State of Tax Justice 2025: Methodological note on estimating the scale of corporate tax abuse through US-headquartered multinationals

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1 Introduction

The State of Tax Justice 2025 reports that between 2016 and 2021, US multinationals shifted 24% of their profits to low-tax jurisdictions, making them responsible for US$495 billion in tax losses worldwide - 29% of total losses from corporate tax abuse. This methodological note describes the data and methods used to obtain these estimates. Because no new aggregate country by country reporting (CBCR) data has been published by the OECD as of November 3, 2025, the State of Tax Justice 2025 uses the same data as the State of Tax Justice 2024, which for the first time presented a six-year evolution of corporate tax abuse. The 2025 report builds on the 2024 results, focusing on the role of US-headquartered multinationals during this period. This methodological note comprises three sections: first, we discuss the data (Section 2); second, we describe the misalignment method (Section 3); and third, we outline the data's shortcomings and how we address them (Section 4).

2 Data

In the State of Tax Justice 2025 report, we analyse aggregate country by country reporting (CBCR) data of US-headquartered multinationals for the years 2016 to 2021 as published by the OECD in 2024. To estimate the scale of profit shifting, the State of Tax Justice measures misaligned profits, that is, reported profits that are misaligned with reported economic activity. CBCR data allow us to estimate such misalignment as it includes information on multinational enterprises' (MNEs) profits, taxes, and economic activity in jurisdictions where subsidiaries are located.

The OECD CBCR dataset was provided thanks to a CBCR regulation which stems from OECD Base Erosion and Profit Shifting (BEPS) Action 13 on CBCR. The regulation requires all large MNEs to report how much economic activity they have, how much profit they generate, and how much tax they pay in every individual country they operate in, including tax havens. The regulation impacts MNEs with consolidated group revenues of at least EUR 750 million, headquartered in any country which has adopted the CBCR

Table 1. Reporting countries in 2021

Argentina	Australia	Austria	Azerbaijan
Bahrain	Belgium	Bermuda	Brazil
Bulgaria	Canada	Cayman Islands	Chile
China	Czechia	Denmark	Finland
France	Germany	Greece	Hong Kong
Hungary	India	Indonesia	Ireland
Italy	Japan	Korea	Latvia
Lithuania	Luxembourg	Malaysia	Mauritius
Mexico	Morocco	Netherlands	New Zealand
Norway	Panama	Peru	Portugal
Romania	Saudi Arabia	Singapore	Slovenia
South Africa	Spain	Sweden	Switzerland
Türkiye	United Arab Em.	United Kingdom	United States

Source: Authors using OECD data (2024).

regulation. As the main data source for our analysis, we use the CBCR data for large MNEs published by the OECD within the fourth edition of the Corporate Tax Statistics. The data for 2021 contains information for 52 headquarters countries (see Table 1) and was published in 2024 (alongside the years 2016 to 2020).

The dataset provided by the OECD contains information on the activities of the multinational enterprises (MNEs) headquartered in up to 52 countries in 2021. The dataset has been increasing steadily, from 26 reporting countries in 2016 to 52 in 2021. However, not all countries report data truly country by country. Some countries only report variables for themselves and the "rest of the world", while some other countries only report variables for themselves and aggregated continents. The number of reporting countries with useful data are 39 in 2021, up from 19 in 2016. Table 1 lists the countries that are available in the dataset in 2021, Table 2 gives details about the development over the years and reporting quality.

Table 2. Evolution of the data quality over time and countries that do not truly report country by country

Year	Reporting countries	Reporting countries with useful data	Countries reporting only for themselves and "rest of the world"	Countries reporting only for themselves and aggregated continents
2016	26	19	Finland, Ireland, Korea, Netherlands	Austria, Norway, Sweden
2017	38	28	Finland, Ireland, Korea, Netherlands	Austria, Greece, Isle of Man, Norway, Sweden, UK
2018	46	36	Finland, Hungary, Ireland, Korea, New Zealand	Austria, Greece, Isle of Man, Sweden, UK
2019	50	36	Czechia, Hungary, Ireland, Macau, New Zealand	Austria, Finland, Greece, Korea, Isle of Man, Mauritius, Poland, Sweden, UK
2020	52	39	Czechia, Hungary, Ireland, Macau, New Zealand	Austria, Finland, Korea, Isle of Man, Mauritius, Poland, Sweden, UK
2021	52	39	Czechia, Hungary, Ireland, Macau, Morocco, New Zealand	Austria, Finland, Korea, Mauritius, Poland, Sweden, UK

Sources: Authors using OECD data (2024).

Existing research compared the US CBCR data with other sources and established a good correlation (Clausing, 2020; Garcia-Bernardo, Janský and Tørsløv, 2021). With the goal of estimating the global scale of profit shifting, including its impact on as many countries as possible, the CBCR data stands out in several respects:

The first major advantage of the OECD's CBCR data over other data sources is its substantial country coverage. This is especially relevant for low- and middle-income countries and for selected parts of the world. For example, CBCR data for US multinationals includes information on taxes and profits for 25 African countries, while the frequently used data from the Bureau of Economic Analysis of the United States Department of Commerce only covers three. CBCR data include data on large MNEs' profits and tax payments in, for example, up to 167 (Germany) and 150 (UAE) jurisdictions in 2021. The exceptional data coverage provided by the OECD's CBCR data thus enables us to collect

evidence of profit shifting for many countries with low and middle per capita incomes. The superior coverage is one reason why UNODC (2020) proposed to use this CBCR data for the Sustainable Development Goals indicator of illicit financial flows, likely in a similar way that we implement the profit misalignment method outlined below (Cobham and Janský, 2020).

Notwithstanding its better country coverage than other data sources, the OECD's CBCR data is far from complete. As shown in Table 3, in most reporting countries the OECD's CBCR data include significantly fewer reporting MNEs than expected based on Bureau van Dijk's Orbis ownership database. Interestingly, however, the number of MNEs in some jurisdictions—notably the Cayman Islands and Ireland—is higher in the CBCR data than in Orbis. This could reflect the limited transparency of Cayman- or Ireland-based MNEs, which may be undercovered in Orbis but still required to file country by country reporting (CBCR), and therefore appear in the CBCR data. For the United States, Orbis coverage is known to be weak (particularly for subsidiary-level information) so the CBCR data are considerably better, covering more than twice as many companies as Orbis.[1] The imperfect company coverage revealed in Table 3 indicates the degree of uncertainty surrounding our estimates. We hope for steady improvements in the OECD data to continuously enhance our estimates.

A second advantage of CBCR data is that profits and taxes are defined consistently with the concepts of corporate profits and taxes (with some limitations, in particular the potential double-counting of dividends, see below). By contrast, this is not the case with e.g. Bureau of Economic Analysis data where profits are imputed from a combination of net profits, intra-group dividends, interest paid, and other variables, as recently discussed by Garcia-Bernardo, Janský and Tørsløv (2021), Clausing (2020) and Blouin and Robinson (2020). Since CBCR data offers the best available information on MNEs' tax payments for many countries, it provides us with the first such dataset suitable for a high-quality cross-country comparison (for example, until now various proxies for

[1]For evidence on weak US coverage in Orbis, see Bajgar et al. (2019), who note that the coverage of subsidiary-level information for US firms is poor in Orbis. See also Criscuolo et al. (2020) on coverage and representativeness issues in Orbis across countries.

profits were used, e.g. by Haberly and Wójcik (2015), Bolwijn et al. (2018), or Damgaard et al. (2019)).

Table 3. Number of reporting companies expected (according to Orbis) versus observed in the CBCR data

Country	Expected (Orbis)	Observed (CBCR)	Ratio	Country	Expected (Orbis)	Observed (CBCR)	Ratio
Panama	185	2	92.81	Mexico	310	69	4.50
Hungary	204	5	40.82	Sweden	447	103	4.34
Lithuania	128	4	32.05	Austria	340	82	4.15
Romania	128	4	32.05	Australia	454	132	3.45
Slovenia	161	6	26.96	Spain	441	132	3.35
Saudi Arabia	323	18	17.95	Italy	455	142	3.21
Greece	289	19	15.23	India	476	151	3.16
New Zealand	283	19	14.91	Switzerland	415	138	3.01
Chile	334	32	10.44	Netherlands	451	165	2.74
Argentina	219	21	10.44	Luxembourg	340	147	2.32
Poland	314	31	10.15	Canada	487	220	2.22
Indonesia	252	27	9.36	South Korea	518	245	2.11
Finland	380	52	7.32	France	479	232	2.07
Peru	185	26	7.14	Hong Kong	337	167	2.02
Malaysia	378	60	6.31	United Kingdom	526	387	1.36
Norway	374	61	6.14	Germany	517	387	1.34
Belgium	346	58	5.98	Japan	623	861	0.72
Denmark	401	69	5.82	United States	666	1641	0.41
Bermuda	393	70	5.62	South Africa	394	1136	0.35
Singapore	372	79	4.71	Cayman Islands	473	1535	0.31
Brazil	376	81	4.65	Ireland	378	1505	0.25

Sources: Authors using OECD and Orbis data (2024).

Third, CBCR data are provided in two datasets: one for all large MNEs ("All Sub-Groups") and one for those large MNEs that reported positive profits in a given year in a given jurisdiction, excluding loss-making entities ("Sub-Groups with Positive Profit"). The latter is useful for estimating effective tax rates (ETRs), since it allows us to calculate ETRs without offsetting profits with losses. Using the positive-profits dataset avoids

mechanically understating aggregate profits (by including losses in the denominator) and thus avoids overstating ETRs (because taxes are typically paid by profit-making firms).

We use the all-MNEs dataset (including both profit- and loss-reporting entities) for the misalignment method, as it requires information on real economic activities regardless of profitability. Moreover, profit-making corporate groups may report losses in some jurisdictions - potentially as part of profit-shifting strategies - so these observations must be covered. The all-MNEs dataset is also more suitable for comparison with other sources (e.g., the Bureau of Economic Analysis).

While these advantages of CBCR data open new avenues for research, several challenges remain. First, profits may be double-counted due to intercompany dividends: MNEs are instructed not to double-count intercompany dividends in revenue, but early guidance was less explicit for profits. This potential double-counting should be reduced in the latest data with clearer OECD guidance and has been examined for US data by Horst and Curatolo (2020). We explicitly correct for double-counting of dividends (see Section 4.2) and exclude stateless income, another potential source of double-counting.

Second, as shown in Table 2, data for several reporting countries are available only at highly aggregated levels—either by continent or as a split between domestic and "Rest of the World." Even the more diligent reporting countries aggregate some partner jurisdictions into residual groups (e.g., "Other Africa" or "Other Europe"), and these groups are not defined consistently. Section 4.2 explains how we handle these issues.

Further limitations of the CBCR data (e.g., revenues unavailable according to the location of the final customer) are discussed by the OECD, which published the data with an "Important disclaimer regarding the limitations of the country by country report statistics", and by Garcia-Bernardo, Janský and Tørsløv (2021) and Clausing (2020).

3 Misalignment method: estimating the corporate tax abuse by multinational corporations

We estimate profit shifting based on profit misalignment. The misalignment method starts from the notion that profits should accrue where the economic activity takes place. Profit misalignment therefore measures shifted profits by the mismatch between reported profit (π) and theoretical profits (p), i.e. profits we would expect given the observed economic activity. We multiply shifted profits by the applicable corporate income tax rates (CITs) to obtain an estimate for tax revenue losses. The following section details our approach.

We start by **calculating theoretical profits**. In principle, a jurisdiction's theoretical profits can be estimated based on a combination of labour, capital, and revenue the MNE has in this jurisdiction. In the State of Tax Justice, we calculate theoretical profits by allocating 50% of the weight to employees (E), and 50% of the weight to wages (W). We base theoretical profits on employment-related variables as these are hard to manipulate and data quality is relatively high in the CBCR data. While the number of employees represents an estimate for the workforce located in a given country, the wage component accounts for potential differences in labour productivity. Alternative formulas, e.g., based on sales or assets or a combination of all factors, yield similar results.

Formally, for each country i in which MNEs from parent jurisdiction j operate, we calculate the theoretical profits j's MNEs generate in i as follows. Note that MNEs from parent jurisdiction j operate in countries $i = 1, i = 2, \ldots, i = I$.

$$p_{ij} = \left(\sum_{i=1}^{I} \pi_{ij} \right) \times \left(0.5 \times \frac{W_{ij}}{\sum_{i=1}^{I} W_{ij}} + 0.5 \times \frac{E_{ij}}{\sum_{i=1}^{I} E_{ij}} \right)$$

For instance, if 10% of Indian MNEs' employees were located in Bangladesh and 10% of Indian MNEs' payroll was paid in Bangladesh, theoretical profits in Bangladesh should be 10% of all profits generated by Indian MNEs. Importantly, since MNEs can report zero or negative profits in a country with the goal of avoiding taxes, we use the data on all sub-groups for this calculation.

In a second step, we estimate **tax-induced profit shifting** on a bilateral level. Profit shifted into country i or out of country i by MNEs from parent jurisdiction j (S_{ij}) is calculated as the difference between profits reported by MNEs from parent jurisdiction j in country i (π_{ij}) and theoretical profits in that country (p_{ij}):

$$S_{ij} = \pi_{ij} - p_{ij}$$

S_{ij} is negative if less profits are reported in country i than we would expect, given the economic activity. A negative S_{ij} thus indicates that profit is shifted out of jurisdiction i. S_{ij} is positive if more profits are reported in country i than we would expect, given the economic activity. A positive S_{ij} thus indicates that profit is shifted into jurisdiction i.

As we only aim to capture misaligned profits which are due to tax considerations, we set S_{ij} to zero whenever the ETR of the destination country of shifted profits is higher than 15%. We thereby assume that MNEs only engage in tax-induced profit shifting if they can realize an ETR below 15% in the destination of profit shifting.

In a third step, we **obtain the total profit shifted into and/or out of a country**. We aggregate all misalignment estimates of country i, i.e. misalignment generated by MNEs from all parent jurisdictions $j = 1, j = 2, \ldots, j = J$ that report activity in country i. We do so separately for positive and negative misalignment values to allow for the possibility that a country might suffer from profit shifting but act as a destination for shifted profits at the same time. Total profit shifting estimates for jurisdiction i are consequently calculated as:

$$\text{Profit shifted out of country}_i = \sum_{j=1}^{J} S_{ij}^{-}$$

$$\text{Profit shifted into country}_i = \sum_{j=1}^{J} S_{ij}^{+}$$

In a final step, we **translate profits shifted into or out of a country into tax revenue losses**. We calculate tax revenue losses suffered by country i by multiplying profits shifted out of the country by the country's CIT.

$$\text{Tax loss incurred}_i = \text{Profit shifted out of country}_i \times \text{CIT}_i$$

Conversely, we calculate tax revenue losses inflicted on other countries by multiplying profits shifted to country i by the average CIT of those countries that these profits are shifted away from. In particular, we calculate the average $(CIT)_j$ by taking the weighted average of the CITs of all countries experiencing outward profit shifting by MNEs from parent jurisdiction j, weighted by each source country's amount of outward-shifted profit attributable to parent jurisdiction j:

$$\text{Tax loss inflicted}_i = \sum_{j=1}^{J} S_{ij}^{+} \times \text{CIT}_j$$

We use statutory rates, rather than ETRs, to calculate losses as countries have actively decided that corporates should pay these rates, in the best case as a result of a democratic process. As such,these are the rates that should be applied to profits by MNEs who choose to operate in the country.

In the State of Tax Justice 2025, we perform several analyses for US multinationals only, i.e. limiting our dataset to multinationals from parent country $j = USA$.

4 Accounting for shortcomings of the OECD's CBCR data

As outlined previously, the OECD's aggregated CBCR data come with a number of shortcomings. To obtain the most reliable estimates possible, we diligently clean the data. In what follows, we first describe our approach to correct for the double-counting of dividends. We then explain how we deal with aggregated country groups and missing data.

4.1 Correcting for the double-counting of dividends

CBCR data can double-count profits when intra-group (intra-company) dividends flowing across subsidiaries are included in profit. We apply a highly conservative correction separately to domestic and foreign operations of MNEs. The correction is applied to the "All Sub-Groups" dataset (where total profits are positive) and to the "Sub-Groups with Positive Profit" dataset. From 2020 onward, OECD guidance clarifies how to treat intra-group dividends: amounts that are treated as dividends in the payer's jurisdiction should be excluded from "profit (loss) before income tax."[2] Accordingly, we assume the issue is largely addressed for 2020 and 2021.

We correct the domestic profits of multinational corporations based on reports provided by the governments and, when such reports are unavailable, based on the academic literature. In particular, we remove 60.69% of domestic profits for Sweden and 50% of domestic profits for Italy based on the analyses published by the two countries.[3] For the Netherlands and the United Kingdom, we use the adjusted values that the countries publish.[4] We correct the data for the United States (where 74% of domestic profits are double-counted) based on the analysis by Garcia-Bernardo, Janský and Zucman (2021). For Belgium, Isle of Man and Singapore, countries with very low ETRs, we remove 50% of all domestic profits. For all other countries, we remove 35% of domestic profits, except for Mexico and Slovenia, where double-counting does not seem to be an issue since domestic ETRs are higher than foreign ETRs and except for Ireland, the Cayman Islands, and Luxembourg, where total profits are negative in 2018.

We correct the foreign operations of multinational corporations using the analysis by Garcia-Bernardo, Janský and Zucman (2021) on US multinational corporations, reducing foreign profits by 39%. For tax havens, we remove 10% of foreign profits.

As a result of our correction, the effective tax rates faced by foreign multinational corporations in a country are similar to the effective tax rates faced by domestic multina-

[2]See OECD/G20 Inclusive Framework on BEPS (2019), updated November 2019; the OECD notes this treatment should apply for fiscal years commencing on or after 1 January 2020, with earlier adoption encouraged.

[3]See Sweden and Italy.

[4]See Netherlands and United Kingdom.

tional corporations. This is not the case in the original data, where domestic ETRs are consistently smaller than foreign ETRs, indicating that our correction is useful.

4.2 Dealing with aggregated country groups

The second limitation is incomplete geographic detail. Many jurisdictions report only a split between domestic and foreign activity, or between domestic activity and broad regional groups (see Table 2). Even among diligent reporters, substantial portions of partner countries are bundled into residual categories (e.g., "Other Africa" or "Other Europe"), and the grouping criteria differ across reporters. Simply discarding these grouped observations would remove a sizable share of activity and bias our estimates downward by understating the extent of profit shifting.

To address this, we impute country-level detail for less-granular reporters using information from jurisdictions that publish fully disaggregated CBCR data. First, we estimate shifted profits and tax losses using the set of more-granular (diligent) reporters. Next, for each less-granular reporter, we distribute its reported totals for employment, wages, profits, and taxes across partner countries in proportion to the average country shares observed among comparable diligent reporters, and then recompute misalignment on the imputed split. This procedure preserves each reporter's published aggregates while aligning their geographic distribution with a benchmark derived from fully reporting MNEs.

4.3 Estimating a global number accounting for countries that do not report at all

The third limitation of the OECD's CBCR data concerns non-reporting by some countries—especially those with many headquarters MNEs, such as Russia. There is no way to overcome this limitation without making strong assumptions about the number and behavior of MNEs in non-reporting countries. This concern is largely irrelevant for the State of Tax Justice 2025, where we focus on US MNEs. In the State of Tax Justice 2024, we aimed to provide a global estimate and therefore reported a scaled-up figure for global

corporate tax abuse—without assigning the additional amount to specific countries losing revenues.

Our reasoning was as follows. The CBCR data cover a substantial share of the world's MNEs. In 2021 there were about 10,000 multinationals, of which CBCR covered roughly 7,600. In short, CBCR covered 76% of all MNEs, leaving 24% uncovered in 2021. We assume that uncovered MNEs behave like covered MNEs. Hence, we scale up the 2021 aggregate by a factor of $1 + 0.24$ (equivalently, divide by 0.76) to obtain a total estimate for profit shifting. We then work backward to infer how many MNEs are uncounted in each prior year, assuming that the number of MNEs grows at the same rate observed among the initial reporters. For example, if countries that began reporting in 2016 show a 3% increase in the number of MNEs they report, we assume a similar global increase. This yields an estimate of the number of MNEs not covered by CBCR and allows us to scale the aggregate data accordingly.

5 Conclusion

This methodological note has outlined the approach used to estimate corporate tax abuse by multinational corporations as presented in the State of Tax Justice 2025 and the State of Tax Justice 2024. Based on the OECD's aggregate CBCR data, we have provided insights into profit misalignment and the resulting tax revenue losses across countries. While the CBCR dataset offers unprecedented coverage and consistency, we have highlighted key limitations, including issues of data aggregation, double-counting, and incomplete reporting. These challenges require careful adjustments and robustness checks to ensure the reliability of our estimates.

Our methodology - grounded in the allocation of theoretical profits based on real economic activity - enables us to detect profit shifting patterns and quantify tax losses with greater accuracy than previously possible. This evidence is critical for policymakers, particularly in low- and middle-income countries, as they seek to address the economic and social harms caused by corporate tax abuse.

Despite its imperfections, the CBCR dataset remains an important tool for enhancing transparency and accountability in global taxation. As the quality and scope of this data improve, so too will our ability to refine these estimates. Future work will focus on integrating additional data sources and refining the methodologies to account for new challenges, further supporting the global effort to curb tax avoidance and promote fairer tax systems.

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