoffs if they cooperate with each other, but this Pareto optimal outcome is not a Nash equilibrium of the game. Cooperation is not impossible, considering the possibility of collective action, monitoring behaviour, punishment of defectors and repeated interaction. Nevertheless, it is highly unlikely, bearing in mind that there are nearly 200 countries. The best response to a decrease of a country's corporate tax rate is a decrease of another country's own tax rate, suggesting that corporate tax rates act as strategic complements (Keen & Konrad, 2013). In this game there is a single equilibrium, of strictly dominant strategies, where each individual is playing its best response to every other individual's strategy.

The problem lies in the fact that not all international tax policy matters should be reduced to a prisoner's dilemma – better understood as a model to reflect the problem of enforcing a particular agreement, given the short-run incentive to defect. International tax policy has been neglecting empirical instances of coordination problems, failing to acknowledge that countries face different challenges depending on the nature of the issue in question (Snidal, 1985; Krasner, 1991; Fearon, 1998; Radaelli, 1998). The level of interdependency and interaction between countries differs according to the matter at stake and so does the strategic structure of the decision problems faced by state leaders, which affects the prospects for international cooperation and determines the specific problems

[16] To avoid unnecessary complexity, we are assuming a symmetric prisoner's dilemma. However, because countries differ in size, asymmetry is an important feature of this economic puzzle, frequently ignored by the literature (Beckenkamp, Hennig-Schmidt, & Maier-Rigaud, 2007). Small countries (in terms of tax base) tend to gain more from corporate tax rate cuts than large countries, because since their domestic tax base is smaller, the revenue loss from a lower tax rate will be compensated by the revenue gain from foreign tax base inflow (Zodrow, 2003; Keen & Konrad, 2013).

that countries must overcome. While the under-taxation of MNEs resulting from international tax competition should be modelled as a prisoner's dilemma, choosing a transfer pricing policy implies a different form of strategic interaction (and specific policy instruments), given its aim of correctly allocating taxable income among countries. Once countries agree on the need to avoid double taxation and regulate tax avoidance through transfer pricing, following a common strategy (*i.e.*, coordinating) is the best response.

Figure 1. Cooperation *versus* coordination game [1]

Panel A.

International tax competition as a cooperation game (prisoner's dilemma) [2]

		Player B	
		Cooperate	Defect
Player A	Cooperate	(2 , 2)	(0 , 3)
	Defect	(3 , 0)	**(1 , 1)**

Panel B.

Transfer pricing policy as a coordination game (battle of the sexes) [3]

		Player B	
		ALS	FA
Player A	ALS	**(2 , 3)**	(1 , 1)
	FA	(1 , 1)	**(3 , 2)**

Notes:

(1) Each game includes the description of the two policy choices available to each player and the outcomes associated with each of the four combinations of policy choices (deemed possible by the theoretical setup). The vectors in each table contain payoffs; the first entry of a vector refers to the payoff of the row player; the second to the payoff of the column player. Payoffs reflect players' preferences over outcomes. In grey, we highlight the equilibria in each game. We assume that players have complete information.

(2) Panel A represents a typical 2 x 2 prisoner's dilemma game, with a symmetric payoff matrix (both cooperation and defection payoffs are identical for both players). Both players defecting, the strategy profile (D,D), is the unique Nash equilibrium, but it is also the suboptimum outcome, while the strategy profile (C,C) is Pareto optimal. The '*defect'* strategy means engaging in a '*race to the bottom*', lowering corporate tax rates. If a player chooses to cooperate while the other defects, it collects 0, assuming perfect mobility of capital and corporate location and all the other factors of production equal between the two countries.

(3) Panel B represents a typical 2 x 2 coordination game. Transfer pricing policy should be view as a game between countries played over the choice of a single method to internationally allocate MNEs' profits. This is a one-time interaction, since realistically Member States are not always changing their transfer pricing regime, to ensure tax stability and certainty. Strategies '*ALS*' and '*FA*' (broadly referring to the CCCTB or its successor to be featured in 2023, under the BEFIT initiative) represent the available set of transfer pricing policies that each player gets to choose in a decentralized policy equilibrium, comparing the nationally optimal choice to the globally efficient set of transfer pricing policies. Player A can be viewed as the EU Member States willing to implement the CCCTB (or other FA-based approach) and Player B as those blocking its implementation (assumed as the main '*losers*' of that choice). We consider a symmetric case to keep things manageably simple and because the net revenue effect of implementing the CCCTB is estimated to be small, given that shifts in the tax base to higher tax countries can now be offset by cross-border loss consolidation.

The two Nash equilibria in pure strategies involve no efficiency issue, but solely a distributional choice and a movement along the Pareto frontier. In fact, both equilibria are Pareto optimal, since there is no opportunity to increase any player's utility without damaging that of another and there is no incentive for any player to unilaterally defect – cheating is not a problem. However, strategic uncertainty is present (*i.e.*, the risk that one player chooses '*ALS*' while the other chooses '*FA*') and each player has its own preferred equilibrium strategy. No player wants to be the one who is comparingly '*losing*' (even if both prefer to coordinate), so a coordination failure is possible (with strategy profiles (ALS,FA) and (FA,ALS)), leading to a Pareto-inferior outcome and leaving all players worse off. On the other hand, coordination – independently of the chosen approach – leads to individual and joint higher payoffs (a payoff-dominant outcome) and a critical by-product of this simultaneous coordination is the minimization of profit shifting (mainly if coordination relies on the strategy profile (FA,FA), according to the literature and as stated in the beginning of section 4).

Source: the author

… but the choice of a transfer pricing policy resembles a coordination game with distributional conflicts

This departure from uncritically applying the prisoner's dilemma to a diversity of problems of international tax cooperation was firstly explored by Snidal (1985) and further developed by Radaelli (1998), who considered the strategic interaction of internationally choosing the transfer pricing policy as a coordination typified game (similar to the battle of the sexes)[17]. They consider that the main obstacles to international cooperation are the distributional implications of cooperation, rather than the risk of defection, outpaced by the willingness to use common standards.

The crucial feature of a coordination game with redistributive consequences is that there are no strictly dominant strategies: coordination games have multiple equilibria and there is no obvious way to choose amongst them, since standard deductive equilibrium analysis is unable to determine which of these possible outcomes will be achieved (see Panel B of Figure 1). Payoffs alone do not determine the behavioural outcome. No player can choose its best strategy without knowing what the other intends to do (Snidal, 1985). What is observed is a conditional best response that involves matching strategies across players, because both are averse to an absence of coordination. In the words of Stein (1982) and Krasner (1991), this can be labelled as a '*dilemma of common aversions*', given that players must coordinate their policies to avoid mutually undesirable outcomes.

In a global economy, coordination among countries is better placed to achieve the binary goal of securing the appropriate tax base in each jurisdiction and avoiding double taxation (OECD, 2017). Countries share a common preference for alleviating double taxation (detrimental for international business), implying preference for a common standard of allocating international taxable income, as different transfer pricing policies may lead to increased complexity, double taxation and a scale up of tax dispute and controversy. It may also invite tax arbitrage and could promote the perception of a hostile tax environment, increasing cross-border investment barriers. There is, though, a choice between conflicting preferences, with no clear alignment of interests.

There are conflicting views on the redistribution of relative gains of coordination because countries assert overlapping taxing rights over the same income of the same taxpayer (Lips, 2019), so the transfer pricing policy set by a country has redistributive consequences and repercussions on the taxable revenues collected by others. Different transfer pricing approaches inevitably entail different economic effects for each Member State; hence, and since some will benefit at the expense of others, disagreements arise over which policy should be chosen (Krasner, 1991).

In a coordination scenario, players can spontaneously reach an equilibrium point in which both parties coordinate simultaneously. But, when considering the distributional component, coordination may be hard to achieve and exogenous intervention may be needed to compel one player to accept the outcome that it would never voluntarily agree

[17] Although Radaelli (1998) was focusing its analysis of international coordination on the transfer pricing policy between the US and the remaining OECD members, it is our understanding that this game and its conclusions also hold when considering coordination only among EU Member States.

to. Acknowledging the type of strategic game being played among countries is important to identify potential coordination failures and, consequently, the policy that should be developed to tackle the specific problem. In a scenario where preferences are almost aligned, there is scope for negotiation and, therefore, a mechanism to facilitate cooperation is needed, especially considering the presence of multiple players. Recalling the previous (failed) attempts of implementing the CCCTB in the EU, it has been the EC's mission to play the role of facilitator, albeit unsuccessfully.

4.2 European political impasse as a bargaining problem

The conflicting distribution of welfare gains and the presence of heterogeneous preferences suggests that transfer pricing policy harmonization over the CCCTB (or other similar approach) may be hard to achieve from a political standpoint (Matheson et al., 2021). This asymmetry becomes an obstacle to successful negotiation, given that the implementation of the CCCTB as a multilateral global standard, is constrained by an unanimity requirement of all participating countries, in accordance with Articles 113 and 115 of the TFEU. In this sense, we are currently facing a political impasse at the EU-level, with economic and political power and individual interests determining the current outcomes, blocking a new, more appropriate common global transfer pricing convention.

Six EU Member States – Denmark, Ireland, Luxembourg, Malta, Netherlands and Sweden (European Parliament, 2018) – opposed the EC's proposal for a CCCTB because they do not have the right incentive to voluntarily accept it, by perceiving to be the main '*losers*' of this change, in terms of tax base and future CIT revenues collected (European Commission, 2016c; Nerudová & Solilová, 2019). And nothing suggests a shift in this stance at the time when the BEFIT proposal is presented. Some small EU Member States (regarding population, area and/or tax base) already have a long history of blocking legislation for EU-wide anti-tax avoidance measures (Rixen, 2011; Hakelberg, 2016), which challenges the EU's regulatory power and authority on tax matters, highlighting the necessity for a greater power of action to overcome these collective action problems.

The EU has at its disposal a rich institutional governance structure for intergovernmental cooperation, bargaining and enforcement, which may be deployed to help Member States devise common rules to combat tax avoidance. The EC's primary goal should be to facilitate the choice of '*the most adequate*' outcome by increasing the symmetry and dissemination of information, enabling communication, raising the cost of illegitimate behaviour and providing a proper forum for negotiation to ease coordination and solve potential political impasses. That does not seem to have been the case in the context of the CCCTB initiative. Not only did the EC not conduct detailed country-by-country impact analysis, but it also did not properly consider the concerns and reasoned opinions issued by the Member States objecting to the proposal (European Parliament, 2018). The 2016 CCCTB directive still raises numerous (not yet addressed) accounting and tax technical questions, mostly regarding the common base design and the interaction of the proposed rules with those of non-EU countries. And both CCCTB directives failed

on levelling the playing field between the '*winners*' and '*losers*' of a new comprehensive corporate tax reform. Indeed, by not softening its distributional consequences (*i.e.*, not changing the payoff matrix), it did not truly change the chances of overcoming the internal political impasse. Since the first short-lived pitch for a mandatory CCCTB scheme, in 2001, the EC has either been broadening the proposal to an optional FA system – that not only does not solve the intrinsic problem underlying the political impasse, but also undoubtedly curbs the spirits that the FA system advocates (Krever & Mellor, 2020) – or trying to bypass the unanimity rule[18], instead of deploying its direct and indirect economic bargaining power[19] to overcome the stalemate. Policymakers should focus on changing the incentives and outcomes of the game, not its rules.

The implementation of a FA approach would allow to collect revenues in an efficient and equitable manner (while enhancing the potential for significant cross-border spillovers), but it is only beneficial to restrain profit shifting activities within the EU if implemented unanimously. Failing to implement it will pressure countries to introduce unilateral actions better suited for their interests, especially taking into consideration that we are in the presence of a coordination typified game, where time induces '*losers*' to shakeup the coordinated outcome previously achieved in the pursuit of a better, more adequate one (Snidal, 1985). Unless the political impasse is overcome, there is a real risk of engaging in a coordination failure, with a subset of Member States adopting the FA unilaterally under the '*enhanced cooperation rule*', a procedure designed to overcome stalemate by being an alternative to the unanimity voting[20]. This would create two parallel tax systems in the single market with different institutional rules for corporate taxation, increasing the risk of additional complexity.

EU Member States are faced with multiple self-enforcing outcomes that are preferred to no agreement (profiles of strategies (ALS,ALS) and (FA,FA) on Figure 1, Panel B), but they disagree in their ranking of mutually preferable agreements, suggesting the presence of a bargaining problem, solved, if at all, over time, in a sequence of offers and counteroffers. EU Member States should, therefore, engage in a bargaining game, negotiating on the set of feasible payoffs over the disagreement point (status quo) – the deterrent factor – and trying to reach a bargaining solution, resulting from the cooperation

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[18] The EC has been assessing the possibility to bypass the unanimity rule in the context of tax reform proposals, first by exploring the specific '*passerelle clauses*' contained in the current treaties (that also requires unanimity to be triggered) and, more recently, using the '*distortion of competition'* argument based on Article 116 of the TFEU, recalling that tax avoidance creates an unfair competition environment in the EU and disrupts the internal market, granting competitive advantage to MNEs (European Commission, 2017b and 2020). Under Article 116 of the TFEU – a provision which has never been invoked –, the EC can compel Member States to move the vote on new tax measures to a qualified majority vote, thus avoiding national vetoes.

[19] A first attempt to do so came from the European Parliament in 2018, that issued a report endorsing a slight amendment to the 2016 CCCTB proposal to allow for a phase-out of the threshold for mandatory application to large MNEs over a 7 year-period (to address small states' affiliates concerns – the most probable '*losers*') (European Parliament, 2018).

[20] Under Article 20 of the Treaty on European Union and Title III of the TFEU, a minimum of nine EU Member States in favour of introducing an EU proposal of a particular field only among themselves are allowed to set up advanced integration through enhanced cooperation, a procedure that allows them to move towards different goals than those of the Member States who do not want to take part.

of the players involved either through compensation (*i.e.*, division of new or potential benefits), credible threats of changing the payoff matrix, compromise or other mechanism (Nash, 1950; Krasner, 1991; Clemper & Poznyak, 2017).

What is the single-valued function that can make the CCCTB (or the future BEFIT proposal) the most preferred alternative within the set of feasible outcomes for all the players involved? The solution is not straightforward in the lack of an equilibrium outcome that presents a Pareto improvement. The EC should secure a more favourable distribution of benefits, rather than promoting Pareto optimality. Future negotiation procedures should intend to ensure higher individual (and collective) utility for all Member States under the new equilibrium, entailing a bargaining process over distributional advantage. What conditions would guarantee cooperation? What is needed to take the FA approach at the supranational level ahead? That is where the political debate and the EC's efforts should be focused on. In this case, the EC – as a structure that can affect distributional outcomes and the probability of stalemate by settling a *constructed* focal point that can be decisive in the resolution of distributional conflict (Schelling, 1960) – should act primarily as a forum for bargaining rather than an institution that is equipped with monitoring and enforcement capabilities.

4.3 The international arena: the United States as a Stackelberg leader

Implementing the FA in the EU would not mean a complete departure from the OECD Transfer Pricing Guidelines. Although replacing the ALS may seem a broad dismantling of the current transfer pricing regime, Avi-Yonah & Tinhaga (2017) argue that the FA could be, indeed, compatible with the existing bilateral double tax treaties network, namely by shifting the focus from article 9 of the OECD Model Tax Convention (the basis of the ALS method) to article 7, which seems to provide room for the application of the apportionment approach. The intention is to get as close as possible to the '*arm's length result*', which can be best reached by employing other transfer pricing methodologies, given modern-day multinational operations and trade. It is then possible to introduce this change without disrupting the international consensus regarding transfer pricing rules. Change would be evolutionary, rather than revolutionary – as previous experience from the US shows us.

The US (as well as Canada, Germany and Japan, among others) already applies a unitary taxation with FA to allocate US domestic corporations' business profits between states since 1936 (excluding overseas business organizations). A common observation among policy makers is that, particularly since the 1986 US Tax Reform Act, the US has been taking a leadership role in international tax policy, stimulating European tax reforms in the ensuing years, which suggests a (Stackelberg) leader-follower relationship with sequential decision making (Altshuler & Goodspeed, 2015). Examples of the US as an international leader shaping global tax governance can be easily found, whether as a role model for setting CIT rates, as a pioneer in introducing controlled foreign company rules and fighting the use of abusive tax shelters or as a decision-maker of the primary transfer

pricing methods to apply.

The ALS obtained a significant international boost as the basis for profit allocation when the League of Nations (1923) model tax treaty (the foundation for much of our modern international tax system) endorsed this approach – which was the most favoured by the US at the time (Rixen, 2011). Following that, the US was the first country to incorporate the ALS into tax law (in 1935) and to disclose (in 1968) precise regulations regarding its methods (Avi-Yonah, 2007). On the other hand, the OECD consolidated its preference for this separate accounting approach only in 1963 (with modest guidance for its application) and disclosed detailed information on the ALS implementation and methods latter on in 1979, in the '*Transfer Pricing and Multinational Enterprises*' (non-legally binding) report (Avi-Yonah & Tinhaga, 2017; Krever & Mellor, 2020).

Over time, the US was also the first country to question the ALS legitimacy and suitability to deal with new ways of business[21], which lead to an update of the transfer pricing regulations in 1994, implying a greater focus on profit-based methods (which can be seen as an approximation to the FA) rather than transaction-based methods (more associated with the ALS) (U.S. Department of the Treasury, 1994). But that did not entail a departure from international cooperation, as it did not represent a complete erasing of the ALS, but rather a dilution of the primacy of transactional methods, accepting alternative more suitable methodologies.

This pioneer transfer pricing reform undertaken unilaterally by the US then led, in 1995, to a revision of the OECD guidelines, not only to reflect technological developments, but, more importantly, to address differences following the reform, to achieve greater harmonization (Radaelli, 1998). At first, the OECD posed several objections and accepted profit-based methods just as a last resource, but, nowadays, it not only endorses similar approaches, but it even grants them equivalent status to the traditional methods. This adjustment process shows the desire for continued cooperation and reinforces the theory of (historical) sequential decision-making in what concerns countries' tax reforms, contributing to the US leadership position (Keen & Konrad, 2013).

Following that, Lips (2019) suggests that the lack of an international effort to implement worldwide unitary taxation is due to the US preferences. The rationale is very straightforward: stricter source country taxation measures (*i.e.*, taxation where economic activity takes place) increases US Treasury foreign tax credits, which results in a potential loss of tax revenue. Implementing a form of CCCTB in the EU would represent a reform towards greater alignment of economic value creation and taxation, reducing US MNEs' tax avoidance opportunities, leading to a higher tax burden for them abroad and larger tax

[21] Income shifting by foreign-owned MNEs through high-profitable intangibles that were being transferred out of the US without adequate consideration was depriving the US from higher tax revenues, and, therefore, the ALS started to be widely questioned, especially after the 1986 Tax Reform Act. Profit-based methods rely less on comparable transactions and allocate income according to appropriate industry profit-level indicators. However, these methods require a high degree of expertise and qualified economic data on the several industries, which is not at reach of many national tax authorities.

credits in the US (given its worldwide taxation system[22]), which would involve less tax revenue to the US Treasury when profits are to be repatriated. This is especially true given that the majority of US foreign direct investment stock is in Europe (UNCTAD, 2020) and that large US technology MNEs were among the main beneficiaries of the tax rulings investigated by the EC (U.S. Department of the Treasury, 2016). Additionally, recent research also asserts that "*US multinationals appear to shift twice as much profit (relative to the size of their earnings) as EU multinationals, while the European Union appear to lose twice as much profit (relative to GDP) as the United States*" (Tørsløv, Wier, & Zucman, 2021, p. 28)

Hence, implementing a FA approach in the EU would restrain US MNEs ability to engage in overseas cross-border aggressive tax planning schemes and to avoid foreign taxes (mainly by exploiting the ALS), therefore decreasing US aversion over worldwide unitary taxation. Additionally, if the EU could assert itself as a greater leader in international tax governance, leveraging its own market power, growing tensions with the US current preferences would lead to increased uncertainty for US MNEs operating in Europe, pushing them to endorse more easily the FA transfer pricing standard as a way of increasing certainty over the ALS tax planning opportunities.

If two of the main international political forces (the US and the EU) reach consensus and coordinate on a broader implementation of the FA, sequential decisions on similar tax reforms are a possibility, leading to a further adjustment process of the OECD Transfer Pricing Guidelines and, ultimately, to a worldwide implementation of the FA (Avi-Yonah, 2010), reflecting integration, internalization and economic reality, distributing taxing rights through an equitable model that ensures that each country receives its fair share of tax revenue.

[22] "*US tax authorities treat the entire tax base of companies that operate in the United States as theirs to tax and do not exempt taxation rights on active income earned abroad in source countries, instead providing a credit to US companies against taxes paid in a foreign country*" (Lips, 2019, p. 113).

5 Final considerations

Our contribution is two-fold. First, we highlight that transfer pricing manipulation is the dominant channel used to artificially reallocate MNEs' profits to lower tax jurisdictions (Heckemeyer & Overesch, 2013). Second, we reintroduce the unitary taxation approach with FA into the international tax policy debate, given that international cooperation to avoid under-taxation due to tax evasion and avoidance allowed by the inadequacy of the current international tax architecture has not received much attention in the literature. International tax policy scholars have been focusing on the impact of tax competition and cases of successful cooperation – of which is example the ongoing discussion of imposing a 15% global minimum corporate tax rate –, ignoring that there is no efficient mechanism for redistributing tax revenue among jurisdictions (Rixen, 2011; Keen & Konrad, 2013). This paper is an attempt to close this gap.

Transfer pricing rules have an impact in the way in which entities that are subject to CIT determine their taxable income. These rules can effectively limit tax avoidance behaviours (Riedel, Lohse, & Hofmann, 2015), but if poorly designed they can lead to different treatments of cross-border transactions, enabling aggressive tax planning schemes that allow MNEs to shake off tax responsibilities in a way that small and medium enterprises cannot (Mooij & Liu, 2018). The current international tax architecture is fundamentally out-of-date (European Commission, 2021; Matheson et al., 2021), which further strengthens the call for tax legislators to overhaul the international tax system and close legislative tax loopholes, allowing for a better realignment of MNEs' international taxation. The rise of highly profitable technology and digital-heavy business models – hard to value and with less need for a physical presence – places the ALS approach under stress, especially when no close substitute is present on the market. The BEPS Action Plan aimed at achieving significant repairs through multilateral efforts. However, it did not solve the key issue of profit allocation, nor did it help to clarify the (outdated and inconsistently defined) concepts on which the standard-based regulatory model is based. MNEs remain several steps ahead on ways to shift paper profits (Tørsløv et al., 2021).

Alternative proposals for a new long-term comprehensive strategy in corporate income taxation have been discussed and consensus on the unitary taxation approach with FA (where MNEs are recognized as single economic entities) was reached, which would turn transfer pricing rules obsolete, mitigating the opportunity to separate taxable profits from the real economic activity that generates them (Rixen, 2011; Keen & Konrad, 2013; Avi-Yonah & Tinhaga, 2017; IMF, 2019; Lips, 2019). At the EU level, that implies adopting the already proposed CCCTB regime (or its successor, the BEFIT, to be presented in greater detail in 2023), a single set of rules to calculate MNE's taxable profits, allowing them to file a single tax return for all EU activities, which reflects the true spirit of the single market.

There is, however, a trade-off between tax autonomy and fiscal neutrality. The power to tax rests with the Member States, but that should be done without interfering with the efficient functioning of the internal market. The fundamental question is how much tax autonomy can be allowed without interfering with the EU's goals of free trade and

competition. Member States seem to differ on the answer. The decision-making process of choosing the transfer pricing policy to adopt across the EU should be modelled as a coordination game with conflicting interests (Snidal, 1985; Radaelli, 1998; Rixen, 2011) and the choice of a common approach entails deciding from different points along the Pareto frontier (Krasner, 1991), which inevitably has distributional consequences. The need for decision by unanimity creates a political impasse between EU Member States against and in favour of implementing the CCCTB, which can further lead to a potential coordination failure under '*enhanced cooperation*', leaving all countries worse off.

Understanding why the CCCTB implementation failed until now and how this political impasse can be solve is crucial in the awakening of the new EU tax agenda for business taxation (European Commission, 2021). The BEFIT initiative, as the CCCTB proposal, also drifts apart from the separate entity approach. Hence, similar coordination problems and political resistance are expected.

The absence of a clear-cut and simple focal point in this coordination game of choosing a transfer pricing regime for the EU should have a clear implication in the EC's role. As a multilateral standard-setting institution capable of collecting, creating and disseminating information to facilitate successful bargaining between countries, the EC should enable a path towards a prominent point of agreement concerning the FA solution. There is no need for an external enforcement mechanism after coordination is reached, but an institution to help reaching an agreement is needed, given the distributional conflict and the fact that voluntary cooperation for the Member States blocking the implementation of a unitary taxation regime is not expected. Instead of trying to change the rules of the game, the EC's efforts (and the EU political agenda) should focus on how Member States with different preferences can cooperate, which requires more empirical analysis of the true *winners* and *losers* of the CCCTB and a better understanding of the incentives that can maximize the likelihood of convincing the Member States opposed to the FA approach to accept its implementation.

The EU should not operate in a political vacuum, nor accept MNEs being unfairly compensated (high or low) for the actual value they create. Not taking further steps to implement a unitary taxation with FA and intensify European progress in the fight against tax avoidance within borders, is accepting that we are okay with having tax legislative loopholes that undermine the internal market without any kind of penalty.

It is time for the EU to start leading by example and close its own corporate tax havens.

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