Methodological note: State of Tax Justice 2021

Tax Justice Network, November 2021

The purpose of this methodological note is to describe the methodology of new estimates of corporate tax abuse of multinational corporations and of offshore wealth tax abuse by private individuals, as presented in the State of Tax Justice 2021 report published by the Tax Justice Network in November 2021.

1 Corporate tax abuse by multinational corporations (Chapter 2 of the report)

We analyze the country-by-country reporting (CBCR) data published by the OECD on the activities of the multinational corporations headquartered in 38 countries (see Table 1.1). We use these data to measure misaligned profits (high profits in jurisdictions with low economic activity). We then filled data gaps using state-of-the-art machine learning algorithms using a large variety of data sources (e.g. bilateral FDI, corporate tax rates, bank deposits, distance between countries), assessing the robustness of our results.[1]

Table 1.1: Countries reporting some CBCR data (see the disaggregation in Table 1.2)

Argentina	China (People's Republic of)	Ireland	Mexico	South Africa
Australia	Denmark	Isle of Man	Netherlands	Spain
Austria	Finland	Italy	Norway	Sweden
Belgium	France	Japan	Peru	Switzerland
Bermuda	Germany	Korea	Poland	United Kingdom
Brazil	Greece	Latvia	Romania	United States
Canada	India	Luxembourg	Singapore	
Chile	Indonesia	Malaysia	Slovenia	

1.1 Data

The methodology exploits country by country reporting (CBCR) datasets which include information on MNCs which only became available recently and which is of heretofore unprecedented quality. The dataset was provided thanks to a CBCR regulation which stems from OECD Base Erosion and Profit Shifting (BEPS) Action 13 on CBCR and which requires all large MNCs to report how much tax they pay in individual countries, including tax havens. The regulation impacts MNCs with consolidated group revenues of at least EUR 750 million, headquartered in any country which has adopted the CBCR regulation. As the main data

[1] This methodology note is based on the working paper ``Profit Shifting by Multinational Corporations Worldwide: Evidence from Country by Country Reporting" by Javier Garcia-Bernardo and Petr Janský (version 2021/03/01, available at https://www.ictd.ac/publication/profit-shifting-multinational-corporations-worldwide/).

source for our analysis, we use the 2017 OECD CBCR data for large MNCs published by OECD for numerous headquarter countries in July 2021. Importantly, existing research compared these US CBCR data with other sources (Clausing 2020a; Garcia-Bernardo, Janský, and Tørsløv forthcoming) and established a good correlation between various types of data sources. Moreover, the CBCR data is outstanding in several dimensions.

First, one of the most obvious advantages of CBCR data over other data sources is its much more substantial country coverage. This is especially relevant for low- and middle-income countries and for selected parts of the world. For example, US CBCR data 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 includes data on large MNCs' profits and tax payments in, for example, up to 164 (India) and 200 (Japan) jurisdictions in the full data set – 135 and 185 jurisdictions respectively for the data set limited to firms with positive profits (the two data sets are discussed below). The exceptional data coverage provided by CBCR data thus enables us to collect evidence of profit shifting for many countries with low and middle per capita incomes. And this country coverage is one reason why UNODC and UNCTAD (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).

Second, CBCR ensures that profits and taxes are defined consistently with the concepts of corporate profits and taxes. 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 (Blouin and Robinson 2020; Garcia-Bernardo, Janský, and Tørsløv 2021; Clausing 2020a; 2020b). Since CBCR data offers the best available information on MNCs' tax payments for many countries, it thus provides us with the first such dataset suitable for a high-quality cross-country comparison (for example, until now various proxies for profits were used, e.g. by Haberly and Wójcik (2015), Bolwijn, Casella, and Rigo (2018) or Damgaard, Elkjaer, and Johannesen (2019).

Third, CBCR data are provided in two separate data sets, for all large MNCs ("All Sub-Groups") as well as for those large MNCs that have positive profits and so not losses ("Sub-Groups with Positive Profit"). To estimate ETRs we prefer to use the data set for MNCs that have positive profits only, at the expense of a decrease in country coverage. By using the data with positive profits only, we avoid offsetting firms with losses and firms with profits and we can thus estimate ETRs more precisely. By contrast, data sets which include both profits and losses likely understate profits (since losses are included) and overstate ETRs (since taxes are paid by companies earning profits, typically, though losses are also included in the denominator). We use this data set with all large MNCs for the misalignment method since for these purposes we prefer to have information on real economic activities of MNCs regardless of whether these MNCs are profit- or loss-making. It is also more suitable for comparison with other datasets (e.g. from the Bureau of Economic

Analysis). Furthermore, unfortunately both data sets might be affected by a practice where MNCs prefer to report losses in countries with high taxes while locating their profits in countries with low taxes.

While the substantial country coverage as well as the other advantages of CBCR data open new avenues for research, at least two challenges associated with the new data source remain. First, unfortunately a certain extent of double counting in profit due to intercompany dividends is likely inevitable as MNCs are instructed not to double count intercompany dividends in revenue but not so explicitly in profit. This potential double counting has been explored recently for US data by Horst and Curatolo (2020). We correct explicitly for double counting of dividends, and exclude stateless income, another potential source of double counting.

Table 1.2: Number of jurisdictions available per country (aggregates excluded). Jurisdictions with 1 observation only report on domestic activities of MNCs

	JPN	IND	DEU	USA	ZAF	CHN	CHE	ESP	DNK	ITA
All sub-groups	200	164	161	147	139	125	122	120	115	110
Sub-groups with positive profits	185	135	158	99	115	92	121	80	115	81
	BMU	MEX	LUX	FRA	AUS	IDN	BRA	MYS	SGP	BEL
All sub-groups	101	97	92	90	82	43	43	36	29	21
Sub-groups with positive profits	69	61	91	40	57	31	31	27	38	21
	PER	ARG	CAN	LVA	CHL	GBR	SWE	ROU	SVN	IMN
All sub-groups	20	19	16	14	10	7	7	7	7	7
Sub-groups with positive profits	12	15	16	0	10	6	7	7	6	7
	GRC	AUT	NOR	POL	NLD	FIN	KOR	IRL		
All sub-groups	6	6	6	5	2	2	2	2		
Sub-groups with positive profits	6	5	6	0	2	2	2	2		

We focus on the remaining challenges posed by this data in section 1.3, where we empirically deal with three additional issues: the lack of completeness in the data of reporting countries, the varying combinations of countries in the aggregated country categories and the lack of reporting by some countries. Other 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 (2020a).

1.2 Misalignment method

We estimate a profit misalignment method, which typically starts from a given relationship between real profit (p) and a combination of labour (measured using wages and employees), capital (often approximated with tangible assets) and revenue. Profit misalignment is then calculated as the difference between reported profits (π) and theoretical profits (p). In our version of this method, we allocate 50% of the weight to employees, and 50% of the weight to wages. The results under alternative formulas are discussed in section 1.5.3.

$$\frac{\widehat{p_i}}{\sum_i \widehat{p_i}} = R_i \cdot \sum_i \pi_i$$

Importantly, since MNCs can report zero or negative profits in a country in order to avoid taxes, we use the data on all sub-groups. The ETRs (used to calculate tax revenue losses) are still calculated from the data on sub-groups with positive profit. For observations which were available in the data on all sub-groups but not in the data on sub-groups with positive profit we used the average country ETR if available and the statutory corporate income tax rate otherwise.

Profit shifting is calculated as the difference between booked profits and estimated profits:

$$\widehat{S_i} = \pi_i - \widehat{p_i}$$

In this case $\sum \widehat{S_i} = 0$ and $\Delta P_i = \widehat{S_i}$. However, we add one extra constraint. The profit misalignment of all foreign observations (pairs of reporting and investment countries where reporting and investment countries differ) with a tax rate higher than 15% was set to zero since we assumed that an MNC would not shift profits to a country with a tax rate over 15%. This corrects for extreme outliers such as high profits of Bermudian companies in Peru and high profits of MNCs in resource-rich countries.

1.3 Removing double counting of dividends

In the first step we analyse the double-counting of profits in the data. Country by country reporting data double-count profits as a number of companies include tax-exempt dividends flowing across subsidiaries as profit. We use a highly conservative correction, and apply it independently to the domestic operations and foreign operations of multinational corporations. We correct the domestic profits of multinational corporations using the reports provided by the governments. Sweden (where 52 per cent of profits are double counted), the United Kingdom (51 per cent), Italy (35 per cent), and the Netherlands (16 per cent) provide their own analysis. Moreover, we use the analysis by Garcia-Bernardo, Jansky & Zucman2 to correct the data for the United States (44 per cent of profits are double counted). For Belgium, Singapore, Isle of Man and Singapore we remove 50 per cent of the profits. For all other countries we remove 35 per cent of the profits, except Mexico and Slovenia, where double-counting does not seem to be an issue.

We correct the foreign operations of multinational corporations using the analysis by Garcia-Bernardo, Jansky & Zucman on US multinational corporations. There, the authors find that 10 per cent of profits in tax havens are double-counted. We thus remove 10 per cent of foreign profits in all tax havens. 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 multinational corporations, something that is not the case in the original data.

[2] (Garcia-Bernardo, Janský, and Zucman 2021)

As a result of our correction, the ETRs faced by foreign MNCs in a country are more similar to the ETRs faced by domestic MNCs (Figure 1.1).

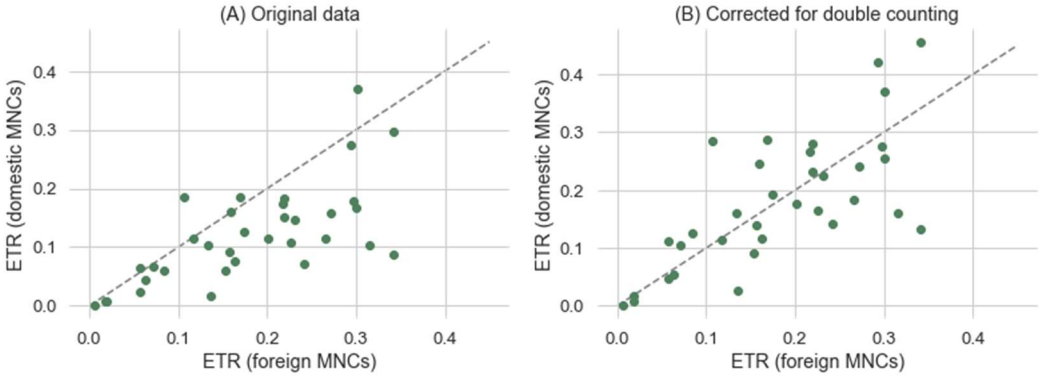


Figure 1.1 Effective tax rate for domestic and foreign multinational in the (A) original data (B) corrected data. Each point corresponds to a different reporting country.

1.4 Estimating missing data

The most important limitation of studies on profit shifting has been a lack of data completeness. We address by comparing the number of companies expected in the data (according to Orbis) with the number of companies reported in CBCR (Table 1.4). While the availability of CBCR data constitutes a significant step forward and partially corrects this issue, as discussed in Section 1.1, two limitations remain to be addressed.

Table 1.4: Number of companies expected (according to Orbis) versus observed in the CBCR data

Country	# Expected (Orbis)	# Observed (CBCR)	Ratio	Country	# Expected (Orbis)	# Observed (CBCR)	Ratio
China	538	264	2.04	Canada	153	210	0.73
Malaysia	41	34	1.21	Romania	2	3	0.67
Bermuda	49	48	1.02	France	139	209	0.67
South Korea	221	221	1.00	Norway	39	59	0.66
South Africa	50	51	0.98	Netherlands	99	157	0.63
Sweden	94	102	0.92	United Kingdom	244	394	0.62
Japan	785	866	0.91	Singapore	38	63	0.60
Switzerland	64	71	0.90	Germany	220	379	0.58
United States	1334	1487	0.90	Poland	19	33	0.58
Denmark	54	64	0.84	Peru	4	7	0.57
Australia	103	125	0.82	Belgium	28	55	0.51
India	134	165	0.81	Slovenia	3	6	0.50
Italy	104	129	0.81	Brazil	40	84	0.48
Chile	24	30	0.80	Argentina	6	15	0.40
Finland	42	53	0.79	Austria	26	71	0.37
Greece	14	19	0.74	Indonesia	9	27	0.33

Spain	88	120	0.73	Mexico	18	69	0.26
Ireland	41	56	0.73	Luxembourg	26	129	0.20

The first limitation concerns the combinations of countries in aggregated categories (e.g. Other Africa, Europe). The aggregation criterion is different for different countries. While India and South Africa do not seem to aggregate data, the United States aggregates countries with a low number of reporting MNCs. This is problematic as aggregation affects particularly low- and middle-income countries and low tax jurisdictions. For instance, only three countries report information on Zambia and only two countries report on the Isle of Man. The other countries aggregate information on Zambia and the Isle of Man in larger categories such as Other Africa and Other Europe. If we decided to ignore these grouped data, we would be missing a significant part of the operations in those countries, leading to an underestimation of the extent of profit shifting.

We address these biases by modelling the location of employees and sales for each pair of countries using the Histogram-based Gradient Boosting Regression Tree, a type of gradient boosting based on decision trees which frequently outperforms other machine learning algorithms while offering some interpretability on the most relevant variables (Ke et al. 2017; Friedman 2001). Specifically, we use the Python implementation in scikit-learn (Pedregosa et al. 2011). Another of its advantages is that it offers native support for missing values, and as such is able to use the full available information without data imputation. We train the location of profits, employees and sales using variables from the gravity data set of CEPII, imports and exports from UN Comtrade, and foreign direct investment from the World Bank as well as from other sources. We obtain a median out-of-sample R-square of 0.60, 0.44 and 0.49 respectively for employees, sales and profits.

We use the model to estimate the total number of employees and unrelated party sales for each pair of countries in the world. For reporting countries, we then adjust the estimated values so their sum corresponds to the aggregated sum in CBCR. Let us demonstrate using the following model scenario: French MNCs have 10,000 employees in Other America, and Other America comprises Paraguay and Suriname – we can establish this by checking which countries are missing from the CBCR data of France. If our model estimates 6,000 employees in Paraguay and 5,000 employees in Suriname, we multiply the employees of those countries by 10,000 and 11,000 respectively. For each country, we compare the sums of those estimated values with values observed in the CBCR data. We then use the lowest of the two ratios (estimated vs reported employees and sales) to adjust the profits shifted in order to correct for the combination of small countries in aggregated groups. While this step typically increases total shifted profits by approximately 20%, it is key with respect to accounting for missing data in countries underrepresented in the sample, i.e. typically low- and middle-income countries. Without this step, we would redistribute too few profits to those countries.

The third limitation concerns the lack of reporting by some countries. This is partially addressed in the previous step, where financial information for all pairs of countries is estimated even for non-reporting countries. However, domestic information is important, especially for large countries. This is addressed by

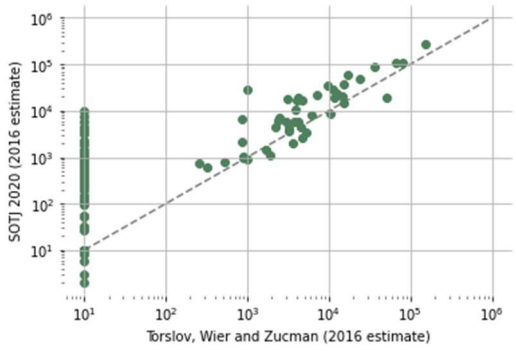
estimating the number of domestic employees and revenue for all non-reporting countries. We do so by using a linear model based on the number of expected companies in each country, its GDP, population, the ETRs and the total consolidated banking claims on an immediate counterparty basis (Table B4 of the BIS data) (R-square 0.96, 0.93 respectively for employees and sales. We only use this information to redistribute profits back to the home countries but not to calculate profit shifted. This is a conservative strategy since domestic profits of companies in non-reporting countries with low tax rates (e.g. the British Virgin Islands) are not counted towards the estimate.

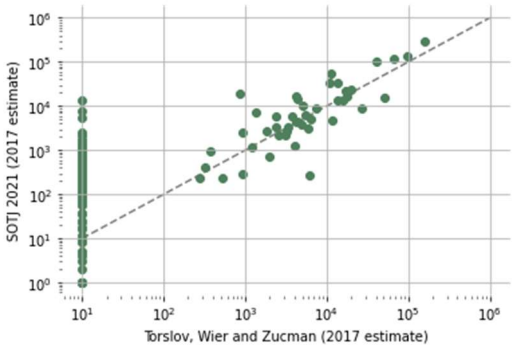
Finally, we assess our results' sensitivity to the estimation of missing information. To do so, we train the models 1,000 times using bootstrapped samples of the data (i.e. the gradient boosting ensemble to address the second limitation and the linear regression to address the third limitation) and record the impact in our results. Since the sampling randomly removes information, samples without important dyads (e.g. USA–Netherlands, or China–Hong Kong) will be heavily affected. We thus offer a conservative strategy allowing us to partially understand how our results depend on methodological choices. In the end, we use the median value for our point estimates.

1.5 Robustness tests

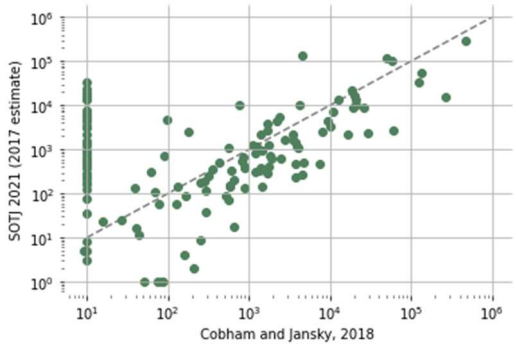
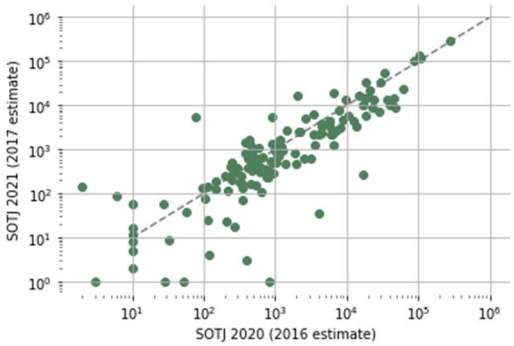
1.5.1 Comparison of SoTJ to other estimates

In this section we compare the SoTJ estimates with other existing estimates of the scale of corporate tax abuse. Missing countries are set in the vertical line at $10. Note that the presence of countries on the vertical line at zero implies that the coverage of the SoTJ is much higher than the other existing studies.

<table>
<tr>
<td>2016 estimates (Torslov, Wier and Zucman (2018) vs SoTJ 2020)
 

Close relationship, a bit higher in SoTJ 2020</td>
<td>2017 estimates (Torslov, Wier and Zucman (2018) vs SoTJ 2021)
 

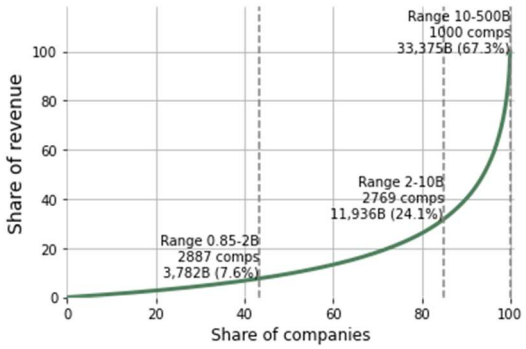
Even closer match</td>
</tr>
<tr>
<td>Cobham & Jansky (2018) vs SoTJ 2021</td>
<td>SoTJ 2020 vs SoTJ 2021</td>
</tr>
</table>

	
Higher estimates for long-run costs	Higher estimates of profit shifting in SoTJ 2020, this has to do mainly with the double-counting of dividends.

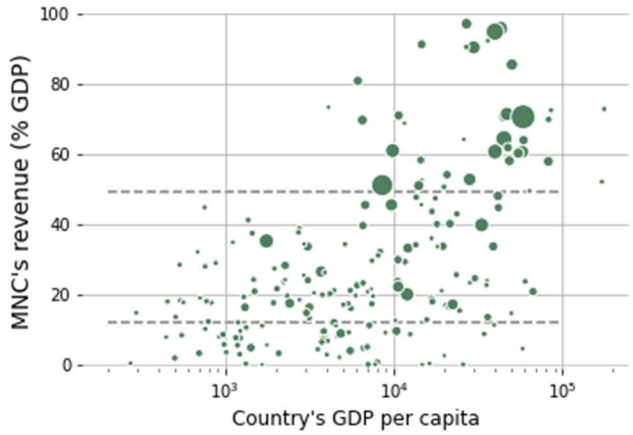
The full comparison can be found in the file comparison_estimates.xlsx (LINK TBA).

1.5.2 Extrapolation to include also small MNCs

The majority of the revenue and profits are created by the largest MNCs globally (see Figure below). Companies with revenues over $10 billion account for 67% of all revenue of MNCs included in CBCR data.



This indicates that we can create accurate global estimates of tax avoidance. However, large MNCs are especially prevalent in richer countries. The figure below shows that the revenue of MNCs included in CBCR is equivalent to 60—100% of the GDP of rich countries, while only 0—30% of the GDP of developing countries. This is expected, since small companies have a higher presence in developing countries.



We could try to estimate the contribution of companies missing in CBCR by assuming that the revenue of companies/ is approximated equal to 100% the GDP of the country3. This approach can be tested in countries with extremely good data quality in Orbis (Norway and Sweden). In these countries, large MNCs (those with turnovers over 850 million) account for 60% of all revenues. The GDP approach gives values of 58% and 60%.

The results of the GDP value can be found in the file extrapolate_small_mncs.xslx (LINK TBA).

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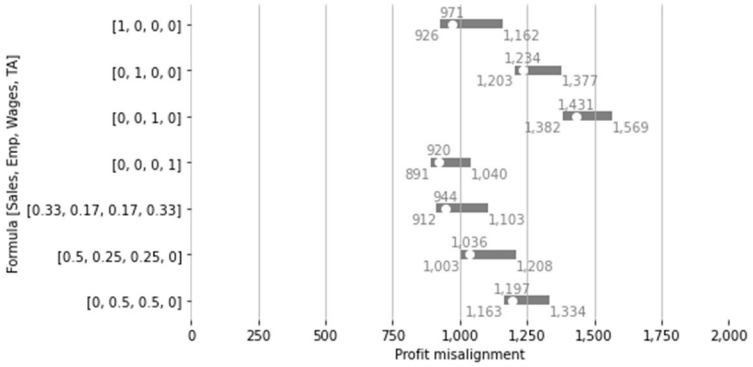
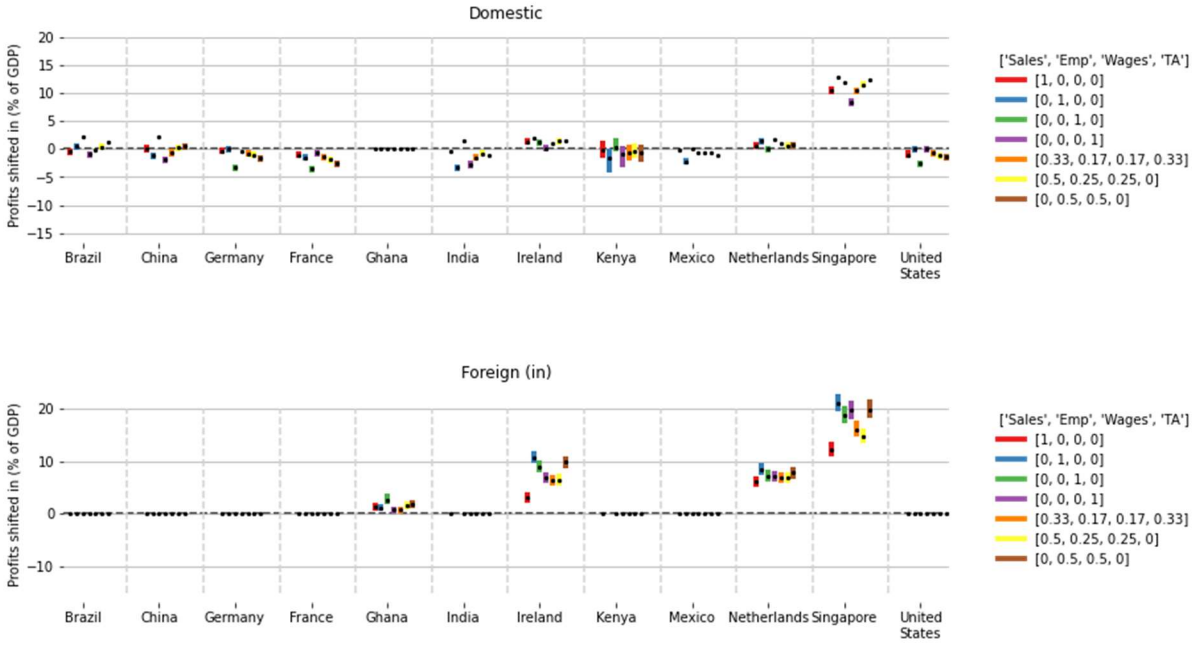
[3] Note that the GDP is similar to the value added in the country, approximately equal to profits + wages, or operating revenue – material costs. If the material costs are paid to domestic companies, the value of GDP is expected to be similar to the operating revenue of all companies in the country.

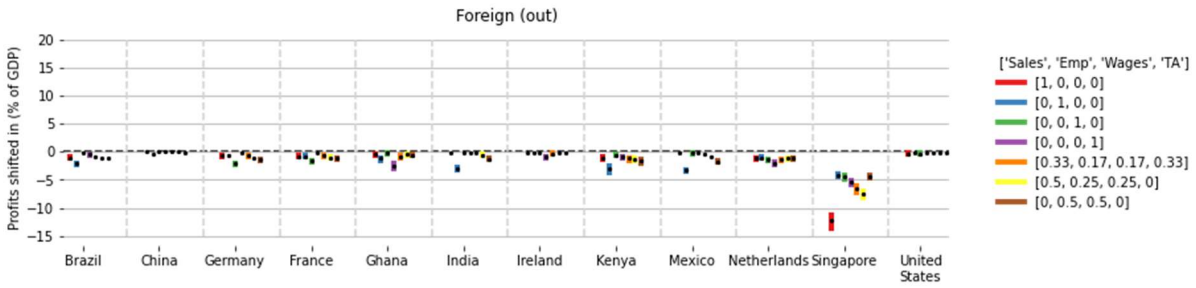
1.5.3 Using different formulas to calculate profit shifting

Finally, we analyze to what extent our formula to calculate profit misalignment (based on 50% employees and 50% wages) affects the results. The global profit shifting with our formula is 1,197B, a medium estimate compared with other formulas (figure below).



Our formula has also a small influence in the estimation of profit shifting at the country level for domestic operations of MNCs, foreign MNCs shifting profits in, and foreign MNCs shifting profits out (Figure below).




Foreign (out)
Profits shifted in (% of GDP)
20
15
10
5
0
−5
−10
−15
Brazil
China
Germany
France
Ghana
India
Ireland
Kenya
Mexico
Netherlands
Singapore
United States
['Sales', 'Emp', 'Wages', 'TA']
[1, 0, 0, 0]
[0, 1, 0, 0]
[0, 0, 1, 0]
[0, 0, 0, 1]
[0.33, 0.17, 0.17, 0.33]
[0.5, 0.25, 0.25, 0]
[0, 0.5, 0.5, 0]

2 Offshore wealth tax abuse (Chapter 3 of the report)

2.1 Data

The primary source of data that we use to estimate the distribution of offshore financial wealth is the Locational Banking Statistics (LBS) from the Bank for International Settlements (BIS). Many offshore financial centres have been reporting information on the owners of deposits in their banks to the BIS for many years, however, only in 2016 did they authorize the BIS to publish this data as part of the LBS. In the State of Tax Justice 2021, we focus on the latest available year in this data at the time of this analysis, which is 2019.

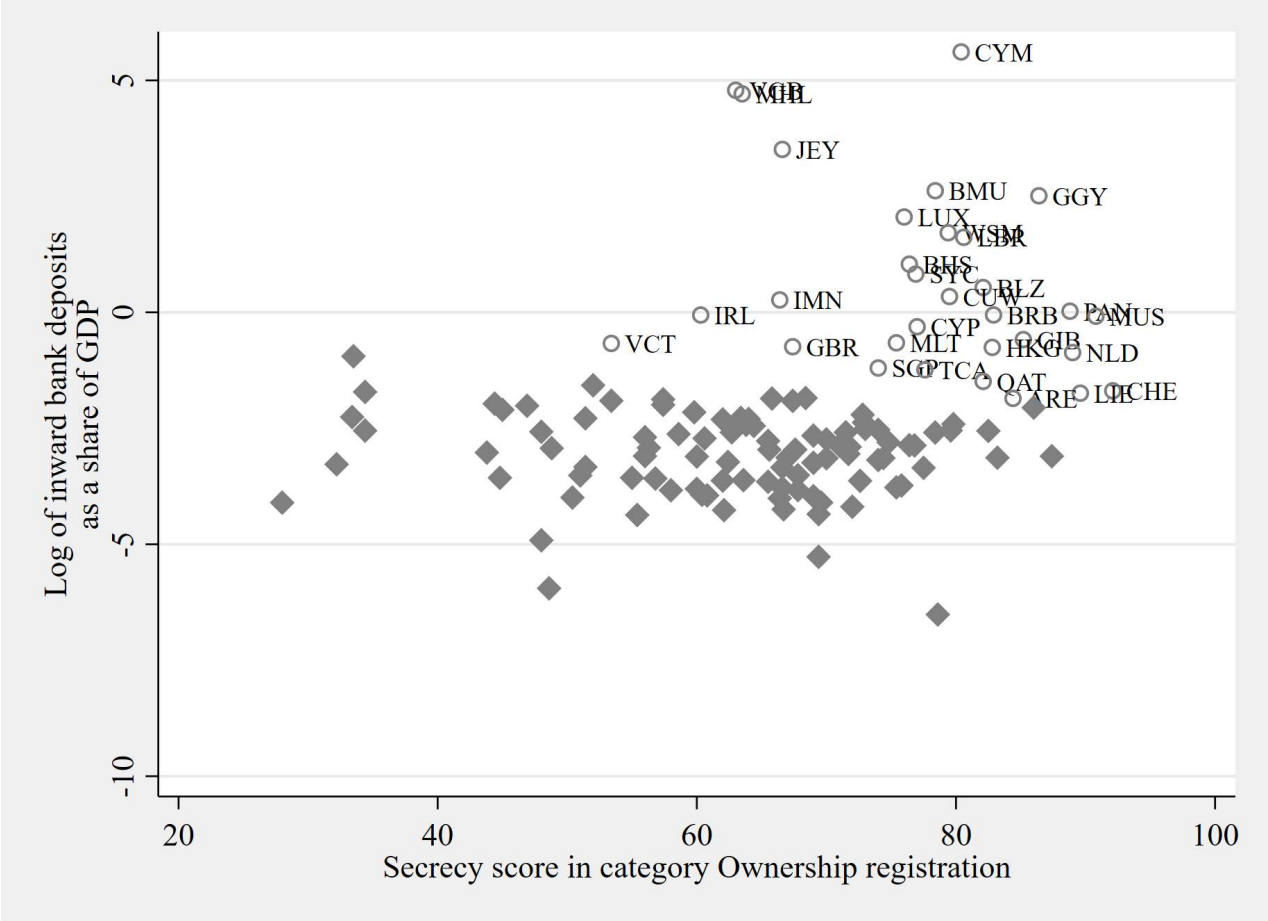
2.2 Methodology and results

Our approach can be summarized in four steps. First, we use a simple approach to identify 'abnormal' deposits in highly secretive financial centres, which we find to make up 40.5% of global bank deposits. Second, we follow Alstadsaeter, Johannesen, and Zucman's (2018) approach in order to attribute these abnormal deposits to their origin countries. Third, we combine these country shares with the latest existing estimates of *total* global offshore financial wealth to derive the value of total offshore wealth originating from each individual country (while recognising the estimate captures a somewhat narrow range of financial wealth, and that non-financial wealth may dominate in value by a factor of 3-4 (Henry 2012)),. Finally, we derive the tax revenue losses resulting from income earned on this wealth, building on the established approaches of Henry (2012) and Zucman (2015).

A more detailed explanation follows. In the first step, we identify what we call "abnormal deposits". We start by identifying jurisdictions that (a) attract amounts of bank deposits that are disproportionally large in comparison to the size of their economy and (b) offer strong bank secrecy laws. For our purposes, we define these jurisdictions as those that have high Secrecy Scores on the Financial Secrecy Index 2020 for the category of ownership registration. Combining these two indicators (ie high score on financial secrecy and high intensity of inward bank deposits), we identify jurisdictions with significant abnormal deposits due to secrecy as follows: countries with an inward bank deposit intensity of 30 per cent of GDP and a secrecy score of more than 50, and those with an inward bank deposit intensity of 15 per cent of GDP and a secrecy score of more than 70. These countries are highlighted in Figure 2.1. In the banks of these jurisdictions, foreign deposits are significantly higher than would be expected based on the size of the jurisdictions' economies.

The list of these countries contains most of the important offshore financial centres. The full list is as follows: Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Curacao, Cyprus, Gibraltar, Guernsey, Hong Kong, Ireland, Isle of Man, Jersey, Liberia, Liechtenstein, Luxembourg, Malta, Marshall Islands, Mauritius, Netherlands, Panama, Qatar, Samoa, Seychelles, Singapore, St. Vincent and the Grenadines, Switzerland, Turks and Caicos Islands, United Arab Emirates, United Kingdom.

Figure 2.1: Bank deposits and financial secrecy.



Source: Authors.

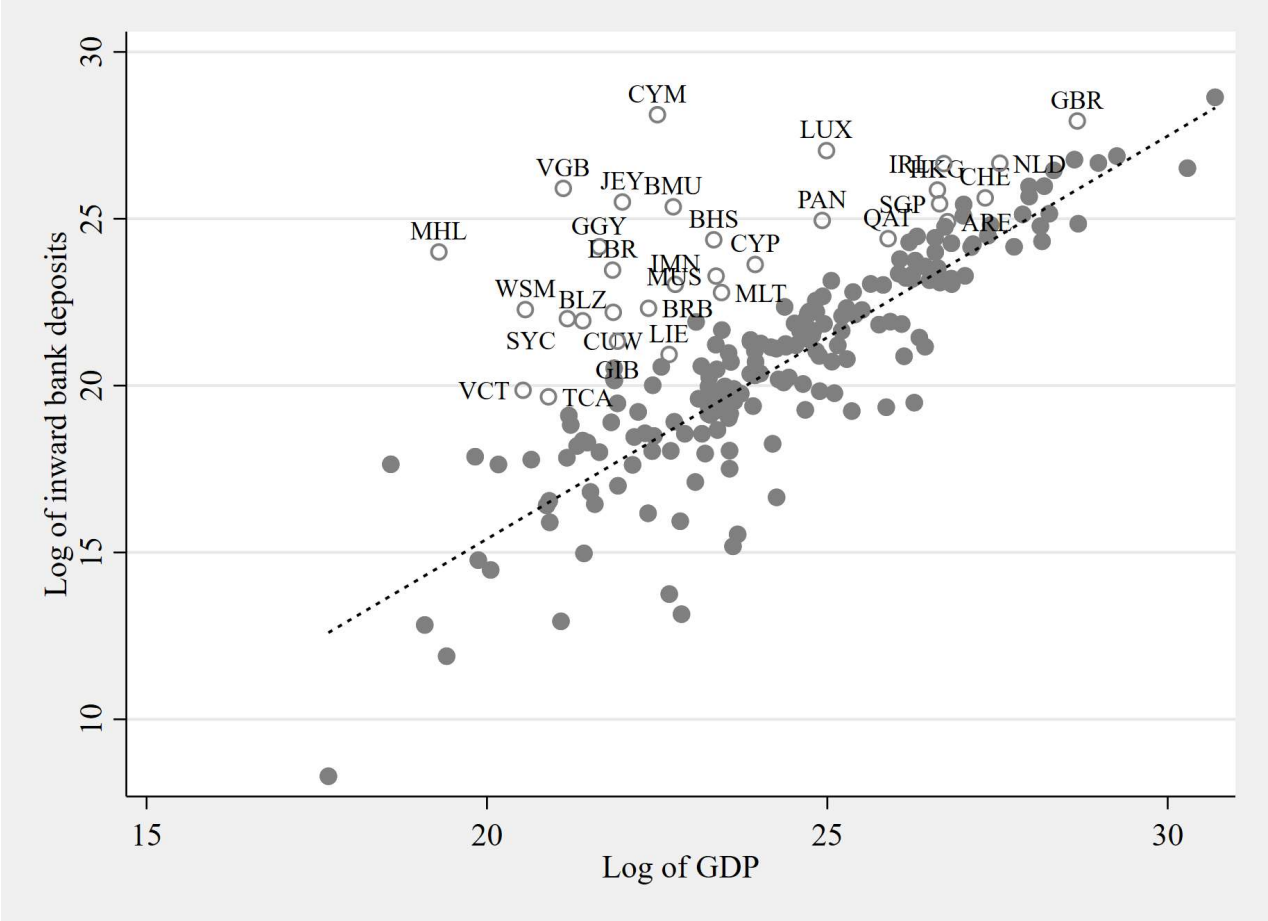
Note: Secrecy scores on the horizontal axis are constructed as the arithmetic average of the first five secrecy indicators in the Financial Secrecy Index 2020. Data on inward bank deposits are for 2019.

Having excluded these jurisdiction, we seek to establish a 'normal' relationship between inward deposits and GDP. Using a sample of the remaining countries i and data for 2019, we estimate the following model:

$$Inward\ bank\ deposits\ as\ share\ of\ GDP_i = \alpha * GDP_i + \epsilon$$

Figure 2.2 shows the resulting relationship between GDP and inward bank deposits. In total, the regression is carried out using a sample of 191 remaining countries which represent 92.6% of the world GDP. There is a strong positive relationship between GDP and inward bank deposits in these countries: the R-squared for the regression is 0.798. Labelled individually and highlighted are those jurisdictions excluded from the regression in Figure 2.2.

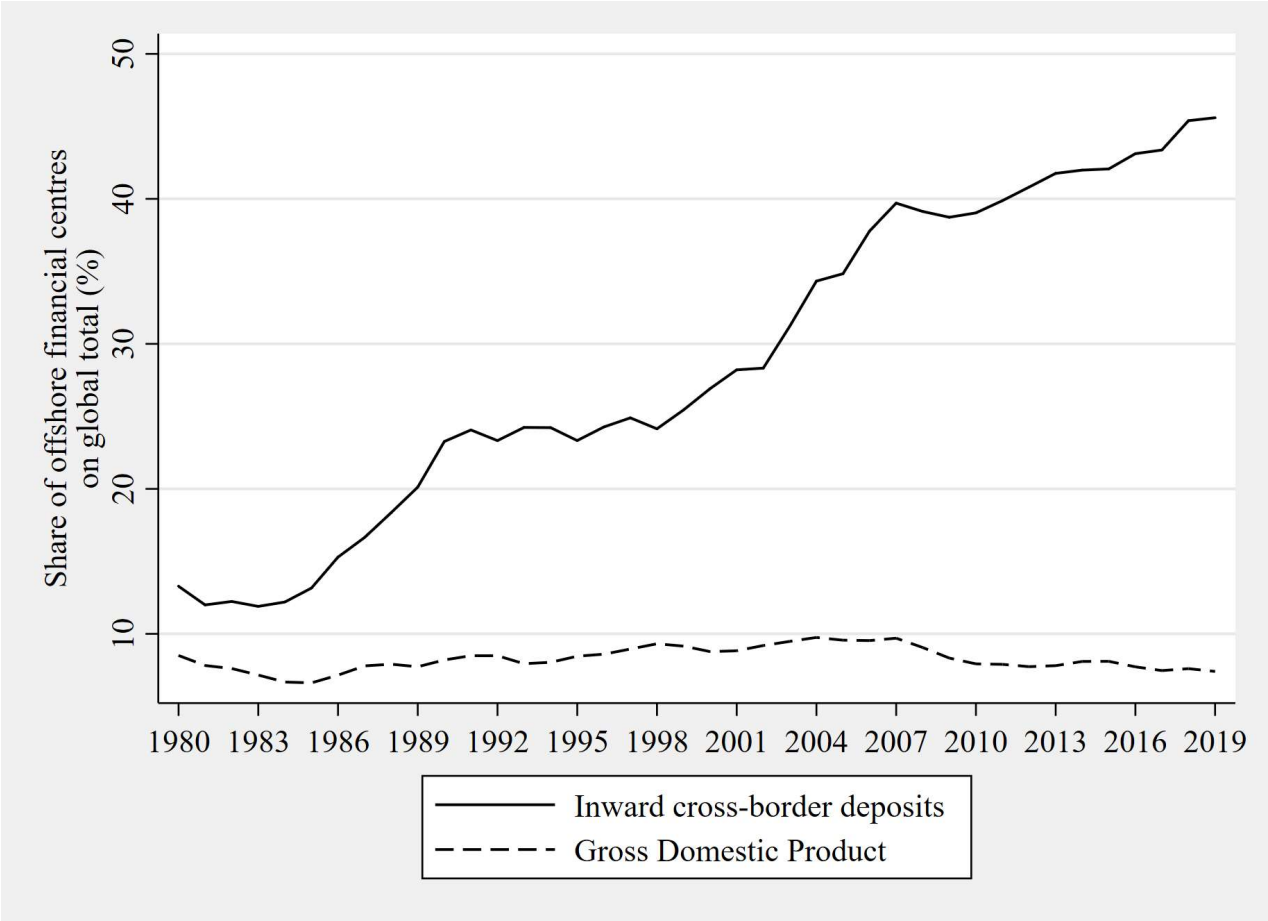
Figure 2.2: Inward bank deposits and GDP; 2019



Source: Authors.

The disproportionate amount of inward bank deposits (compared to GDP) in these 31 jurisdictions is further examined in Figure 2.3, where we present the development of the share of cross-border deposits in these jurisdictions in the global total. We observe that while they account for less than 10% of global GDP, a share which has remained relatively stable over time, they collectively hosted over 45% of global cross-border deposits in 2019, a share that has steadily risen from just around 13% in the year 1980.

Figure 2.3: Share of offshore financial centres' inward bank deposits and GDP on the global total, over time



Source: Authors.

The level of "abnormal deposits" in each jurisdiction is then defined as the difference between actual, observed deposits, and the expected deposits as predicted by the regression coefficient from. The assumption is that these deposits are located here precisely due to the fact that these jurisdictions provide some form of financial secrecy.

We find that 40.5% of global bank deposits can be considered abnormal as per our definition, meaning that they are located in individual jurisdictions in quantities that are higher than would be expected based on the size of these jurisdictions' economies. Note that this includes additional jurisdictions to the 31 pre-identified: that is, jurisdictions within the regression sample can also be identified as holding abnormal deposits, where the levels exceeds that predicted. For each jurisdiction, our approach allows us to quantify how much money is considered to represent abnormal bank deposits and how large a share of each jurisdiction's total bank deposits these abnormal deposits represent. Table 2.1 provides an overview of each jurisdiction's value of abnormal deposits.

Table 2.1: Countries with abnormal deposits

Country	Secrecy score: Ownership registration	Total deposits (USD bn)	Abnormal deposits (USD bn)	Abnormal deposits (share of total)	BIS reporting
Cayman Islands	80.4	1,627.7	1,627.2	99.97%	No
United Kingdom	67.4	1,349.1	1,080.3	80.08%	Yes
United States	86.0	2,747.8	712.7	25.94%	Yes
Luxembourg	76.0	555.0	548.2	98.78%	Yes
Ireland	60.3	376.4	338.5	89.94%	Yes
Netherlands	89.0	380.9	294.8	77.39%	Yes
British Virgin Islands	63.0	178.9	178.7	99.92%	No
France	65.8	424.0	166.1	39.19%	Yes
Hong Kong	82.8	170.4	136.0	79.78%	Yes
Jersey	66.6	119.0	118.7	99.72%	Yes
Italy	57.4	307.3	116.9	38.05%	Yes
Bermuda	78.4	102.9	102.2	99.31%	No
Singapore	74.0	112.7	77.2	68.47%	No
Switzerland	92.1	134.6	65.1	48.40%	Yes
Panama	88.8	68.4	62.1	90.73%	No
Belgium	52.0	110.7	60.1	54.27%	Yes
Spain	57.4	189.8	57.5	30.30%	Yes
Bahamas	76.4	38.4	37.1	96.64%	No
Guernsey	86.4	31.2	30.9	99.23%	Yes
Sweden	53.4	79.0	28.5	36.12%	Yes
Marshall Islands	63.5	26.6	26.6	99.91%	No
Canada	72.8	191.7	26.3	13.72%	Yes
United Arab Emirates	84.4	65.9	25.9	39.28%	No
Qatar	82.1	39.7	23.0	57.93%	No
Norway	44.4	56.6	18.1	31.96%	No
Finland	68.4	42.4	16.9	39.79%	Yes
Germany	62.0	383.4	16.8	4.37%	Yes
Cyprus	77.0	18.3	15.9	87.05%	No
Liberia	80.6	15.5	15.2	98.11%	No
Portugal	67.4	35.5	12.8	36.03%	No
Mauritius	90.8	12.9	11.6	89.68%	No
Isle of Man	66.4	10.1	9.4	92.74%	Yes
Australia	64.0	140.1	7.5	5.35%	Yes
Denmark	59.8	40.6	7.4	18.14%	Yes
Malta	75.4	7.9	6.4	81.68%	No
Samoa	79.4	4.7	4.7	98.29%	No
Barbados	82.9	4.9	4.4	89.96%	No
Curacao	79.5	4.4	4.1	93.25%	No
Oman	n/a	11.2	4.0	35.54%	No
Seychelles	76.9	3.6	3.5	95.84%	No
Belize	82.1	3.4	3.2	94.43%	No
New Caledonia	n/a	3.3	2.3	69.60%	No

Country	Secrecy score: Ownership registration	Total deposits (USD bn)	Abnormal deposits (USD bn)	Abnormal deposits (share of total)	BIS reporting
New Zealand	63.4	21.5	1.6	7.56%	No
Gibraltar	85.2	1.8	1.5	82.91%	No
Bahrain	46.9	5.1	1.5	28.87%	No
Mozambique	n/a	2.6	1.1	43.30%	No
Ghana	33.4	7.0	0.7	9.39%	No
Liechtenstein	89.6	1.2	0.6	45.74%	No
Greenland	n/a	0.8	0.5	63.53%	No
Croatia	51.4	6.2	0.4	6.83%	No
St. Vincent and the Grenadines	53.4	0.4	0.3	81.44%	No
Mongolia	n/a	1.7	0.3	19.72%	No
Faroe Islands	n/a	0.6	0.3	49.86%	No
Andorra	34.4	0.6	0.3	47.22%	No
French Polynesia	n/a	0.9	0.3	29.96%	No
Turks and Caicos Islands	77.6	0.3	0.2	67.22%	No
San Marino	45.0	0.2	0.0	22.35%	No
Nauru	33.5	0.0	0.0	75.54%	No
Micronesia	n/a	0.1	0.0	32.79%	No

Source: Authors.

While some of the jurisdictions that appear in Table 2.1 are not routinely considered to be important destinations of offshore wealth (such as Italy or Spain) and their secrecy scores on Ownership registration (column 2) are correspondingly relatively low, we choose not to exclude these countries from our consideration as destinations of offshore wealth. For such countries, the large abnormal deposits could be explained by other factors than financial secrecy offered by the destination country – such as unusually intense cross-border economic activity – but we do not see a way accurately to estimate the size of these effects. In the light of this caveat, our estimates of inflicted loss by countries with low secrecy scores may be somewhat overstated, while those by countries with high secrecy scores are likely to be understated.

In the second step of our approach, we attribute these abnormal deposits to their origin countries. To do so, we broadly follow Alstadsaeter, Johannesen, and Zucman's (2018) approach and again use the BIS Locational Banking Statistics. This dataset contains information on the origin of bank deposits in high-secrecy jurisdictions which report this data to the BIS: as indicated in the last column of Table 2.1, some of the most popular secrecy jurisdictions now report, including Luxembourg, Netherlands, Hong Kong, Switzerland, and the Channel Islands. On the other hand, some secrecy jurisdictions that are important for offshore wealth still do not report the relevant data at the level of disaggregation that we use in this analysis – most notably the Cayman Islands, British Virgin Islands, Bermuda, Singapore, Panama, and the Bahamas. In total, 62.8 per cent of the global abnormal deposits in 2019 are covered by the BIS data; if the six mentioned non-reporting jurisdictions published their data, this share would increase to 96.9 per cent. Until they do, we are left to make an assumption, similarly to Alstadsaeter, Johannesen, and Zucman (2018), that the distribution of origin

countries for deposits stored in the BIS-reporting jurisdictions which have abnormal deposits also holds in the non-BIS-reporting jurisdictions.

The BIS data on bank deposits has one important drawback: it does not differentiate between households' deposits and corporate deposits. Therefore, the ultimate owner is not always attributed to the actual source country of the deposits. For example, if a German person sets up a shell company in Hong Kong and opens a bank account for this company in Switzerland, this will show up in the data as a Hong Kong-Swiss relationship, rather than a German-Swiss relationship. While this could be partially solved by only focusing on households, the BIS data does not offer a distinction between households' and corporations' deposits. In our approach we thus assume that households' bank deposits are geographically distributed in a similar way as corporations' bank deposits. Also, even if there was such a distinction in the data, it would be questionable whether to use it: households can easily create shell corporations, and their wealth would thus be reported as corporate bank deposits.

In Table 2.2, the second column shows the share of global offshore wealth that is attributable to each country. We find that offshore wealth is relatively concentrated by origin country, with the United States and United Kingdom accounting for the largest shares at 19.9% and 11.4%, respectively. One consequence of the drawback of the BIS data that we discuss above is that important offshore financial centres appear to have a high share of global offshore wealth, because the shell corporations incorporated there hold deposits in other offshore financial centres. While this means that non-tax havens' estimated shares of global offshore wealth are likely to be understated by our approach, we do not see a good way to correct for this limitation of the data. For example, the share of global offshore wealth of Jersey (1.2%) is much larger than would be expected from an economy of Jersey's size (which only accounts for 0.0036% of the global GDP), because we are unable to differentiate between genuine deposits of the citizens of Jersey in offshore financial centres and deposits made by Jersey-incorporated shell companies owned by citizens of other countries. In future research, combining the BIS data with other sources, such as leaks of confidential documents, might shed more light on the size of these effects and allow methods for correction to be developed.

In the third step, we combine existing estimates of total global offshore financial wealth with our estimated origin country shares, to derive the value of offshore wealth originating from each individual country. In particular, we use the most recent estimate of global offshore financial wealth that uses the original methodology developed by Zucman (2013) and recently published by ECORYS (2021). The estimate suggests that the scale of offshore wealth remains stable in the last few years at around 11.4% of global GDP (which is the number that we use here in combination with 2019 data on the distribution of bank deposits). It is important to note that this estimate only includes financial assets and not non-financial wealth, which is likely to exceed financial wealth in value by a factor of 3-4 (Henry 2012); and also does not capture the full breadth of financial assets. For these reasons, this exercise is likely to be highly conservative in the projected scale of offshore wealth-related tax evasion. The third column of Table 2.2 translates the constructed shares

of global offshore financial wealth into US dollars, and the fourth column expresses these amounts as shares of GDP of the individual countries.

In the fourth and final step, we derive the tax revenue losses resulting from financial wealth being stored in secrecy jurisdictions. Following Zucman (2015), we assume that all investments made in secrecy jurisdictions (including bank deposits (with likely lower yields) and other assets, such as securities and bonds (with likely higher yields)) yield an average of a 5 per cent return. We then multiply these returns by the top-bracket personal income tax (PIT) rates that would have been applied in the assets' origin countries, had these assets not been moved to secrecy jurisdictions. While using PIT rates might be introducing an upward bias to our estimates (in the sense that governments would in reality not be likely to tax the returns at such high rates, perhaps because some of this income would be subject to the capital gains tax (CGT), which is generally set at a lower rate), we ultimately choose to use PIT rates due to two reasons.

First, although in theory we are considering a full range of assets, in practice the numbers are driven by financial account holdings (to which PIT rather than CGT would generally apply). Second, there is an argument that if the returns were actually declared for PIT, individuals would have an incentive to lower the relevant tax rate (e.g. by structuring as capital gains rather than individual income) – however, we focus on the tax-evading element of the returns. Therefore, the income that is being evaded as things stand (without any avoidance response) would be subject to PIT rather than CGT.

The existence of cases such as Italy where a lower rate than PIT would apply to income streams from declared offshore assets might suggest making more conservative adjustments on a country by country basis, and we will consider this for future work. We note, however, that even in such a case, the very existence of the offshore wealth is the result of an originally undeclared income stream. For that reason, applying the higher PIT rate to a hypothetical income stream generated by the offshore wealth – rather than to the original income stream that generate the offshore wealth itself – will understate the total tax losses very substantially.

The fifth column of Table 2.2 shows the estimates of tax revenue loss for each country. Finally, in the sixth and seventh column of Table 2.2, we show the estimated contribution of each country to the global tax losses due to offshore wealth as a share, and the respective tax loss in US dollars inflicted on other countries. Many of the countries with the biggest losses themselves, such as the USA, UK, Ireland and Luxembourg, also impose major losses on others. The Cayman Islands is responsible for the largest share on this metric, at 26.6 per cent of the global total, making it alone responsible for a tax revenue loss of $45.4 billion globally.

Table 2.2: Tax losses suffered and inflicted on others, by region and country

Country	Share of global offshore wealth owned by citizens of country	Offshore wealth owned by citizens of country (USD billion)	Offshore wealth owned by citizens of country (% of GDP)	Tax revenue loss: Offshore wealth (USD million)	Share of global tax loss inflicted by country	Tax loss inflicted on other countries (USD million)
United States	19.9%	1,977.2	9.2%	**36,578.1**	11.7%	19,900.5
United Kingdom	11.4%	1,132.5	40.0%	**25,482.4**	17.7%	30,164.2
Ireland	5.8%	572.0	143.5%	**13,728.6**	5.5%	9,452.6
Luxembourg	4.5%	449.6	632.4%	**10,292.2**	9.0%	15,307.4
China	4.5%	445.0	3.1%	**10,012.9**	0.0%	-
Germany	4.3%	423.9	11.0%	**9,537.2**	0.3%	467.8
Netherlands	3.3%	324.5	35.8%	**8,429.5**	4.8%	8,230.7
France	3.0%	299.7	11.0%	**7,343.2**	2.7%	4,639.0
Japan	1.8%	181.1	3.6%	**5,065.4**	0.0%	-
Switzerland	2.4%	238.3	32.6%	**4,765.1**	1.1%	1,819.1
Italy	2.0%	200.0	10.0%	**4,299.6**	1.9%	3,265.2
Taiwan	1.5%	148.4	24.3%	**2,967.5**	0.0%	-
Belgium	1.1%	113.1	21.2%	**2,826.3**	1.0%	1,677.5
Spain	0.8%	83.0	6.0%	**1,867.5**	0.9%	1,606.1
Canada	1.1%	110.7	6.4%	**1,826.0**	0.4%	734.5
Australia	0.8%	80.9	5.8%	**1,820.0**	0.1%	209.2
Singapore	1.6%	162.3	43.3%	**1,785.1**	1.3%	2,155.4
Sweden	0.6%	55.6	10.5%	**1,593.1**	0.5%	796.4
Denmark	0.5%	46.1	13.2%	**1,287.1**	0.1%	205.7
Jersey	1.2%	114.9	3238.7%	**1,149.0**	1.9%	3,313.5
Cyprus	0.6%	64.0	256.6%	**1,120.2**	0.3%	444.6
Hong Kong	1.4%	134.3	37.0%	**1,007.1**	2.2%	3,796.5
Greece	0.4%	37.2	18.1%	**836.2**	0.0%	-
Israel	0.3%	31.1	7.9%	**776.5**	0.0%	-
Mexico	0.4%	43.7	3.4%	**765.1**	0.0%	-
South Africa	0.3%	28.8	8.2%	**648.6**	0.0%	-
Thailand	0.4%	36.4	6.7%	**636.2**	0.0%	-
Finland	0.2%	21.3	7.9%	**571.6**	0.3%	471.2
Norway	0.2%	23.6	5.8%	**550.0**	0.3%	505.0
Panama	0.4%	43.9	65.7%	**548.7**	1.0%	1,733.4
Austria	0.2%	19.8	4.4%	**543.7**	0.0%	-
Portugal	0.2%	22.3	9.3%	**534.4**	0.2%	357.6
Turkey	0.3%	26.7	3.5%	**468.0**	0.0%	-
Guernsey	0.4%	42.2	1671.1%	**422.4**	0.5%	863.5
Russia	0.6%	63.3	3.8%	**411.6**	0.0%	-
South Korea	0.2%	19.0	1.2%	**398.4**	0.0%	-
Malta	0.2%	22.7	149.1%	**397.1**	0.1%	179.9
Malaysia	0.2%	23.6	6.5%	**330.1**	0.0%	-
Venezuela	0.2%	18.0	8.4%	**305.7**	0.0%	-

Country	Share of global offshore wealth owned by citizens of country	Offshore wealth owned by citizens of country (USD billion)	Offshore wealth owned by citizens of country (% of GDP)	Tax revenue loss: Offshore wealth (USD million)	Share of global tax loss inflicted by country	Tax loss inflicted on other countries (USD million)
Curacao	0.1%	13.0	418.1%	**304.8**	0.1%	113.5
Colombia	0.2%	17.3	5.3%	**301.9**	0.0%	-
Argentina	0.2%	17.1	3.8%	**298.8**	0.0%	-
Brazil	0.2%	21.7	1.2%	**298.1**	0.0%	-
Nigeria	0.2%	20.8	4.6%	**250.0**	0.0%	-
Isle of Man	0.2%	22.3	289.1%	**223.1**	0.2%	261.3
India	0.1%	12.3	0.4%	**220.5**	0.0%	-
Philippines	0.1%	12.6	3.3%	**220.4**	0.0%	-
Gibraltar	0.1%	10.2	309.1%	**204.0**	0.0%	42.5
Chile	0.1%	10.8	3.9%	**189.1**	0.0%	-
Lebanon	0.2%	18.9	36.3%	**188.6**	0.0%	-
Angola	0.2%	21.2	23.7%	**180.4**	0.0%	-
New Zealand	0.1%	10.5	5.0%	**173.0**	0.0%	45.4
Egypt	0.2%	15.1	5.0%	**170.1**	0.0%	-
Poland	0.1%	9.4	1.6%	**150.1**	0.0%	-
Barbados	0.1%	7.5	143.4%	**149.4**	0.1%	123.7
Liberia	0.1%	10.4	339.7%	**145.5**	0.2%	423.6
Samoa	0.1%	10.3	1206.0%	**138.8**	0.1%	130.0
Slovenia	0.1%	5.4	10.0%	**135.5**	0.0%	-
Seychelles	0.1%	7.6	477.7%	**117.6**	0.1%	96.5
Uruguay	0.1%	6.4	10.5%	**116.0**	0.0%	-
Peru	0.1%	7.4	3.2%	**110.9**	0.0%	-
Ecuador	0.1%	6.3	5.8%	**109.4**	0.0%	-
Liechtenstein	0.1%	9.2	130.9%	**103.3**	0.0%	15.7
Czechia	0.1%	9.2	3.7%	**101.6**	0.0%	-
Dominican Republic	0.1%	7.2	8.1%	**90.5**	0.0%	-
Macao	0.1%	14.9	27.0%	**89.3**	0.0%	-
Ghana	0.0%	4.7	7.0%	**82.7**	0.0%	18.5
Belize	0.1%	7.0	352.9%	**81.9**	0.1%	89.2
Marshall Islands	0.1%	12.5	5232.8%	**75.2**	0.4%	742.5
Mauritius	0.1%	9.6	68.7%	**72.4**	0.2%	323.6
Morocco	0.0%	3.7	3.1%	**69.6**	0.0%	-
Jordan	0.1%	6.6	14.8%	**66.0**	0.0%	-
Hungary	0.1%	8.8	5.4%	**66.0**	0.0%	-
Kenya	0.0%	4.2	4.4%	**62.9**	0.0%	-
Indonesia	0.0%	3.9	0.3%	**58.7**	0.0%	-
Libya	0.0%	4.7	9.0%	**55.1**	0.0%	-
Algeria	0.0%	3.0	1.8%	**53.3**	0.0%	-
Vietnam	0.0%	2.9	1.1%	**51.5**	0.0%	-
Kazakhstan	0.1%	8.5	4.7%	**42.7**	0.0%	-

Country	Share of global offshore wealth owned by citizens of country	Offshore wealth owned by citizens of country (USD billion)	Offshore wealth owned by citizens of country (% of GDP)	Tax revenue loss: Offshore wealth (USD million)	Share of global tax loss inflicted by country	Tax loss inflicted on other countries (USD million)
Costa Rica	0.1%	5.7	8.9%	**42.5**	0.0%	-
Zimbabwe	0.0%	1.6	9.7%	**42.1**	0.0%	-
El Salvador	0.0%	2.6	9.7%	**39.2**	0.0%	-
Tunisia	0.0%	2.2	5.6%	**38.7**	0.0%	-
Slovakia	0.0%	3.1	2.9%	**38.2**	0.0%	-
Nicaragua	0.0%	2.5	19.8%	**37.5**	0.0%	-
Latvia	0.0%	2.2	6.3%	**33.9**	0.0%	-
Zambia	0.0%	1.8	7.5%	**32.9**	0.0%	-
Ukraine	0.0%	3.3	2.1%	**29.4**	0.0%	-
Honduras	0.0%	2.3	9.1%	**28.6**	0.0%	-
Bolivia	0.0%	1.9	4.6%	**27.5**	0.0%	-
Cameroon	0.0%	1.9	4.8%	**27.5**	0.0%	-
Iceland	0.0%	1.2	4.7%	**26.7**	0.0%	-
Bangladesh	0.0%	1.7	0.6%	**25.7**	0.0%	-
Mozambique	0.0%	1.6	10.3%	**25.3**	0.0%	31.0
Cambodia	0.0%	2.5	9.2%	**24.8**	0.0%	-
Trinidad and Tobago	0.0%	2.0	8.5%	**24.6**	0.0%	-
Pakistan	0.0%	2.4	0.9%	**24.3**	0.0%	-
Congo, Dem. Rep. of	0.0%	1.1	2.3%	**23.0**	0.0%	-
Cote d'Ivoire	0.0%	1.5	2.6%	**22.1**	0.0%	-
Gabon	0.0%	1.8	10.8%	**21.3**	0.0%	-
St. Vincent and the Grenadines	0.0%	1.8	218.6%	**21.1**	0.0%	9.6
Tanzania	0.0%	1.3	2.2%	**20.2**	0.0%	-
Croatia	0.0%	1.1	1.8%	**20.0**	0.0%	11.8
Senegal	0.0%	1.0	4.2%	**19.7**	0.0%	-
Guatemala	0.1%	5.3	6.9%	**18.7**	0.0%	-
Uganda	0.0%	0.9	2.5%	**17.4**	0.0%	-
Aruba	0.0%	0.5	16.6%	**16.1**	0.0%	-
Estonia	0.0%	1.6	5.0%	**15.8**	0.0%	-
Bulgaria	0.0%	3.2	4.6%	**15.8**	0.0%	-
Turks and Caicos Islands	0.0%	1.0	79.7%	**14.9**	0.0%	6.5
Azerbaijan	0.0%	1.1	2.4%	**13.4**	0.0%	-
Romania	0.0%	2.3	0.9%	**11.7**	0.0%	-
Mauritania	0.0%	0.6	7.6%	**11.5**	0.0%	-
Madagascar	0.0%	0.8	5.8%	**11.5**	0.0%	-
Ethiopia	0.0%	0.6	0.6%	**10.9**	0.0%	-
Sri Lanka	0.0%	0.9	1.1%	**10.7**	0.0%	-
Congo, Rep. of	0.0%	0.7	5.6%	**10.7**	0.0%	-
New Caledonia	0.0%	0.7	6.5%	**10.6**	0.0%	63.6
Mali	0.0%	0.7	4.3%	**10.4**	0.0%	-

Country	Share of global offshore wealth owned by citizens of country	Offshore wealth owned by citizens of country (USD billion)	Offshore wealth owned by citizens of country (% of GDP)	Tax revenue loss: Offshore wealth (USD million)	Share of global tax loss inflicted by country	Tax loss inflicted on other countries (USD million)
Lithuania	0.0%	1.3	2.5%	**10.1**	0.0%	-
Suriname	0.0%	0.5	12.2%	**9.8**	0.0%	-
Nepal	0.0%	0.7	2.0%	**9.7**	0.0%	-
Uzbekistan	0.0%	0.6	1.1%	**9.4**	0.0%	-
Andorra	0.0%	1.9	58.9%	**9.3**	0.0%	7.5
French Polynesia	0.0%	0.6	9.1%	**8.9**	0.0%	7.1
Guinea	0.0%	0.6	4.6%	**8.7**	0.0%	-
Jamaica	0.0%	0.5	3.4%	**8.1**	0.0%	-
Botswana	0.0%	0.6	3.2%	**7.4**	0.0%	-
San Marino	0.0%	0.5	29.4%	**7.4**	0.0%	1.2
St. Lucia	0.0%	0.6	29.7%	**7.4**	0.0%	-
Iraq	0.0%	1.0	0.4%	**7.2**	0.0%	-
Iran	0.0%	0.6	0.2%	**7.0**	0.0%	-
Armenia	0.0%	0.4	2.8%	**6.8**	0.0%	-
Georgia	0.0%	0.6	3.3%	**5.7**	0.0%	-
Paraguay	0.0%	1.1	2.9%	**5.5**	0.0%	-
Chad	0.0%	0.4	3.4%	**5.4**	0.0%	-
Kyrgyz Republic	0.0%	0.4	4.1%	**5.4**	0.0%	-
Vanuatu	0.0%	0.4	37.8%	**5.2**	0.0%	-
Serbia	0.0%	1.0	1.9%	**4.8**	0.0%	-
Equatorial Guinea	0.0%	0.4	3.3%	**4.4**	0.0%	-
Eswatini	0.0%	0.3	5.8%	**4.3**	0.0%	-
Vatican	0.0%	0.4		**4.3**	0.0%	-
Namibia	0.0%	0.2	1.8%	**4.2**	0.0%	-
Djibouti	0.0%	0.3	8.5%	**4.1**	0.0%	-
Malawi	0.0%	0.3	2.5%	**4.1**	0.0%	-
Syria	0.0%	0.3	2.0%	**3.7**	0.0%	-
Sint Maarten	0.0%	0.2	12.7%	**3.7**	0.0%	-
Mongolia	0.0%	0.7	4.9%	**3.5**	0.0%	9.1
Haiti	0.0%	0.2	1.6%	**3.3**	0.0%	-
Dominica	0.0%	0.3	48.7%	**3.3**	0.0%	-
Maldives	0.0%	0.4	7.5%	**3.2**	0.0%	-
Falkland Islands	0.0%	0.3		**3.1**	0.0%	-
Yemen	0.0%	0.4	1.7%	**3.0**	0.0%	-
Grenada	0.0%	0.2	20.0%	**2.8**	0.0%	-
Bonaire, Sint Eustatius and Saba	0.0%	0.2		**2.5**	0.0%	-
Rwanda	0.0%	0.2	1.7%	**2.5**	0.0%	-
Togo	0.0%	0.2	2.4%	**2.4**	0.0%	-
Benin	0.0%	0.2	1.2%	**2.4**	0.0%	-
Gambia	0.0%	0.2	9.2%	**2.4**	0.0%	-

Country	Share of global offshore wealth owned by citizens of country	Offshore wealth owned by citizens of country (USD billion)	Offshore wealth owned by citizens of country (% of GDP)	Tax revenue loss: Offshore wealth (USD million)	Share of global tax loss inflicted by country	Tax loss inflicted on other countries (USD million)
Cuba	0.0%	0.2	0.2%	**2.3**	0.0%	-
Eritrea	0.0%	0.2	2.4%	**2.3**	0.0%	-
Burkina Faso	0.0%	0.2	1.0%	**2.2**	0.0%	-
Papua New Guinea	0.0%	0.1	0.4%	**2.0**	0.0%	-
North Macedonia	0.0%	0.4	2.9%	**1.8**	0.0%	-
Guiana	0.0%	0.2	2.9%	**1.8**	0.0%	-
Albania	0.0%	0.1	0.9%	**1.6**	0.0%	-
Burundi	0.0%	0.1	3.7%	**1.6**	0.0%	-
Palestine	0.0%	0.1	0.9%	**1.5**	0.0%	-
Bosnia and Herzegovina	0.0%	0.3	1.5%	**1.5**	0.0%	-
Antigua and Barbuda	0.0%	0.1	7.1%	**1.5**	0.0%	-
Belarus	0.0%	0.2	0.4%	**1.5**	0.0%	-
Afghanistan	0.0%	0.1	0.7%	**1.4**	0.0%	-
Laos	0.0%	0.1	0.5%	**1.4**	0.0%	-
Guinea-Bissau	0.0%	0.1	6.5%	**1.3**	0.0%	-
Sudan	0.0%	0.2	0.5%	**1.2**	0.0%	-
Niger	0.0%	0.1	0.7%	**1.2**	0.0%	-
Cape Verde	0.0%	0.1	4.1%	**1.2**	0.0%	-
Myanmar	0.0%	0.1	0.1%	**1.2**	0.0%	-
St. Kitts and Nevis	0.0%	0.1	7.1%	**1.2**	0.0%	-
Sierra Leone	0.0%	0.1	3.5%	**1.1**	0.0%	-
Central African Republic	0.0%	0.1	3.5%	**1.1**	0.0%	-
Greenland	0.0%	0.1	2.2%	**1.1**	0.0%	14.5
Solomon Islands	0.0%	0.1	4.7%	**1.1**	0.0%	-
Moldova	0.0%	0.1	1.0%	**1.0**	0.0%	-
Montenegro	0.0%	0.2	3.7%	**0.9**	0.0%	-
Netherlands Antilles	0.0%	0.0		**0.7**	0.0%	-
Faroe Islands	0.0%	0.0	1.4%	**0.7**	0.0%	8.2
Fiji	0.0%	0.1	1.2%	**0.7**	0.0%	-
Somalia	0.0%	0.0	0.7%	**0.5**	0.0%	-
Lesotho	0.0%	0.0	1.2%	**0.4**	0.0%	-
Micronesia	0.0%	0.0	6.7%	**0.4**	0.0%	0.5
Tajikistan	0.0%	0.0	0.3%	**0.3**	0.0%	-
Wallis and Futuna	0.0%	0.0		**0.3**	0.0%	-
Comoros	0.0%	0.0	1.9%	**0.3**	0.0%	-
Nauru	0.0%	0.0	22.8%	**0.3**	0.0%	1.0
Turkmenistan	0.0%	0.0	0.0%	**0.2**	0.0%	-
Saint Helena	0.0%	0.0		**0.2**	0.0%	-
Puerto Rico	0.0%	0.0	0.0%	**0.2**	0.0%	-
Timor-Leste	0.0%	0.0	0.5%	**0.2**	0.0%	-

Country	Share of global offshore wealth owned by citizens of country	Offshore wealth owned by citizens of country (USD billion)	Offshore wealth owned by citizens of country (% of GDP)	Tax revenue loss: Offshore wealth (USD million)	Share of global tax loss inflicted by country	Tax loss inflicted on other countries (USD million)
Kiribati	0.0%	0.0	5.2%	**0.1**	0.0%	-
US Virgin Islands	0.0%	0.0	0.2%	**0.1**	0.0%	-
Sao Tome and Principe	0.0%	0.0	1.9%	**0.1**	0.0%	-
Bhutan	0.0%	0.0	0.2%	**0.1**	0.0%	-
Tonga	0.0%	0.0	1.4%	**0.1**	0.0%	-
South Sudan	0.0%	0.0	0.1%	**0.1**	0.0%	-
North Korea	0.0%	0.0	0.0%	**0.0**	0.0%	-
Niue	0.0%	0.0		**0.0**	0.0%	-
Montserrat	0.0%	0.0	1.2%	**0.0**	0.0%	-
Guam	0.0%	0.0	0.0%	**0.0**	0.0%	-
Palau	0.0%	0.0	0.1%	**0.0**	0.0%	-
Martinique	0.0%	0.0		**0.0**	0.0%	-
Tuvalu	0.0%	0.0	0.2%	**0.0**	0.0%	-
St. Martin	0.0%	0.0		**0.0**	0.0%	-
Guadeloupe	0.0%	0.0		**0.0**	0.0%	-
French Southern and Antarctic Lands	0.0%	0.0		**0.0**	0.0%	-
Bouvet Island	0.0%	0.0		**0.0**	0.0%	-
Yugoslavia	0.0%	0.0		**0.0**	0.0%	-
Cocos Islands	0.0%	0.0		**0.0**	0.0%	-
Qatar	0.4%	38.8	22.1%	-	0.4%	642.0
British Virgin Islands	2.8%	278.0	18669.9%	-	2.9%	4,990.2
Anguilla	0.0%	0.0	2.1%	-	0.0%	-
Oman	0.1%	6.3	8.3%	-	0.1%	111.6
Saudi Arabia	1.3%	128.8	16.2%	-	0.0%	-
United Arab Emirates	1.0%	95.4	22.7%	-	0.4%	722.3
Bahrain	0.1%	8.9	23.1%	-	0.0%	41.4
Brunei	0.0%	1.4	10.6%	-	0.0%	-
Bermuda	0.8%	76.0	1015.4%	-	1.7%	2,854.2
Cayman Islands	8.1%	809.5	13638.0%	-	26.6%	45,433.3
Bahamas	0.6%	59.5	438.5%	-	0.6%	1,034.8
Kuwait	0.5%	46.8	34.3%	-	0.0%	-

Source: Authors.

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