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IES Working Paper 38/2020

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Bibliographic information:

Ates L., Cobham A., Harari M., Janský P., Meinzer M., Millan-Narotzky L., Palanský M. (2020): "The Corporate Tax Haven Index: A New Geography of Profit Shifting" IES Working Papers 38/2020. IES FSV. Charles University.

This paper can be downloaded at: <http://ies.fsv.cuni.cz>

The Corporate Tax Haven Index: A New Geography of Profit Shifting

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September 2020

Abstract:

The geography of corporate profit shifting is often presented in public discourse in simplistic and inaccurate terms. Not only can this easily mislead audiences, but it shapes political responses to the problem in such a way as to undermine the prospects for genuine progress. In this paper, we set out a new approach to the geography of profit shifting, based on a range of objectively verifiable criteria. These are combined in the Corporate Tax Haven Index, published for the first time in 2019. We present the technical argument for the index as a meaningful representation of the global distribution of the risks of corporate tax abuse and explore the new geography that emerges. The key findings show the UK's dominant responsibility for corporate tax avoidance risks and the colonial roots of many exploitative double tax treaties. We end by considering the index's political implications for the immediate process of international tax reform, and for the longer-term prospects for global governance in this area. We conclude that greater clarity about the geography of profit shifting is likely to support growing demands for redistribution not only of taxing rights but also of decision-making power in the global architecture for tax governance.

JEL: F36, F63, F65, H26, O16

Keywords: Corporate tax, multinational corporations, tax, transparency, tax avoidance, tax havens, profit shifting

Acknowledgements: This is a draft of a chapter that has been accepted for publication by Oxford University Press in the forthcoming book *Combating Fiscal Fraud and Empowering Regulators (COFFERS)* edited by Brigitte Unger, Lucia Rossel and Joras Ferwerda, due for publication in 2021. This research has been supported by the European Union's Horizon 2020 program through the COFFERS project (No. 727145).

1 The emergence of a new geography of profit shifting

In recent years, major data leaks from the LuxLeaks to the Paradise Papers have revealed the extent and systematic nature of the efforts of multinational corporations and their professional advisers to minimise their global tax payments. Central to these efforts are the deeply flawed international tax rules set by the Organisation of Economic Co-operation and Development (OECD), and the role of individual jurisdictions that compete to attract the shifting of profits at the expense of the countries where multinationals' real economic activity takes place. But those leaks, and the limited accounting data that multinationals are required to publish, provide only the most partial basis to analyse the relative importance of profit shifting jurisdictions or corporate tax havens.

The OECD is currently, at the behest of the G20 group of countries, engaged in further reform of the international tax rules. This follows the Base Erosion and Profit Shifting (BEPS) initiative, which ran from 2013-2015 and is widely seen to have failed to address the single, stated aim: to reduce the misalignment between the location of multinationals' real economic activity, and where the resulting profits are declared for tax purposes. The new process sometimes referred to as BEPS 2.0, is premised on a more radical shift in tax rules.

In the 1920s and 1930s, the League of Nations settled upon the separate entity approach as the basis for allocating taxing rights between member states. This approach rests on the assumption that profits can be determined for the individual entities within a multinational group, by assuming each is individually profit-maximising and then ensuring that transactions between group entities are priced as if they were conducted between unrelated parties, i.e. at arm's length (market) prices. This assumption is of course economically illogical, since if the entities would be trading at arm's length prices, there would be no rationale for

multinationals to exist as it could purchase its inputs from unrelated parties in the market place.

Nonetheless, the separate entity approach went mostly unchallenged in the international tax sphere for many decades. The growing complexity of multinational groups, and their growing use of professional advisers and appetite to avoid paying tax, did lead to growing complexity in the tax rules to keep pace. Although lower-income countries may have found it hard to obtain tax revenues from multinational companies, no disquiet appeared to trouble the OECD group of rich countries.

A narrative persisted that multinationals avoiding tax were simply behaving smartly; acting in the interests of their headquarters countries as national champions; and/or meeting fiduciary duties to shareholders. The imagined geography of corporate tax havens was largely as a collection of small islands in the English Channel and the Caribbean. Any important revenue losses may have been thought to fall on OECD members, who perhaps choose to tolerate it through the combination of a desire to support ‘their’ multinationals, and/or a willingness to tolerate the naughtiness of current and former dependent territories.

Only after the global financial crisis that began in 2008 did a set of major, high-income economies experience the type of fiscal squeeze and political pressures to address corporate and other tax abuses that were more familiar to many lower-income countries. With this political pressure in the tax ecosystem there began a change in narratives also. Tax avoidance and evasion have come increasingly to be seen not as smart but as fundamentally anti-social; the identification of multinationals as national champions is rather more contested; and the idea of a fiduciary duty to minimise tax for shareholders has been largely debunked (Chaffee and Davis-Nozemack 2017).

The BEPS process initially appeared to open the door to moving beyond the arm's length principle, but was refocused into a defence – patching up weaknesses rather than taking a more radical approach. While lower-income countries were invited into some parts of the discussion, they had little or no say on the final outcome. In exchange for signing up to the agreed BEPS package, however, they were invited to join a newly established 'Inclusive Framework', with the intention that this would negotiate any future reforms – although none were then anticipated.

The discontent at BEPS led rapidly to other changes for a range of actors in the tax ecosystem, however. The European Union's (EU) interest was re-energised in the Common Consolidated Corporate Tax Base proposal, based on a single set of rules to calculate companies' taxable profits in the EU and then share that profits between the Member States in which real economic activity takes place, using an apportionment formula (European Commission 2016). The United States passed a dramatic tax cut, the Tax Cut and Jobs Act with some key elements to limit avoidance that represent a clear break with the separate entity approach. The tax abuses of predominantly US-based digital companies were a particular source of concern, and a range of countries began to introduce unilateral tax measures to curtail these.

By 2018, the G20 were debating the nature of a new mandate to require a much more substantial reform from the OECD, designed to ensure a coherent approach in lieu of a continuing divergence of potentially overlapping unilateral fixes. Specifically, the new reforms were said to go beyond the arm's length approach. A number of OECD members had taken up an approach long popular with the big four accounting firms: the residual profit split. Approaches of this type identify 'routine' profit in various ways, for example applying a fixed return to capital (tangible assets). The remaining profit, labelled 'residual' or 'non-

routine' profit, is then assessed at the global level and apportioned between countries of operation on the basis of the location of real economic activity.

For the first time, too, lower-income countries have had a degree of meaningful representation in the process and responded to other actors and the pressure on the tax ecosystem. The G24 group of countries tabled a proposal at the Inclusive Framework meeting in January 2019, which was carried forward as one of three to be considered, during the first part of the process. This proposal, for a 'fractional apportionment' that is a method using a formula to allocate a fraction of the profit to the market jurisdiction, differs from the main residual profit split in two main ways but also shares two essential common features (OECD 2019b). The differences are, first, that the G24 approach emphasises the importance of employment as a location factor (whereas the residual profit split measures have emphasised the location of sales), so the G24 approach balances the role of production with that of consumption; and, second, that the G24 approach apportions *all* profits on the basis of activity, instead of only some 'residual' element.

At the level of principle, the two common elements between the approaches are rather more important. First, both include an assessment of multinationals' profit at the global (group) level, rather than that of separate entities within the group. Second, this unitary approach is followed by a formulary apportionment: a distribution of that group profit between countries, as tax base, on the basis of factors of real economic activity. In this way, all the approaches under consideration as at October 2019 represent a fundamental break in principle with arm's length pricing, and a move towards unitary taxation and formulary apportionment in order to achieve the continuing goal of reducing the misalignment between profits and the location of real activity.

It remains uncertain to which extent, in practice, any agreed 'BEPS 2.0' reforms will deliver realignment of profits with activity. But the normalisation of these new principles is already

well underway – and has been in effect since the first BEPS process adopted the single goal of realignment that could not be delivered by arm’s length pricing. This shift seems likely to guide future reforms too, with separate entity accounting increasingly left behind.

With this shift, the implied geography of profit shifting has also itself been evolving. Instead of small palmy islands being cleverly exploited by accountants, the outlines of this new geography reflect a view of states as deliberately seeking to procure profit shifting at the expense of their global neighbours. This brings with it the opportunity to apply more rigorous criteria in order to provide a robust identification of corporate ‘tax havens’, for both research and policy purposes. This identification is the focus of this paper.

Researchers have long shared an appetite for using binary tax haven lists with policy makers. National tax haven blacklists were first applied in a context of national tax policy making in Australia and France in 1975 (Gordon and Internal Revenue Service - US Treasury 1980; Meinzer 2016; *Taxation Administration Act* 1974; *Banking Act* 1974) and Japan in 1978 (Ishiyama 1980). Around the same time, academics started compiling and using such binary lists (Irish 1982), before finally starting to shape major international tax policy programmes with the OECD’s harmful tax competition project 1998 (OECD 1998) and the first concomitant list published in 2000 (OECD 2000). The latest iterations of these listing exercises include the OECD 2009 black-grey-white list of jurisdictions that meet or fail to commit to the “internationally agreed tax standard” (OECD 2009), and the “EU list of non-cooperative jurisdictions for tax purposes” published for the first time in 2017 by the European Commission (Council of the European Union 2017).

These approaches to listings of tax havens are flawed to varying degrees because of two main reasons (Cobham, Janský, and Meinzer 2015). First, the listings pressure states directly into reforming their laws by dividing them up in two dichotomous categories, ignoring both nuances in their respective specialisation and the degree to which countries have adopted

undesired policy positions. Second, the definition of the criteria and the evaluation process to categorise countries have been criticised for lacking transparency and consistency, resulting in biases and preferential treatment of club members(Sharman 2006; 2010).

While recent international listing exercises have become marginally more transparent and replaced the binary with a three-tiered classification (black-grey-white), the fundamental problem remains that members and powerful jurisdictions appear to successfully ensure preferential treatment (Meinzer 2016; Lips and Cobham 2017; Knobel 2018a; 2018b). The resulting inconsistency in the lists not only undermines the effectiveness of policy measures to counter illicit financial flows, but can also distort and insert biases in academic research (Cobham, Janský, and Meinzer 2015).

To address these flaws, and as regards global financial secrecy driving illicit financial flows, the Financial Secrecy Index (FSI) has been published since 2009. As an alternative to government-led listings, it provides a fully transparent analytical tool for comparative monitoring and ranking. Yet, neither tax abuse by multinational companies nor the contribution to the race to the bottom in corporate taxation have been fully captured by the FSI, as its indicators focus more on secrecy than on corporate tax, and on portfolio financial flows in lieu ofon FDI or corporate profits. The Corporate Tax Haven Index (CTHI), published for the first time in May 2019, fills this gap by measuring how intensely a jurisdiction abuses its autonomy over corporate income tax (CIT) rules to enable and incite tax spillovers that affect other jurisdictions’ rule setting and tax mix autonomy; and how “successful” a jurisdiction is in pursuing this corporate tax haven strategy.

In 2014, an International Monetary Fund (IMF) report established how a country’s corporate tax system may generate macro-relevant effects on other countries via two channels: “base spillovers” and “strategic spillovers” (IMF 2014). The “base spillover” concept includes

changes in taxable profits “in reflection of both real responses (through investment and the like) and profit-shifting responses (affecting, loosely speaking, only where profits are booked for tax purposes)” (IMF 2014, 13). The “strategic spillover” effect refers to “‘tax competition’ in its broadest sense—most obviously in the potential form of a ‘race to the bottom’, as countries respond to lower CIT rates elsewhere by reducing their own rates” (IMF 2014, 13).

Tax spillovers not only lead to an erosion of the tax base in other countries, but also affect countries’ democratic choices over the tax mix. Confronted with the exit threat of corporate players, tax policy makers tend to respond by increasing the share of more regressive indirect taxes in the tax mix, and to steer the total tax mix away from progressive direct taxes. Over the last twenty years, the tax mix has shifted with corporate income taxes contributing less.¹

By employing different policies, jurisdictions unwillingly enable or wittingly incite tax spillovers from other countries. They may levy lower statutory corporate tax rates than other states, restrict the scope of or insert gaps and loopholes into corporate tax rules, push down withholding rates in double tax treaties, and dispense with anti-avoidance and transparency policies. In each of these policy areas, jurisdictions can choose to engage in more or less aggressive tax poaching policies. As a result, each jurisdiction’s policies can be placed on a spectrum of corrosiveness of its corporate tax rules, resulting in a more nuanced picture than the established binary “blacklists” of corporate tax havens. By placing each jurisdiction’s corporate tax policies, the index takes into account that “virtually any country might be a “haven” in relation to another”, as Sol Picciotto famously put it (Picciotto 1992, 132).

¹ According to Oxfam, between 2007 and 2015 in an unweighted sample of 35 OECD countries and 43 non-OECD countries, corporate income taxes decreased by an average of 0.4% points of Gross Domestic Product (GDP), while payroll taxes and taxes on goods and services increased by 0.6 and 0.3% points of GDP, respectively (Lawson et al. 2019). VAT and other consumption taxes represent currently 39% of tax revenues in the group of 78 countries while corporate income taxes represent 11% (Lawson et al. 2019).

The first ever study of its size and scope, the CTHI ranks countries according to objectively verifiable measures that evaluate their attempts to procure profit shifting from elsewhere. The index achieves this by combining a haven score (assessing tax systems based on the degree to which they enable corporate tax avoidance) with a measure of the scale of multinational corporate activity, to create a comparable measure of the risk of tax avoidance posed by each country.

The CTHI confirms some crucial existing findings on the key players in profit shifting, but also reveals for the first time the global geography of the phenomenon. The new geography confirms the critical role of a range of OECD members to construct niches for their continued extraction of rents and evolution in the tax ecosystem, shedding new light in turn on that organisation's failure thus far to address the problem of tax abuse. Rather than being the (more or less willing) victims, as suggested by the previously understood geography of profit shifting, OECD members are among the key perpetrators and also act as important proponents of others' corporate tax havenry.

In the next section, we present the methodology of the CTHI. The third section lays out the resulting scores and rankings: the new geography of profit shifting. A final section concludes by discussing how these findings, as they contrast with the implied geography of the international policy debate, are likely to shape that debate and the future governance of this policy space.

2 The Corporate Tax Haven Index – Methodology²

The CTHI focuses on the corporate income tax rules and practices applicable to (large) multinational enterprises' profits (including capital gains). The Index is a combination of two components: the Haven Score (HS), which is a qualitative component derived from data

² This section draws on an already published report: (Tax Justice Network 2019a). The authors and the publisher of the original report kindly gave their permission for reuse of parts of the text in this paper. We are grateful for valuable comments on this section by Frederik Heitmüller.

collected for twenty indicators based on laws, regulations and documented administrative practices in the jurisdictions; and the Global Scale Weight (GSW), which measures the relevance of each jurisdiction for cross-border direct corporate investment. The HS and the GSW are then combined to produce the CTHI value, which determines the ranking.

The HS measures the potential risk for a jurisdiction to become a profit shifting destination, eroding tax bases elsewhere, and to create spillovers effects into other jurisdictions' tax base and policies; thereby leading a race to the bottom in corporate taxation. The combination of the HS with the GSW results in the actual risk (or what social scientists label "impact propensity") for a jurisdiction to have these effects. By combining the two components, we aim to capture the actual risk, in a ranking of the jurisdictions that contribute most to: (i) the global race to the bottom in corporate taxation; (ii) the erosion of corporate income taxes globally; and (iii) constraining the tax policy space elsewhere.

2.1 Haven Score

Table 1 provides an overview of the components of a jurisdiction's overall HS. It is constructed as the average of five category HSs, out of a total of twenty haven indicators. Each indicator is given a score between zero (no risk, zero corporate tax haven attributes) and 100 (high risk, full corporate tax haven attributes). Jurisdictions with no CIT regime or with zero statutory corporate income tax rate³ are defined, by default, as having the highest HSs for four of the five categories, except for "transparency", where an analysis was still carried out to determine the level of secrecy/transparency.

³ According to OECD Stats (OECD 2019a). For jurisdictions not covered by OECD data, we relied on (KPMG 2019) or (IBFD 2019). The ten relevant jurisdictions are available here by filtering the data column for "0": <https://www.corporatetaxhavenindex.org/ExcelUploadIDs/Id505.xlsx>; 17.9.2019.

Table 1: Haven Indicators, Categories, and overlaps with OECD, IMF and EU Initiatives

HI #	Category	Haven Indicator	OECD BEPS ⁴	IMF	EU / State Aid
1	Lowest Available Corporate Income Tax rate (LACIT)	LACIT		X	X
2		Foreign Investment Income Treatment		X	
3		Loss Utilisation			
4	Loopholes and gaps	Capital Gains Taxation		X	
5		Sectoral Exemptions	X		
6		Tax Holidays and Economic Zones	X		
7		Patent Boxes	X		
8		Fictional Interest Deduction			
9		Public Company Accounts			
10		Country by Country Reporting			X
11	Transparency	Local Filing of Country by Country Reporting	X		
12		Tax Rulings and Extractive Contracts	X		X
13		Reporting of Tax Avoidance Schemes			X
14		Tax Court Secrecy			
15		Deduction Limitation for Interest	X	X	X
16		Deduction Limitation for Royalties			
17	Anti-avoidance	Deduction Limitation for Service Payments		X	
18		Dividend Withholding Taxes			
19		Controlled Foreign Company Rules	X	X	X
20	Double Tax Treaty Aggressiveness	Double Tax Treaty Aggressiveness		X	

Source: Authors

The Haven Score for jurisdiction i is then calculated as the arithmetic average of the five Haven Indicator Category (HIC) scores j :

$$Haven\ Score_i = \frac{\sum_{j=1}^5 HIC_j}{5}$$

The first category, comprised of one indicator, is the “Lowest Available Corporate Income Tax rate” (LACIT). We take the widely used “highest statutory CIT rate” only as a starting

⁴ Among others, Action Plan 5 relates to HIs 5-7 and HI 12 (tax rulings).

point for our legal analysis to derive the lowest rate for active business income available to subsidiaries of large multinationals. The process of deriving the LACIT from standard statutory CIT rate datasets entails up to three corrections and four adjustments to determine the LACIT rate. A key principle is to treat as equivalent low tax rates and tax base reductions available to subsidiaries of multinational companies.⁵ Each of the steps is separately documented and publicly explained based on sources from OECD BEPS Action Plan documents and peer reviews; European state aid investigations; reports from big four accounting firms; the International Bureau of Fiscal Documentation's (IBFD) tax research platform and original legal analysis. The HS for LACIT is calculated by linearly scaling the LACIT of each jurisdiction against a Spillover Risk Reference Rate (SRRR), which is the highest observable CIT rate of a democracy (35% in India as of April 2019). A hallmark of a functioning democracy is the right of citizens and the electorate of a jurisdiction to determine the tax mix of that jurisdiction. A jurisdiction's decision for a high share of CIT in the tax mix and a high CIT rate is particularly vulnerable to being undermined by any other jurisdiction that implements lower rates. This is because under the current conditions of free investment flows and the arm's length principle, profit shifting from high tax to low tax jurisdictions cannot be prevented. Therefore, all CIT rates applied by jurisdictions are scaled against that highest observable CIT rate of a democracy in order to determine the extent of tax avoidance risks which undermine democratic choices elsewhere.

The second category "Loopholes and Gaps" comprises seven indicators, analyzing whether preferential tax regimes are available or if there are significant CIT base exceptions or rate concessions, including for specific sectors, or through tax holidays or economic zones. The loopholes and gaps score is the arithmetic average of the seven indicators. Haven Indicator 2

⁵ For example, Malta, with a statutory CIT ordinarily reported at 35%, operates a full imputation system. This system ensures that generally, six-sevenths of the tax paid is refunded upon distribution of profits and thus a much lower CIT rate applies. As a result of Malta's imputation system, we set Malta's LACIT at 5% and not at the often reported statutory rate of 35% (Tax Justice Network 2019a).

reviews if a country applies a unilateral tax credit, or if instead it excludes foreign investment income (dividends, interest, royalties) from the corporate income tax base, or if it exerts pressure on other jurisdictions to lower their tax rates. Haven Indicator 3 analyses if a country uses loss carry forward or unrestricted loss carry forward to enable multinationals to book huge losses for eliminating profits for tax purposes in the future, including profit shifted inwards from abroad.⁶ Haven Indicator 4 analyses the lowest available tax rate applicable to capital gains on domestic and foreign financial securities. While this tax rate might equal the LACIT rate in countries which have integrated capital gains taxation into their ordinary CIT base, other countries' standalone capital gains taxation is analysed separately. Haven Indicator 5 reviews profit based tax incentives for particular economic sectors and activities, which are not time bound nor confined to economic zones (these are dealt with in Haven Indicator 6). Indicator 5 considers full or partial exemptions in both the investment sector (financial and/or real estate investment) and thirteen active business income sectors derived from the United Nations Statistics Division and from Eurostat, with data predominantly from the IBFD tax research platform (IBFD 2019) and accounting firm reports. Indicator 6 on tax holidays and economic zones reviews the existence of any profit-based partial or full exemptions available temporarily (tax holidays up to 10 years) and/or in a geographically confined area (economic zones) to subsidiaries of multinational companies. Haven indicators 7 and 8 review the availability of standardised preferential tax treatment of royalty income ("patent boxes") or equity capital (fictional interest deduction).

The third category "Transparency" consists of six indicators and considers if the jurisdiction implements robust transparency mechanisms to allow not only for public accountability of multinational companies' financial and tax affairs, but also of tax administrations and tax

⁶ For example, the use of loss carry forward to minimise tax has been an element of Apple's tax strategy in Ireland. In 2015, the inflation of debt and a multibillion-dollar purchase of Apple's own intellectual property generated billions in recognised losses for Apple's subsidiary in Ireland which were then written against profits from sales in Europe to reduce tax payments (Clancy and Christensen 2018; Seamus 2018).

courts. The transparency score is the arithmetic average of the 6 indicators. Haven indicator 9 analyses if all domestic types of companies with limited liability are required to publish annual financial statements online. Haven Indicator 10 reviews if companies incorporated in the jurisdiction or listed on local stock exchanges are required to publish worldwide financial statements on a country by country basis. This indicator is complemented by indicator 11, which checks if the legislation for accessing country by country reports (as required by OECD BEPS Action 13 (OECD 2015)) enables the domestic tax administration to directly access the reports from local subsidiaries of a multinational company. Haven Indicator 12 assesses if all relevant unilateral tax rulings and extractive industries contracts are published online. Haven Indicator 13 reviews the rules for mandatory reporting of tax avoidance schemes and uncertain tax positions, and if both taxpayers and advisers are obliged to report. Haven Indicator 14 analyses the openness of both civil and criminal tax courts and the online availability of judgements.

The fourth category, “Anti-Avoidance”, includes five indicators and analyses the extent to which jurisdictions enact robust rules constraining tax avoidance and profit shifting, e.g. by controlled foreign company rules (Indicator 19), by constraining the deductibility of intra-group outward payments (interest, royalties and certain service payments, Indicators 14, 15 and 16, respectively) and by levying a domestic withholding tax on outward dividend payments. The anti-avoidance score is the arithmetic average of the five indicator scores.

The fifth category, “Double Tax Treaties Aggressiveness”, comprises one indicator which considers the impact of a jurisdiction’s network of Double Taxation Agreements on the Withholding Tax (WHT) rates in interest, dividend and royalties in treaty partner jurisdictions. It measures how aggressive a jurisdiction treaty network is on average in pushing down WHT rates in partner jurisdictions (by comparing the analysed jurisdiction’s WHT rates with each treaty partner’s total treaty network average WHT rates).

The twenty haven indicators are chosen and designed in order to measure the intensity of a jurisdiction's potential to poach the tax base of others, as enshrined in its laws, regulations and documented administrative practices. The following criteria have been taken into account in shaping the indicators: measuring the risk for tax avoidance, base erosion and profit shifting, profit misalignment, and race to the bottom in corporate income taxation; reflecting impact on the policy space over the domestic tax mix⁷ of jurisdictions elsewhere; protecting source country taxation rights (Musgrave and Musgrave 1972; Brooks 2008); allowing robust and valid comparative research findings with the limited resources and data available; ensuring in-principle-compatibility of the indicators with unitary taxation and formulary apportionment (Langbein 1986; Sikka and Murphy 2015; Picciotto 2017; Cobham and Nelson 2019).

2.2 Global Scale Weight

The second component of the CTHI is the GSW defined as the share of each jurisdiction's foreign direct investment (FDI) on the total global amount of FDI. The GSW thus represents a measure of the volume at stake in each country when assessing the risks associated with it being a corporate tax haven. In this section we describe in detail how we construct the GSWs for the CTHI.

We source the data on FDI from the IMF's Coordinated Direct Investment Survey (CDIS) which includes bilateral data on FDI using the so-called directional approach which requires reporting data on both inward and outward FDI in contrast to only reporting on aggregate inward FDI stocks. An important advantage of the directional approach is that it allows the derivation of inward (outward) FDI positions even for countries that do not report that data in the survey, simply by summing the values of outward (inward) FDI that other countries report for relationships with the non-reporting countries. In the CDIS, variables constructed

⁷ Including on the tax mix of those democracies with the highest CIT, CGT and WHT rates.

in this way are called derived variables. We make use of this increased availability of data by using derived data where there is no reported data.

The CDIS⁸ contains a total of 137,483 bilateral observations of inward FDI stocks and 97,586 for outward FDI stocks, spanning over the time period 2008-2017 (IMF 2019). For stocks of inward FDI, we use the variable called “Inward Direct Investment Positions, US Dollars (IIW_BP6_USD)”, and for stocks of outward FDI, we use the variable “Outward Direct Investment Positions, US Dollars (IOW_BP6_USD)”. This data is recorded for the immediate counterpart economy; it thus does not capture information on the ultimate investor country. This means that some investment is counted multiple times in the data. For the purposes of the CTHI, this is an advantage, as we are interested also in investment that only flows through a jurisdiction, as these schemes can also be used to avoid corporate income taxation.

A total of sixty-four jurisdictions are considered in the CTHI, and we naturally need data on FDI for all these countries to be able to construct their GSWs and ultimately their final CTHI values. With a combination of reported and derived data, the CDIS covers all jurisdictions included in the CTHI.

To construct the GSW from IMF CDIS data, we proceed in four steps. First, for each bilateral (country-pair) relationship and separately for inward and outward data, we take the maximum of three values: reported FDI stock, derived FDI stock, and zero. We do this because the most likely explanation for different values of reported and derived data is under-reporting by the jurisdiction, as discussed in the CDIS Guide 2015. By using the higher of the two we aim to lower the risk of underreporting without running much risk of including values that are much higher than reality. If both the reported and the derived value is negative (twenty-three cases

⁸ The version of the CDIS that we use for the CTHI was accessed at <http://data.imf.org/CDIS> in January 2019.

for inward data and twenty-three cases for outward data), we use zero, since negative values would decrease the country's total sum of FDI stock. More formally, for each country i and partner jurisdiction j , we derive the inward and outward FDI positions as:

$$\text{inward FDI position}_{ij} = \max(\text{reported inward FDI}_{ij}, \text{derived inward FDI}_{ij}, 0)$$

$$\text{outward FDI position}_{ij} = \max(\text{reported outward FDI}_{ij}, \text{derived outward FDI}_{ij}, 0)$$

Second, using these FDI positions, we sum the value of all N bilateral FDI stock positions of each country to calculate the total global inward and outward FDI stock positions of country i as:

$$\text{inward FDI position}_i = \sum_{j=1}^N \text{inward FDI position}_{ij}$$

$$\text{outward FDI position}_i = \sum_{j=1}^N \text{outward FDI position}_{ij}$$

Third, for each country i , we calculate the arithmetic average of its inward and outward FDI stock as:

$$\text{average FDI position}_i = \frac{\text{inward FDI position}_i + \text{outward FDI position}_i}{2}$$

Fourth, for each country, we take the share of this averaged value on the global total of averaged values to derive the GSW of jurisdiction i as:

$$GSW_i = \frac{\text{average FDI position}_i}{\sum_{i=1}^M \text{average FDI position}_i}$$

where M is the number of jurisdictions for which data is available.

In total, data on average FDI position in 2017 is available for 245 jurisdictions, out of which sixty-four are included in the CTHI. We find that the sixty-four jurisdictions considered in

the CTHI together account for 84.9% of all global FDI. The United States has the largest recorded share of global FDI with 12.9%, followed by the Netherlands with 12.8% and Luxembourg with 10.5%.

3.3 Combining Haven Scores and Global Scale Weights

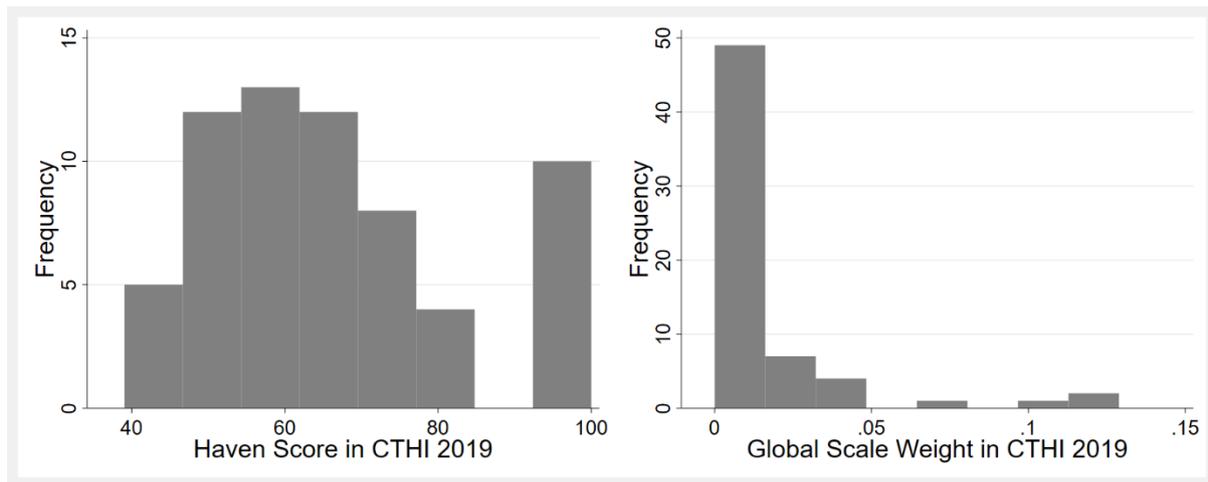
The final step in the creation of the CTHI is combining the GSWs with the HSs to generate a single number by which jurisdictions can be ranked, reflecting the potential global harm done by each jurisdiction. To construct the CTHI, we combine GSWs with Haven Scores using the following cube/cubed-root formula:

$$CTHI_i = (HS_i^3 * \sqrt[3]{GSW_i}) / 100$$

In constructing the CTHI, we choose this formula because it fits well the objective of the CTHI – to measure a jurisdiction’s contribution to the global problem of corporate tax havens while highlighting harmful regulations of tax havens. In particular, we prefer this formula mainly due to two of its essential characteristics.

First, the formula ensures that both of the components of the CTHI play an important role in the final CTHI value. Due to the different empirical distributions of the two variables, a simple multiplication formula would make the CTHI ranking over-reliant on GSW and only marginally reliant on HS. Figure 1 shows the histograms of the two distributions. We observe that the distribution of the GSW is heavily skewed to the left, leaving little space for the heterogeneity in haven scores to be reflected in a simple multiplicative formula. Indeed, using a simple multiplication, the correlation between GSWs and CTHI values is 0.967 (and only 0.129 between HSs and CTHI values). Cubing HSs and taking a cube root of GSWs ensures that the role of the two variables is more balanced – in our final CTHI, the correlation between CTHI values and GSW is 0.484 (and 0.686 between CTHI values and HS). In this way, the formula highlights the role of harmful regulations of tax havens.

Figure 1: Histograms of Haven Scores and Global Scale Weights of the CTHI



Source: Authors

The second main advantage of the cube/cubed-root formula is that it is consistent with the FSI. While there are other formulas which would also achieve the objective of highlighting harmful regulations of tax havens (and we have explored and carefully considered a number of such options), the cube/cubed-root formula ensures that the CTHI can be directly compared to the results of the FSI.

We proceed with one additional step to arrive at the final number that measures a jurisdiction’s contribution to the global problem of corporate tax havens. We take the share of each jurisdiction’s CTHI in the total sum of CTHI scores for all jurisdictions. Assuming that the sum of CTHI scores for all sixty-four jurisdictions can be considered as the total global contribution to the problem of corporate tax havens, the constructed shares will represent each jurisdiction’s contribution, in percentage terms, to the global problem of corporate tax havens. This contribution of jurisdiction i is thus defined as follows:

$$\text{Contribution to global tax havenry}_i = \frac{CTHI_i}{\sum_{j=1}^{64} CTHI_j} * 100\%$$

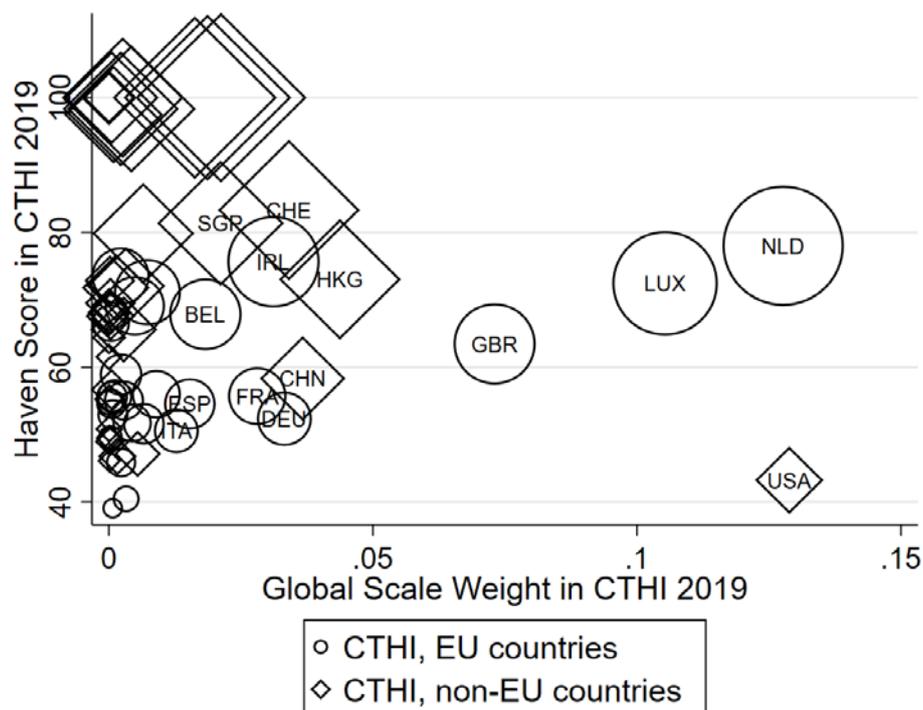
We present the results of the CTHI 2019 in four parts: HSs, GSWs, CTHI value, and contribution to the global problem of corporate tax havens. The full results for all sixty-four jurisdictions are reported in Annex A.

3 Data analysis and key findings⁹

3.1 Data analysis

The CTHI is a ranking of jurisdictions based on how much they contribute to the global problem of corporate tax havens. Figure 2 illustrates the patterns of HSs and GSWs that underpins the ranking. Note the preponderance of jurisdictions in the northwest of the diagram, with high haven scores but very low scale – a group we might label ‘unsuccessful procurers’. To the northeast of the figure we find a small number of states with major GSWs *and* high HSs: not the near-total haven aggressiveness of the northwest corner, but a much more globally significant due to the success in attracting multinational capital flows.

Figure 2: Haven Scores, Global Scale Weights, and the resulting CTHI values



⁹ This section draws on an already published report: (Tax Justice Network 2019b). The author and the publisher of the original article kindly gave their permission for reuse of parts of the text in this paper.

Source: Authors. Country names in ISO-3 codes. Size of circles represents the contribution to global tax havenry as expressed by the CTHI value, see the last column of Table 2.

The index reflects both haven aggressiveness and scale, including states in the northeast corner and northwest quadrant of Figure 2. Table 2 shows the results for the top fifteen corporate tax havens. The top ten jurisdictions alone are responsible for over half (52%) of the world’s corporate tax avoidance risks as measured by the CTHI. Over two fifths of global FDI¹⁰ reported by the IMF is booked in these ten countries, where the LACITs averaged 0.54%. The top three ranked jurisdictions are part of the British-controlled network of satellite jurisdictions to which the United Kingdom (UK) has outsourced some of its corporate tax havenry.

Table 2: Top fifteen CTHI jurisdictions

Rank	Country	Haven Score	Global Scale Weight (%)	CTHI	Contribution (%)
1	British Virgin Islands	100	2.12	2769.1	7.29
2	Bermuda	100	1.87	2653.0	6.98
3	Cayman Islands	100	1.63	2534.1	6.67
4	Netherlands	78	12.77	2390.9	6.29
5	Switzerland	83.3	3.41	1875.3	4.94
6	Luxembourg	72.4	10.53	1794.9	4.73
7	Jersey	98.3	0.43	1541.5	4.06
8	Singapore	81.4	2.12	1489.2	3.92
9	Bahamas	100	0.26	1377.8	3.63
10	Hong Kong	73	4.38	1372.4	3.61
11	Ireland	75.7	3.12	1363.4	3.59
12	United Arab Emirates	98.3	0.22	1244.8	3.28
13	United Kingdom	63.5	7.30	1067.9	2.81
14	Mauritius	79.8	0.65	950.1	2.50
15	Guernsey	97.5	0.09	890.8	2.35

Source: Authors

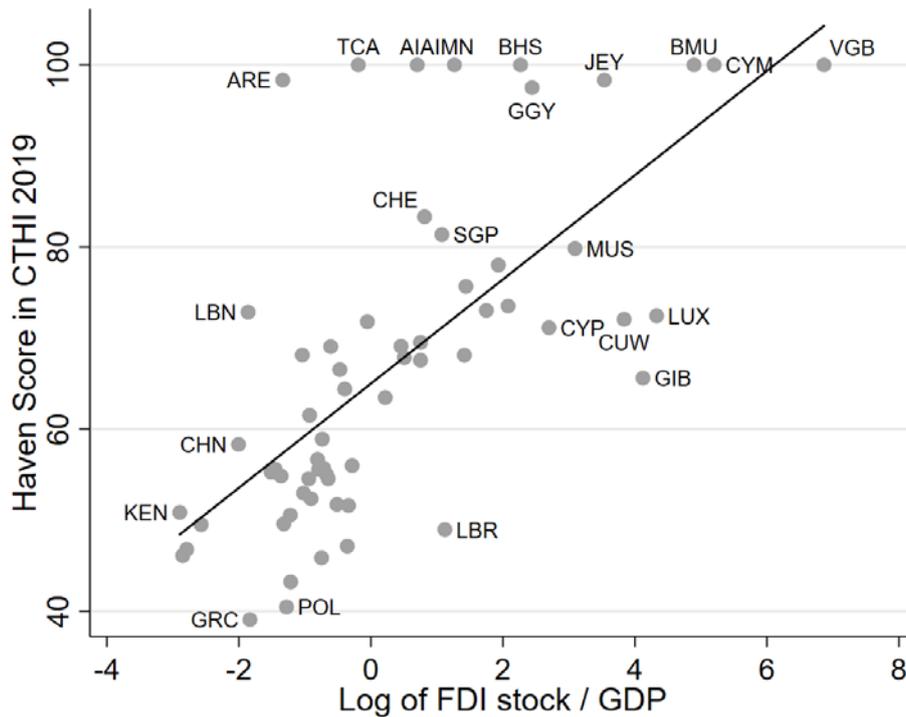
The leading jurisdictions pose a double threat to the international corporate tax system. First, the scale at which these jurisdictions have enabled corporate tax avoidance, in order to woo multinational corporations, has made other countries’ statutory corporate tax rates

¹⁰ We use foreign direct investment data from the IMF that are recorded for the immediate counterpart economy only, implying that we are not able to capture information on ultimate investor or host country, nor to capture round-tripping and other similar phenomena. On this topic, important new research by (Haberly 2020) demonstrates how much new methods and data combinations can add to our understanding of the global foreign direct investment distribution.

increasingly irrelevant in determining the effective tax rate on actual profits. Second, the jurisdictions are key players in promoting a ‘race to the bottom’ that further depletes tax revenues. Countries desperate to maintain or attract (genuine) foreign investment engage in the pursuit of a false ‘tax competitiveness’, and increase their complicity in corporate tax havenry. Figure 3 shows both the broad relationship between haven scores and the volume of FDI booked through each jurisdiction, but also that there can be large variations. Some very aggressive jurisdictions have largely failed to capture FDI; while at some levels of FDI intensity, jurisdictions covering almost the entire range of haven scores are observed. The picture is complicated by available FDI data being characterised by difficulties in distinguishing between genuine productive investment and the simple booking on paper of conduit investment.

The corporate tax avoidance risks and corrosive lose-lose outcomes documented by the new index illustrate that what is often referred to as ‘tax competition’ may be more aptly described as ‘tax war.’ The combination of eroded fiscal sovereignty, and pressure to exert remaining sovereignty in a downward direction only, is a potent threat.

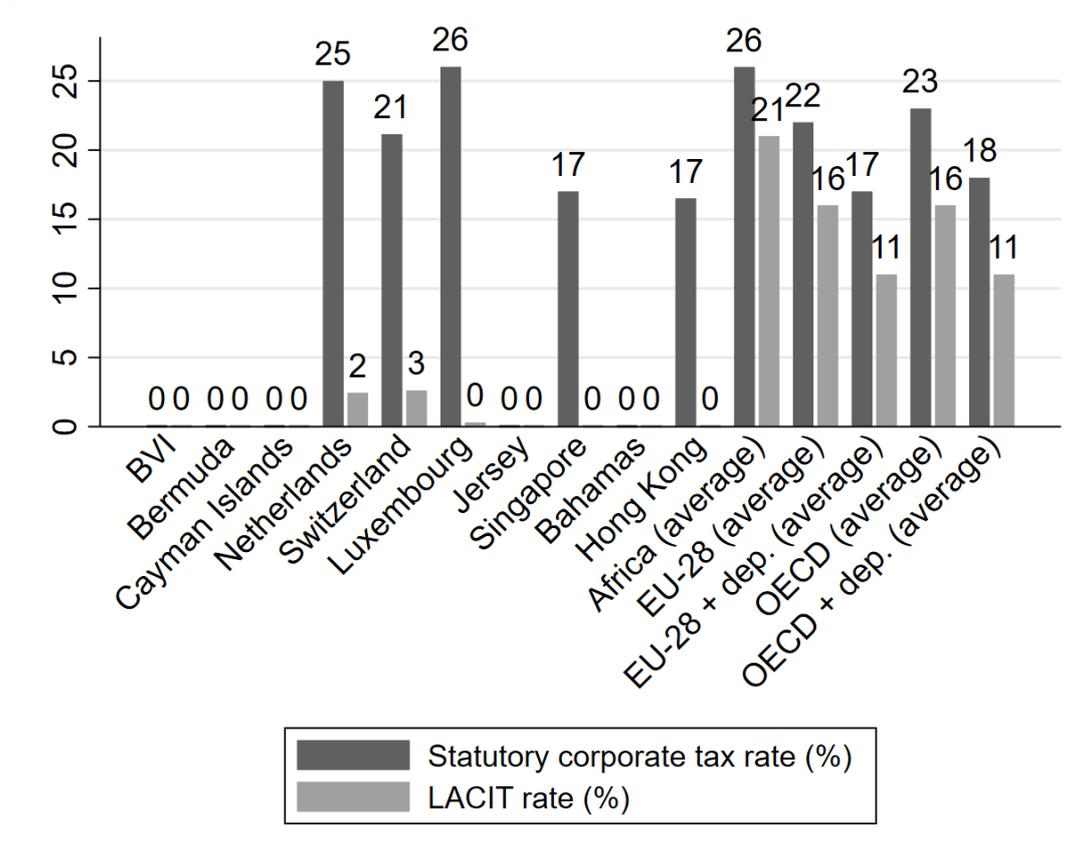
Figure 3: Haven Scores and volume of foreign direct investment



Source: Authors. Country names in ISO-3 codes. The relationship between Haven Scores and FDI/GDP is statistically significant at the 1% level.

Figure 4 highlights a particular result of the research: namely the pattern of discrepancies between statutory tax rates and the LACIT. The discrepancies range from zero, both for jurisdictions such as British Virgin Islands that openly advertise the absence of corporate tax and those strong performers on the index that do not seek to procure profit shifting; to the EU havens, which often exceed a discrepancy of 20% points due to the constructed divergence of their statutory rates and the largely hidden LACIT rates.

Figure 4: LACIT and discrepancy to statutory tax rates for top ten CTHI countries and regions



Source: Authors

In the remainder of this section, we explore the findings in respect of the UK’s dominant responsibility for corporate tax avoidance risks; and the colonial roots of many exploitative double tax treaties.

3.2 Key findings: UK role and responsibility

The CTHI documents a corrosive corporate tax war waged by the UK against the ordinary citizens of rich and poor countries through a network of satellite jurisdictions to which the UK has outsourced some of its corporate tax havenry. While the UK ranks thirteenth on the index, its Overseas Territories and Crown Dependencies dominate the top of index. The British Virgin Islands, Bermuda, the Cayman Islands and Jersey ranked first, second, third and seventh respectively. Bahamas, a British Commonwealth territory, ranks in ninth.

The UK with its corporate tax haven network is by far the world’s greatest enabler of corporate tax avoidance and has single-handedly done the most to break down the global

corporate tax system, accounting for over a third of the world's corporate tax avoidance risks as measured by the CTHI. That's four times more than the next greatest contributor of corporate tax avoidance risks, the Netherlands, which accounts for less than 7%.

Nearly 14% of foreign direct investment reported by the IMF – over \$6 trillion – is booked in the UK network, where the LACIT averaged 1.73%.

Of the ten jurisdictions whose tax systems received the highest corporate tax haven scores for enabling corporate tax avoidance, eight are part of the UK network: the British Virgin Islands, Bermuda, the Cayman Islands, the Isle of Man, Turks and Caicos, Anguilla, Jersey, and Guernsey.

3.3 Key findings: Double tax treaties – colonial roots

The CTHI has revealed an aggressive dispossession of low income countries' tax rights spearheaded by the United Arab Emirates, the UK and France. Out of all double tax treaties negotiated by jurisdictions ranked by the CTHI with low income and lower middle income countries, 75% secured reduced withholding tax rates from low- and lower middle income countries that were below the average withholding tax rates those countries offered. Thus, the reduced treaty withholding rates enabled those jurisdictions to strip away poorer countries' few defences against illicit financial flows. The double whammy of corporate tax avoidance risks and reduced withholding rates makes it incredibly difficult for low income countries to stop the syphoning of tax revenues from their economies.

Among OECD countries ranked by the CTHI, 72% of treaties negotiated with low- and lower-middle income countries secured reductions in withholding tax rates to below the average withholding tax rates offered by those low- and lower-middle income countries. Moreover, the OECD countries on average were 41% more aggressive towards low- and lower-middle income countries than were non-OECD countries.

Former colonial empires France and the UK are the most aggressive among OECD countries towards low- and lower-middle income countries. The reduced withholding tax rates that France negotiated with low- and lower-middle income countries were on average 8% points below the average withholding tax rates offered by those countries. The reduced withholding tax rates that the UK negotiated with low- and lower-middle income countries were on average 7% points below the average withholding tax rates offered by those countries. France secured the greatest average withholding tax reductions from Uzbekistan (18% points), Niger (15% points) and Togo (15% points) – whose combined GDP is 50 times poorer than that of France. The UK secured the greatest average withholding tax reductions from Ukraine (19% points), Myanmar (18% points) and Kosovo (16% points) – whose combined GDP is fourteen times poorer than that of the UK.

The United Arab Emirates and Mauritius are the most aggressive countries ranked by the CTHI towards African countries. The United Arab Emirates secured the greatest average withholding tax reductions from Mozambique (25% points), Kenya (24% points) and Sudan (2% points). Mauritius secured the greatest average withholding tax reductions from Senegal (35% points), the Republic of Congo (28% points) and Tunisia (25% points).

4 Conclusions

The evolution of debate on the international tax rules has focused attention on the now-agreed goal of reducing misalignment between the location of multinationals' real economic activity, and where their profits are declared for tax purposes. This, in turn, has contributed to greater clarity about the behaviour of jurisdictions in procuring profit shifting from one another, with the damage to tax sovereignty this implies. The CTHI builds on this clarity to construct a ranking, based on transparent and objectively verifiable criteria for the aggressiveness with which jurisdictions seek to procure profit shifting, and their importance in global FDI flows.

The combination of the two components allows the index to rank the overall risk that jurisdictions pose by promoting corporate tax abuse.

The construction of the index for its initial (2019) edition has generated a number of insights. Central to these is the idea of a new geography of profit shifting, characterised by three key facts. First, while the image of small islands as significant players is confirmed, they are joined by equally important havens among EU member states. Second, the global dominance of the UK network of secrecy jurisdictions that the FSI reveals, finds a parallel in the dominance of the UK's corporate tax abuse network. Third, we show that patterns of colonial exploitation remain central to the widespread existence of double tax treaties with former colonial powers that systematically disadvantage low- and lower-income countries.

The political implications of this new geography and the associated narrative shifts may eventually be powerful. At the level of the tax rules themselves, it seems likely that there will be a continuing growth of interest in unitary tax approaches and formulary apportionment, due in part to the relative simplicity of the proposal but also to the transparent way in which the approach can deliver greater alignment between multinationals' economic activity and taxable profits.

At the level of the global governance of tax, the index poses further problems for the OECD group of countries. The clearer becomes the role of major OECD members in driving the problem of profit shifting, the greater the pressure will be for policymaking to be fully opened up to lower-income countries. An crucial question will be whether the OECD is capable of delivering this opening itself – that is, whether leading OECD members are ultimately willing to cede some power in order to maintain the institution's preeminent role in providing a common basis for international tax rules. The most obvious alternatives, not mutually exclusive over different time periods, are for a splintering of the international rules into unilateralism, with the potential for substantial double taxation to emerge; and for a shift

to a policy forum in the United Nations, to provide the greater transparency and accountability that the OECD has thus far resisted.

A further question relates to the future role of data in the debate. The OECD planned publication of aggregate statistics on multinationals' country-by-country reporting may come to allow ongoing, direct scrutiny of misalignment. Moves to require publication of company-level country-by-country reporting, for example in legislative initiatives at the EU and also in soft law through the forthcoming tax standard of the Global Reporting Initiative, would further accelerate this scrutiny and likely policy responses. In addition, the CTHI may become established as a regular reminder of the distribution of responsibilities, the aggressiveness of individual jurisdictions in undermining their global neighbours, and indeed of the new geography of profit shifting.

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