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ABSTRACT

The 2017 Tax Cut and Jobs Act reduced the US corporate tax rate and introduced provisions to curb profit shifting. We combine survey data, tax data, and firm financial statements to study the evolution of the geographical allocation of US firms' profits after the reform. The share of profits booked abroad by US multinationals fell 3–5 percentage points, driven by repatriations of intellectual property to the US. The share of foreign profits booked in tax havens remained stable around 50% between 2015 and 2020. Changes in the global allocation of profits are small overall, but some firms responded strongly.

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1 Introduction

A body of work documents profit shifting behavior by multinational corporations. According to recent estimates, close to 40% of multinational profits—profits booked by firms outside of their headquarter country—are shifted to tax havens globally (e.g., Garcia-Bernardo and Janský, 2021; Tørsløv et al., forthcoming). US multinationals appear to book a particularly large fraction of their foreign income in low-tax places (e.g., Clausing, 2020b; Dowd et al., 2017; Guvenen et al., 2022).

The Tax Cuts and Jobs Act, enacted at the end of 2017, dramatically changed the profit-shifting incentives faced by US corporations. The Act lowered the US federal corporate income tax rate from 35 to 21 percent, reducing the gap between US and foreign rates. It switched from a worldwide tax system—in which the foreign profits of US firms were, upon repatriation, subject to taxation in the United States—to a territorial tax system—in which foreign profits are generally exempt from US taxes.[1] To reduce the incentives to shift profits to tax havens, the Act also introduced three provisions: a US tax on foreign income subject to low tax rates abroad; a reduced rate on foreign income derived from intangibles booked in the United States; and measures to limit the deductibility of certain payments suspected to shift income out of the United States.

How has the international allocation of US firms' profits evolved after the Tax Cuts and Jobs Act? Has the amount of profit booked in tax havens declined? And if so, are more profits booked in the United States, or in other relatively high-tax countries? These questions are important in light of ongoing policy discussions about an international agreement on an minimum corporate tax (OECD, 2021). If profit shifting substantially declined after the 2017 US tax reform, the need for additional policy reforms in this area may be less than commonly thought. If sizable profits are still booked in low-tax places, by contrast, new policy measures may be in order.

This paper addresses these questions by combining and reconciling all publicly available data on the location of US firms' profits. Our main contribution is to provide the first comprehensive analysis of trends in profit shifting after the Tax Cuts and Jobs Act. This was difficult until recently because of the delays involved in the publication of the key survey and tax data needed to conduct this analysis. Tabulations of the 2019 Bureau of Economic Analysis survey of the activities of US

[1] In practice, territorial systems (including the new US system) usually have anti-avoidance provisions to prevent firms from shifting domestic profits abroad; and most systems—including the new US tax system and the pre-Tax Cuts and Jobs Act one—can be characterized as hybrid.

multinationals were published in November 2021, and the 2019 IRS country-by-country statistics in April 2022. Due to the lack of comprehensive data, previous research on this issue had to focus on case studies of specific firms or industries. Using a sample of the largest 10 pharmaceutical multinationals, Sullivan (2020) finds no evidence of profit shifted back to the United States. Coffey (2021) studies changes in the use of Ireland as a tax haven by US multinational companies. By contrast, we study trends in profit shifting for US firms as a whole. The data sources we use go up to 2019 or 2020, allowing us to capture two or three years post-reform and to provide a clear picture of the dynamic of profit shifting after the Tax Cuts and Jobs Act. Our analysis carefully accounts for the specificities of each data source and addresses the different pitfalls involved in the measurement of profit shifting, including double-counting issues.

Our main statistics of interest are the fraction of US firms' profits booked in the United States vs. abroad, and the fraction of their non-US profits booked in tax havens. We provide a thorough descriptive analysis of changes in these statistics, relating their evolution to incentives introduced by the Tax Cuts and Jobs Act, and reconciling macro-level tabulated survey and tax data with micro-level public corporate financial statements. Our main findings are the following.

First, there is evidence that, consistent with incentives introduced in the law, US corporations book a larger share of their profits in the United States post reform. This change, however, is relatively small: the share of profits booked abroad has decreased by about 3–5 percentage points, to about 27% for all US companies. A forensic analysis of listed corporations reveals six cases of large companies (Alphabet, Microsoft, Facebook, Cisco, Qualcomm, Nike) with a decrease in the share of foreign earnings of over 20 percentage points that appears clearly related to changes in profit shifting, more precisely to repatriation of intellectual property to the United States. These large firms drive the macroeconomic decline in the share of US multinationals' profit booked outside of the United States.

Second, the geographical allocation of the foreign profits of US multinationals does not appear to have been significantly affected by the Act. Across data sources, the share of foreign profit booked in tax havens has remained stable at around 50% between 2015 and 2020. The similarity of findings across independent sources suggests that the high and stable share of haven profits is robust. Since the share of profits outside of the United States has only slightly declined (to about 27% for all US corporations), the share of total (domestic plus foreign) profits booked by

US corporations in tax havens has remained around 13%–15% throughout the 2015-2020 period, a historically high level. Thus, although a few firms responded to incentives introduced by the Act—sometimes with dramatic effects at the micro level—the global allocation of profits by US firms appears to have changed relatively little overall.

Quantifying this evolution is important because the Tax Cuts and Jobs Act is the largest change to US corporation taxation since 1986 and its provisions have a priori ambiguous effects (Auerbach, 2018; Chalk et al., 2018; Hanlon et al., 2019; Slemrod, 2018). The lower US rate—as well as the measures introduced to limit profit shifting, such as the minimum tax on foreign income known as Global Intangible Low-Taxed Income (GILTI)—reduce the incentives for US firms to book profits in tax havens. However, the move to a territorial system increases the incentives to shift income to low-tax countries. Moreover, certain aspects of GILTI give US firms incentives to move tangible capital to low-tax countries (Clausing, 2020b).

Methodologically, our contribution is to reconcile the available evidence on the location and taxation of the profits of US firms. There is a lively debate on the size of profit shifting and a body of work investigating the pros and cons of various data sources and series (e.g., Bilicka, 2019; Blouin and Robinson, 2020; Clausing, 2020a; Clausing et al., 2016; Dowd et al., 2017; Dyreng et al., 2022; Garcia-Bernardo, Janský and Tørsløv, 2021, 2022; Guvenen et al., 2022; Tørsløv et al., forthcoming; Wright and Zucman, 2018). Taking stock of this body of work, we show that once the definition of profit is harmonized, the specificity of each source (e.g., sample of firms covered) is accounted for, and any double-counting (when it exists) is removed, the different sources paint a consistent picture. We pay attention to new tax data: tabulations of the country-by-country reports that all large firms headquartered in the United States have to submit to the IRS since 2017. These statistics double-count profits as a number of companies include as profit tax-exempt dividends flowing through subsidiaries. Building on Horst and Curatolo (2020), we develop a methodology to eliminate double counting from these data each year and to reconcile them with the Bureau of Economic Analysis surveys of the activities of US multinational enterprises and financial accounting data.

The rest of this paper proceeds as follows. Section 2 presents the data sources. Section 3 describes our methodology. Section 4 discusses our findings on the US vs. foreign split of US corporations' profits, and Section 5 studies changes in the location of foreign profits.

2 Data on the Profits of US Multinational Companies

Three main data sources exist to study the activities of US multinational companies: surveys conducted by the Bureau of Economic Analysis; company financial statement collected in Compustat; and tax data collected by the Internal Revenue Service. This Section presents these sources and explains how the various profit measures in these data relate to each other. Understanding the specificity of each source and their relationship is a necessary step before we can construct harmonized statistics that maximize comparability across sources, which we do in Section 3.

2.1 BEA Survey Data

The Bureau of Economic Analysis (BEA) conducts mandatory quarterly, annual, and benchmark surveys of the foreign operations of US multinational companies. These surveys are the raw source used by BEA to produce its international economic accounts, including balance of payments statistics and activities of multinational enterprise statistics (Bureau of Economic Analysis, 2021).

Quarterly surveys provide data to estimate the size and location of the profits made by foreign companies (typically affiliates of US multinationals) in which a US investor owns a more than 10% stake. These profits, net of foreign income taxes and pro-rated by the ownership stake of the US investor, are published in the US balance of payments as direct investment equity income received by the United States. Annual surveys provide additional statistics on the activities of US multinationals, but are available with some lag. Benchmark surveys are conducted every five years. The most recent annual survey is for the year 2019, a benchmark survey year.

In addition to direct investment income, tabulations of the annual surveys report a profit measure called “profit-type return" by BEA. In contrast to direct investment income, profit-type return is not pro-rated by the ownership stake of the parent (all the profits of majority-owned affiliates are included, while profits of minority-owned affiliates are excluded) and is gross of foreign income taxes. Once foreign taxes are removed, profit-type return and direct investment equity income line up well on aggregate (see Section 3 below). Direct investment income and profit-type return, however, differ in how profits are assigned across countries, as detailed in Wright and Zucman (2018). Following international guidelines for balance of payments accounting, in direct investment statistics, income is assigned to the countries with which the US parents have direct

links. In profit-type return series, profits are assigned to the countries where operating income is earned. For example, if a US parent owns an operating affiliate in Germany through a holding company in the Netherlands, profits made by the German affiliate are recorded as direct investment income earned in the Netherlands, but as profit-type return earned in Germany. Annual surveys also report another profit measure, "net income," which double-counts income earned through chains of affiliates. We do not use net income in this research. Neither direct investment income nor profit-type return double-counts foreign income.[2]

In the BEA survey, US firms are generally required to report data as they would for stockholder's reports, not as they would for tax purposes. Thus neither direct investment income nor profit-type return coincides with where income is taxed. Profit-type return can understate income booked for tax purposes in havens (especially zero-tax havens), because of schemes that shift taxable but not accounting income, such as hybrid structures[3] and hybrid dividends.[4] By contrast, direct investment income is likely to overstate haven income, because income flowing to holding companies with which US parents have direct links may have been taxed in the countries where operating affiliates are located.

2.2 Corporate Financial Statements

The second main data source to study US multinationals is companies' public financial statements (such as annual 10-K filings to the Securities and Exchange Commission), collected in S&P's Compustat North America. Compustat covers listed corporations; it excludes private companies which do not have to publicly disclose their accounts. The vast majority of listed firms report a

[2]Using the BEA survey, Blouin and Robinson (2020) propose to use "adjusted pre-tax income," which they compute as net income, minus income from equity investments, plus foreign income taxes paid. This is very close to profit-type tax return, which is computed by BEA since 1994 as net income, minus income from equity investments, plus foreign income taxes paid, minus capital gains, plus an inventory valuation adjustment. Since our headline series of haven income are based on profit-type return, we do not use "adjusted pre-tax income." Previous research that used profit-type return to study the location of US multinationals' profits includes Wright and Zucman (2018) and Saez and Zucman (2019).

[3]A case in point is Google Alphabet: Based on public records collected in Orbis we know that Google Holdings, an intellectual property-holding company, made $13.7 billion in operating income in 2019. Since Google Holdings is incorporated in Ireland and files its accounts with the Irish companies registry, these profits are likely assigned to Ireland in the profit-type return series. However, Google Holdings was not taxable in Ireland but in Bermuda (where the corporate tax rate is zero). Public filings show that Google Holdings paid no tax in Ireland.

[4]For example, an affiliate in Luxembourg may pay income considered as interest in Luxembourg to a Swiss affiliate. If this income is treated as dividend in Switzerland, it is excluded from profit-type return in both countries, thus causing an under-estimation of profit-type return in tax havens.

breakdown of their global profits into US vs. non-US. However, profits are not broken down by country.

2.3 Country-By-Country Tax Data

The third main data source is the country-by-country data (tabulations of IRS form 8975) published by the Internal Revenue Service. These data include information on all US-headquartered multinationals with annual revenue over $850 million; see, e.g., Clausing (2020b) and Garcia-Bernardo, Janský and Tørsløv (2021) for a presentation of these data. In 2016 reporting was voluntary and the data was thus incomplete; since 2017 reporting is compulsory. We do not use the 2016 data in our analysis.[5]

An advantage of country-by-country statistics is that these data may more closely reflect how US firms allocate profits for tax purposes than other data sources. Multinationals must allocate profits across "tax jurisdictions;" the IRS instructs that "a business entity is generally considered a resident in a tax jurisdiction if, under the laws of that tax jurisdiction, the business entity is liable for tax therein." Thus, for instance, profits of entities incorporated in Ireland but taxable in Bermuda (see footnote 3 for the case of Google), should logically be assigned to Bermuda (and indeed, as shown in Section 5 below, there is more profit assigned to Bermuda in the country-by-country data than in the BEA survey, and vice-versa for Ireland). Another advantage is that country-by-country statistics report information on Puerto Rico, a tax jurisdiction separate from the United States. Both direct investment and profit-type return statistics exclude profits booked in Puerto Rico, which is not treated as a foreign jurisdiction in the BEA surveys. Last, country-by-country statistics are provided separately for profit-making affiliates and all affiliates (including those making losses). Excluding loss-making affiliates makes it possible to compute meaningful effective tax rates at the country level, which are otherwise upward biased.

The main drawback of existing country-by-country data is that they can double count profits. Until 2020, OECD guidelines did not explicitly instruct companies to remove intra-group dividends

[5]Another tax dataset to study profit shifting comes from IRS form 5471, "US Corporations and Their Controlled Foreign Corporations". Profits can be computed by subtracting "Dividends received from foreign corporations or partnerships controlled by US corporation filing return" from "Current earnings and profits (less deficit)". Tabulations of forms 5471 are only released every two years and at the time of writing the most recent release was for the the year 2016; therefore we do not use controlled foreign corporations data in this paper.

from profits. When intra-group dividends are included, profits can be counted multiple times when they flow through chains of holding companies. We address this issue in Section 3.2 below.

3 Methodology: Construction of Domestic, Foreign, and Haven Profit

Our main macroeconomic statistics of interest are (i) the share of US corporations' profits made abroad, and (ii) the share of foreign profits booked in tax havens. This Section presents the methodology used to construct these series.

3.1 Aggregate Domestic and Foreign Profits

We first estimate aggregate domestic and foreign profits. Our goal is to construct aggregate series that maximize comparability across sources (e.g., based on the same definition of profit); that are comprehensive (i.e., covering the largest sample of firms possible); and that are consistent (e.g., without double counting and with a consistent treatment of taxes and depreciation, so that meaningful ratios of foreign to total profits can be constructed).

Macroeconomic accounts (all corporations). We start by building the most comprehensive aggregates possible, namely total domestic and foreign profits for all US corporations, using BEA's National Income and Product Accounts (NIPA) and International Economic Accounts.

Total domestic profits are computed as NIPA corporate profits (NIPA Table 1.12 line 13, which includes both US and foreign profit), minus Federal Reserve profits, minus portfolio dividends received from the rest of the world net of portfolio dividends paid, minus direct investment income equity income received with current-cost adjustment.[6] Total foreign profits are computed as direct investment equity income received without current cost adjustment, divided by one minus the foreign effective income tax rate of majority-owned affiliates (computing using the BEA survey), plus the current-cost adjustment. We call this measure of foreign profit *pre-tax direct investment equity income*. This is the most comprehensive measure of the foreign earnings of US companies,

[6]The current-cost adjustment converts book depreciation to economic depreciation (Bureau of Economic Analysis, 2021, p. 122), making direct investment income comparable to NIPA corporate profits, which are net of economic depreciation.

and the one that maximizes consistency with NIPA corporate profits.[7] Both domestic and foreign profits constructed with this procedure are on a pre-tax basis (i.e., gross of both foreign and US income taxes) and based on the same measure of economic depreciation.

BEA survey (multinationals). Next, we construct aggregate domestic and foreign profits for multinational companies in the BEA survey. US profits are computed as profit-type return of parents. Foreign profits are computed as profit-type return of majority-owned affiliates. Both domestic and foreign profit so defined are net of book (not economic) depreciation. Before 1994, profit-type return (for both parents and foreign affiliates) is computed as net income plus foreign income taxes paid minus income from equity investment minus capital gains.

Compustat (listed firms). We compute total US and foreign profits for US listed firms in Compustat. Global profits are variable *pi* and foreign profits variable *pifo*. All listed firms report their global profits. Since 2010 we observe foreign profits for about 95% of listed firms weighted by global profit.

Country-by-country data (multinationals). Finally, we compute total domestic and total foreign profits in the country-by-country data. These data require particular care, due to the double-counting issue noted above. To address it, we use Compustat and other sources to estimate total domestic and foreign profits which should in theory (given reporting threshold requirements) be reported if there was no double-counting, and re-scale the country-by-country data so that they match these totals, building on Horst and Curatolo (2020). Specifically, in Compustat we compute aggregate domestic and foreign profits for all US-headquartered listed multinational companies with revenues over $850 million, and estimate the foreign vs. domestic split for the approximately 120 listed companies with missing *pifo*. We also estimate profit for about 150 private companies subject to the country-by-country reporting requirements but not covered by Compustat. Appendix B provides complete details. Our results suggest that total profits in country-by-country data were over-estimated by 48% in 2017, 72% in 2018 and 47% in 2019. We

[7] Pre-tax direct investment equity income is more comprehensive than profit-type return plus foreign taxes paid, since profit-type return is only published for majority-owned affiliates, while direct investment equity income includes the profit of minority-owned affiliates apportioned by the ownership stake of the US parent. We use pre-tax direct investment equity income primarily to compute aggregates, not to study the country-by-country location of income; when allocating foreign profits across countries, we favor profit-type return (see Section 3.2 below).

also show that over half of this double counting involves domestic profit. We correct the country-by-country data at the country level and all our analyses of the country-by-country uses these corrected series.

Consistency across sources. Table 1 compares the amount of foreign profits earned by US multinationals across sources. All series reported in this table are on a pre-tax basis and based on book depreciation. We can see that the absolute amounts line up relatively well. In 2019, there is $656 billion in pre-tax direct investment equity income, $523 billion in profit-type return for majority-owned affiliates, $603 billion in foreign profit in the corrected country-by-country data, and $560 in foreign profit in Compustat.

The differences in aggregate totals reflect the specificity of each source (in particular the sample of firms covered), as discussed in Section 2. Profit-type return is slightly lower than direct investment income because of the exclusion of minority-owned affiliates. The ratio of profit-type return to direct investment income is stable over time, as shown by Appendix Figure A1a. Pre-tax foreign profit in Compustat is slightly lower than pre-tax direct investment income because of the exclusion of private firms and the fact that not all listed firms report foreign profits (see last column of Table 1). Foreign profit in Compustat averages 87% of pre-tax direct investment equity income since 2004 with a ratio broadly stable over time (Appendix Figure A1b). Compustat profit lines up very well with profit-type return. The corrected country-by-country series lie in between profit-type return and direct investment income.

3.2 Share or Foreign Profits Booked in Tax Havens

Our second statistic of interest is the share of foreign profits booked in tax havens. We compute this share for US multinational companies using the BEA survey data and the corrected country-by-country data. Our objective is to capture the location of operating or taxable income.

In the BEA survey, our preferred measure of income for allocating foreign profit to specific jurisdiction is profit-type return (not direct investment income). Following Zucman (2014), we classify Bermuda, Ireland, Luxembourg, Netherlands, Singapore, Switzerland, and UK Caribbean as tax havens. To improve comparability with the country-by-country data, we also impute profits in Puerto Rico (which is not included in the BEA survey) using the value reported in IRS form

Table 1: Aggregate Foreign Pre-Tax Profits

year	DI equity income	Profit-type return	CBCR	Compustat	Compustat (% info)
1990				68.8	70.6
1991				52.6	63.5
1992				47.8	69.4
1993				46.9	68.1
1994	104.0			72.4	73.0
1995	130.0			93.6	69.9
1996	142.2			104.9	71.2
1997	155.4			108.8	67.5
1998	132.5			89.1	62.5
1999	163.0			119.3	63.0
2000	199.0			149.3	68.9
2001	173.3			122.1	74.1
2002	180.5			134.4	70.0
2003	224.0			178.6	74.9
2004	312.6	258.8		285.3	81.1
2005	386.8	324.9		334.4	84.8
2006	433.8	365.2		406.1	80.3
2007	488.6	419.6		474.2	85.8
2008	560.2	449.2		424.5	93.5
2009	459.7	398.7		374.5	94.5
2010	573.9	460.2		481.3	89.0
2011	623.0	561.1		553.0	94.1
2012	596.2	543.4		528.8	93.5
2013	604.3	511.7		526.0	90.7
2014	589.5	554.2		520.9	94.0
2015	523.9	478.2		433.4	95.4
2016	525.3	434.1		447.7	94.7
2017	632.7	538.8	596.0	545.8	94.8
2018	673.3	556.2	658.8	614.1	97.3
2019	655.7	522.7	602.5	559.7	95.7
2020	569.1			414.0	99.2

Notes: This table shows the aggregate amount of foreign pre-tax profits earned by US multinational companies in the different data sources in this research, in billions of current US$. DI equity income is direct investment equity income without current-cost adjustment, gross of foreign income taxes (see text). Profit-type return is profit-type return of majority-owned affiliates as reported in the BEA survey. "CBCR" refers to country-by-country profits corrected for double counting following the procedure described in the text and detailed in Appendix B. The column "Compustat (% info)" shows the share of total profits (Compustat variable *pi*) made by companies with information available on foreign profits (Compustat variable *pifo*).

8975 and add Puerto Rico to our list of havens.[8] This imputation does not affect our results on trends in profit shifting around the Tax Cuts and Jobs Act. Despite the addition of Puerto Rico,

[8]Thus the haven share of foreign profits is given by [profit-type return in Bermuda, Ireland, Luxembourg, Netherlands, Singapore, Switzerland, and UK Caribbean, plus profits in Puerto Rico] divided by [total profit-type return, plus profits in Puerto Rico].

our measure of haven profit remains conservative, because it excludes havens which cannot be separately identified in the BEA survey data (e.g., Jersey, Malta, Mauritius). We also report series of haven profits using direct investment income (which we view as an upper bound for the reasons noted in Section 2.1), using the same list of tax havens.

In the country-by-country data corrected for double counting, the larger country coverage allow us to consider a slightly more extensive list of havens: in addition to those considered above, our list includes Barbados, Gibraltar, Hong Kong, Isle of Man, Jersey, Malta, and Mauritius.

4 Evolution of the Share of Profits Made Abroad

4.1 Foreign vs. Domestic Profits: Aggregate Data

We start the analysis by plotting in Figure 1a the evolution of the share of profits booked abroad by all US corporations (macroeconomic accounts), multinational corporations (BEA survey and country-by-country data), and listed corporations (Compustat). A number of results emerge.

First, the foreign share of profit is relatively similar across sources, although there are some differences. The foreign profit share ranges from 30% to 45% across sources in 2019-2020, reflecting the different underlying samples of firms. Multinationals naturally have a higher foreign profit share than all US corporations, which includes firms with no affiliates abroad (including small single-owner firms, such as incorporated self-employed individuals). The gap was significant in the 1980s and early 1990s but has become smaller in recent decades as multinationals captured by the BEA survey account for a high and growing share of all US corporate profits. Listed companies have the highest foreign profit share, as listed firms tend to be larger and more internationalized. The foreign share in our corrected country-by-country data lies in between that seen in Compustat and in the BEA survey.

Second, in all series, the foreign profit share fell 3–5 percentage points between 2017 (the year immediately preceding the Tax Cuts and Jobs Act) and 2020 (the last year in our study). There is clear agreement across sources that the trend is towards a slightly higher share of profits being booked in the United States. The evolution by sector (shown in Appendix Figure A2) suggests the decline is an across-the-board phenomenon, albeit more pronounced in the Information sector. This small decline could have many reasons other than the Tax Cuts and Jobs Act. As is apparent

from Figure 1a, the share of foreign profit fluctuates in the short run, due, e.g., to differences in the timing of business cycles between the United States and the rest of the world.

4.2 Firm-Level Analysis

To learn more about the potential contribution of the the Act, we turn to Compsutat firm-level data. We identify all the firms that experienced a sustained decline (defined as lasting through to the end of our study, 2020) of the foreign share of profit of at least 10 or 20 percentage point post-Tax Cuts and Jobs Act. We then manually check the annual 10-K of these firms to understand the origin of the decline, as detailed in Appendix C.

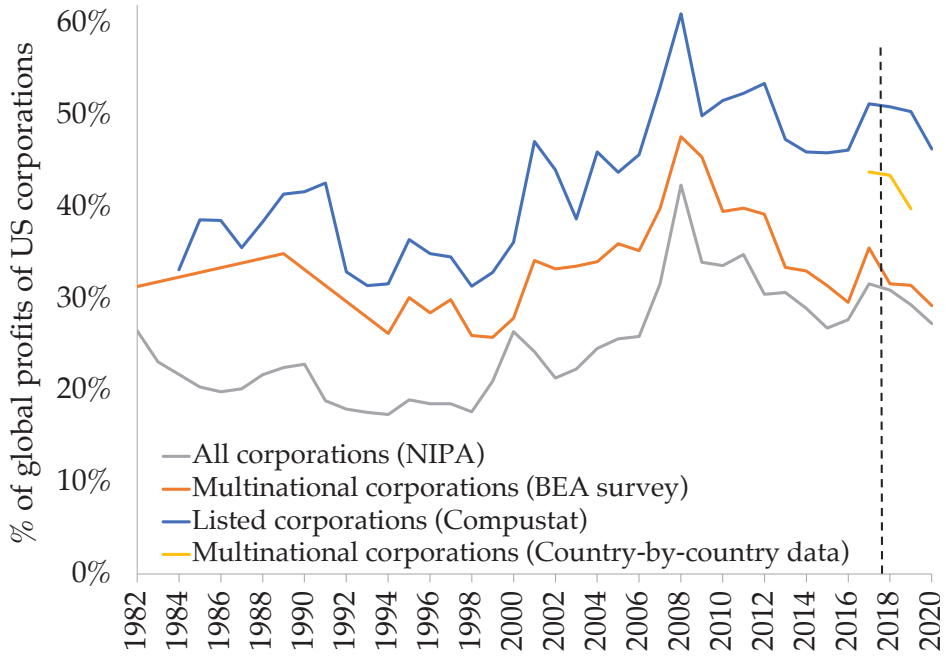
Our methodology identifies 23 firms with positive profits over the 2017–2020 period, more than $10 billion in revenue at least one year during the period, and a more than 20 points drop in the foreign profits share post-Tax Cuts and Jobs Act (Figure 1b). In 6 cases (Alphabet, Cisco, Facebook, Microsoft, Nike, and Qualcomm), the decline is unambiguously (or very likely) related to changes in profit shifting strategies, specifically repatriation of intellectual property to the United States. For instance, Alphabet states in its 2020 annual 10-K that: *"As of December 31, 2019, we have simplified our corporate legal entity structure and now license intellectual property from the U.S. that was previously licensed from Bermuda resulting in an increase in the portion of our income earned in the U.S."* In 6 additional cases, there is some limited evidence that the decline may be partly profit-shifting related. In the remaining 11 cases, there is no evidence that changes in profit shifting are involved. Appendix Table A2 discusses each case. Around 90% of listed firms with positive profits over the 2017–2020 period and more than $10 billion in revenue (at least one year during the period) experience no large change (defined as a sustained decrease of more than 20%) in their foreign earnings share.[9] Thus both in dollar-weighted and unweighted terms, the domestic vs. foreign profit split appears relatively little changed after the Act.

To form a lower bound for the contribution of changes in profit shifting strategies to the decline in the aggregate foreign profit share, we compute the amount of profit that would be booked by Alphabet, Cisco, Facebook, Microsoft, Nike, and Qualcomm outside of the United States in 2020 if

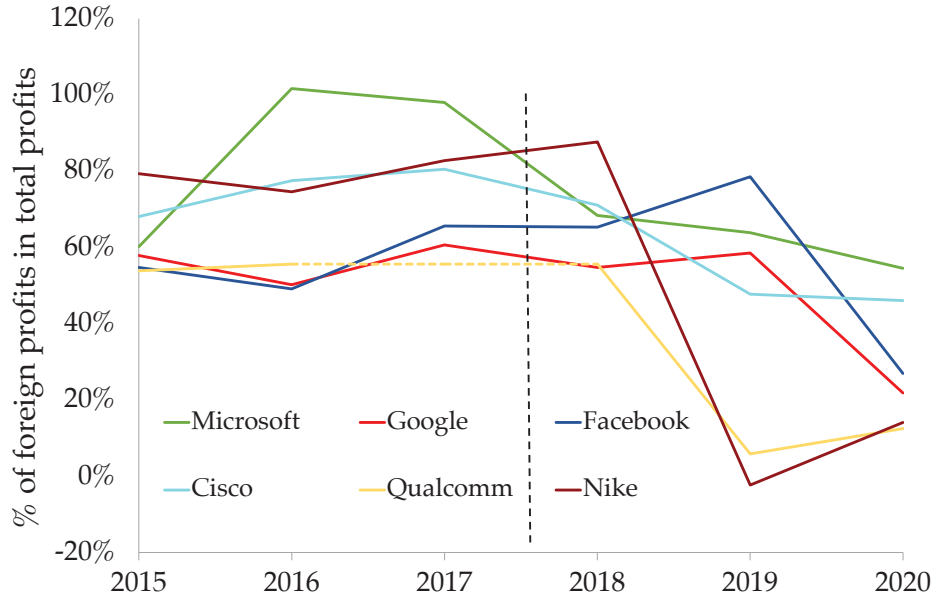
[9]There are 219 listed firms with positive profits over the 2017–2020 period and more than $10 billion in revenue at least one year during the period. Out of this sample, 23 (i.e., 10.5%) experience a 20% or more sustained decline in their foreign earnings share after the Act. Appendix Figure A3 shows the evolution of foreign profits for all listed firms between 2015-16 and 2018-20.

Figure 1: Foreign Share of Profits of US Firms

(a) Foreign Profits (% All Profits)



(b) Firms with a Large Drop in Foreign Profit



Note: Panel (a) shows the ratio of pre-tax profits booked outside of the United States to total (domestic plus foreign) pre-tax profits for all corporations (using National Income and Product Account data), multinational corporations (using the BEA survey and country-by-country data), and listed corporations (using Compustat). See text for computation of foreign and domestic profits in each source. In Compustat, the sample includes all firms headquartered in the United States with non-missing *pifo* and profits are winsorized at the 99th and 1th percentile. Panel (b) shows the evolution of the foreign share of profit for listed multinationals with a 20 points or more decline in the foreign share linked to changes in profit shifting strategies. See Appendix C for details on sample construction.

their foreign income share had remained equal to its pre-Tax-Cuts-and-Jobs-Act level. We find that the foreign share of US corporations' profits would be 2.8 points higher in 2020.[10] To form an upper bound, we do the same computation but for all 22 firms with a 20 points or more sustained drop in the foreign income share, whether or not there is explicit evidence that the decline is profit-shifting related. We find that US corporations' foreign income share would be 4.2 points larger in 2020. These results suggest that changes in profit shifting strategy can account for a significant fraction of the 3–5 percentage point decline in the foreign share of US corporations' profit, and that the repatriation of intellectual property by a few large tech companies accounts for most of this drop.[11]

Two remarks are in order. First, the decline in foreign income observed for some firms is consistent with incentives introduced in the Tax Cuts and Jobs Act. The Act introduced a reduced rate on foreign income derived from intangibles booked in the United States known as FDII (foreign-derived intangible income). Royalties earned on exports of the right to use intellectual property booked in the US are taxed at 13.125%. The law also introduced a new tax on foreign income subject to low tax rates abroad, known as GILTI (global intangible low-taxed income). Second, a caveat when interpreting changes in profit shifting after 2017 is that the Tax Cuts and Jobs Act coincided with other law changes abroad. Most importantly, in 2020 Ireland phased out the "Double Irish" structure which allowed companies like Alphabet to book income in subsidiaries incorporated in Ireland but taxable in Bermuda (see e.g., Zucman, 2014, for a description of this scheme). Alphabet would probably have moved its intellectual property out of its Irish/Bermuda subsidiary even absent the Tax Cuts and Jobs Act, although provisions introduced in the Act may have been the reason why it chose to move it to the United States. For that reason, the observed decline in the foreign income share of US companies should probably be seen as an upper bound for the effect of the Tax Cuts and Jobs Act.

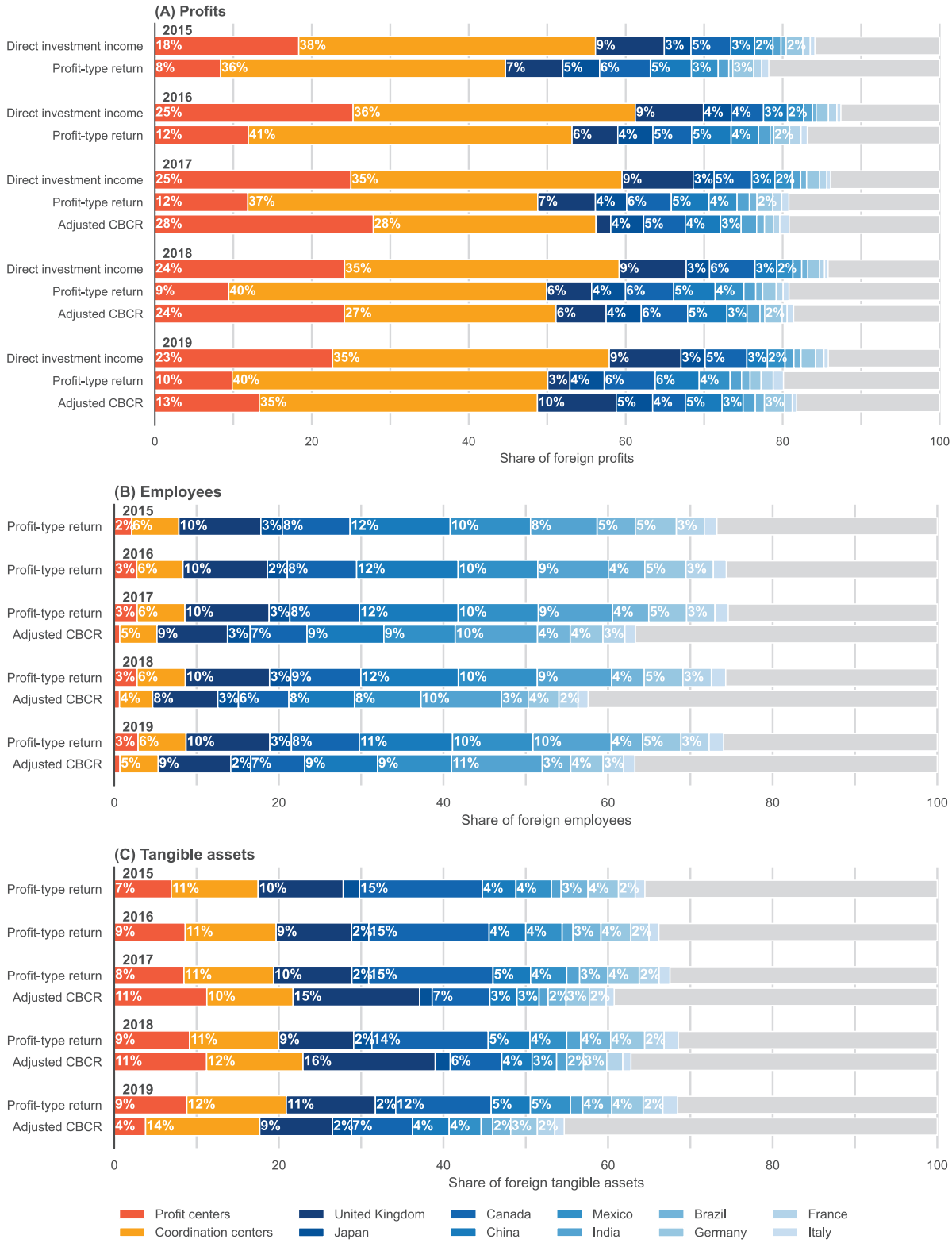
5 Evolution of the Geography of Foreign Profits

In the next step of our analysis, we study changes in the location of the *foreign* earnings of US multinationals (Figure 2A).

[10] We estimate that Alphabet, Cisco, Facebook, Microsoft, Nike, Qualcomm would have booked $61 billion extra in the United States, which is 2.8% of the $2,194 billion in total pre-tax profits made by US corporations in 2020.

[11] Considering firms with a 10 percentage points or more decline in the foreign earnings share yields similar findings.

Figure 2: Share of foreign profits, employees and tangible assets



Notes: See text for definition of profit center and coordination centers.

We are interested in profit booked in individual tax havens as well as tax havens as a group. To discuss the results, we group the tax havens in two categories, as in Reurink and Garcia-Bernardo (2020): "profit centers" and "coordination centers". Profit centers include territories used primarily for profit booking, with little production: Bermuda, the Cayman Islands, Puerto Rico, Jersey, Isle of Man, Gibraltar, Barbados, Mauritius, British Virgin Islands, Bahamas and Malta. Coordination centers include havens that are used to book profit but also for management and other coordination activities: Singapore, the Netherlands, Switzerland, Ireland, Luxembourg and Hong Kong. Over the 2015–2020 period, we find that all existing series—direct investment income, profit-type return, country-by-country data—paint a consistent picture .

First, the fraction of foreign profit booked in havens is broadly similar across sources, although a number of differences deserve to be noted. About 50% of the foreign profits of US multinationals appear to be booked in tax havens in recent years. The haven share is higher in direct investment income statistics (around 55%) than in profit-type return series (around 45%) with the corrected country-by-country series usually in between. For the reason discussed in Section 2.1, direct investment income series can be seen as an upper bound while profit-type return series can be seen as conservative. Appendix Figure A5 reports a comparison across sources at the haven level. More profit is assigned to Bermuda in the country-by-country data than in profit-type return series, and vice-versa for Ireland. In direct investment income series, more profit is assigned to conduit countries (Luxembourg, Netherlands), due to the fact that in direct investment statistics, profits are allocated to the country with which the US parent has a direct link.

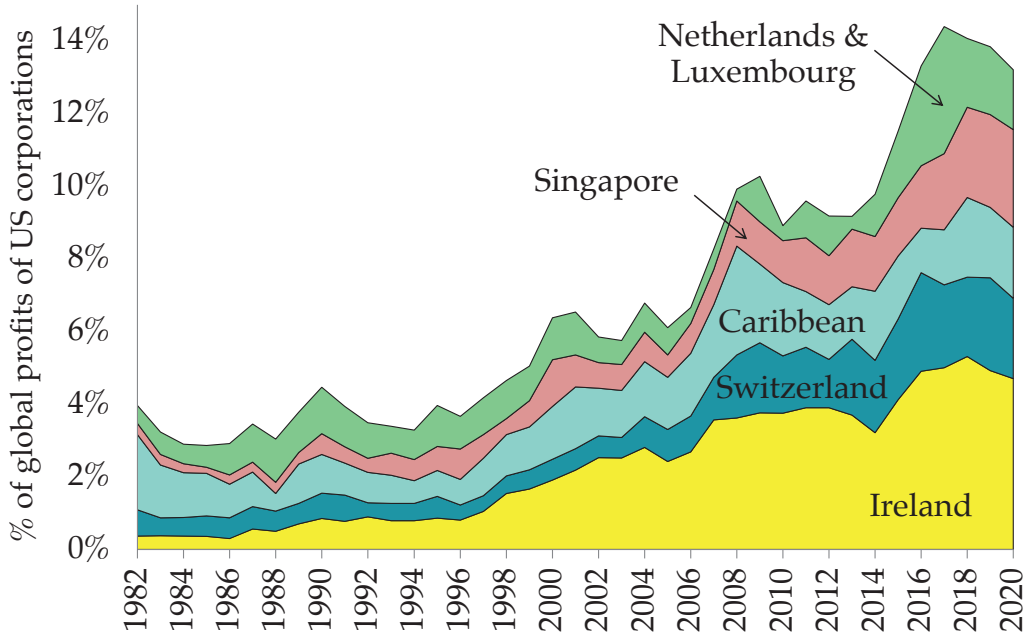
Second, and most importantly, the share of foreign profits booked in tax havens has remained flat at around 50%. No source suggests a significant change in the haven share of foreign profits. Looking at country-level patterns, for profit centers the share of profit booked in Bermuda, Jersey, Isle of Man and Gibraltar increased, while it fell in the Cayman Islands. For coordination centers, Ireland and Singapore attracted a larger share of foreign profits consistently across sources, while Netherlands and Switzerland kept their share of profits constant or, depending on the source, lost part of it. Overall gains and losses at the haven-level broadly offset each other.

Third, the high concentration of foreign profits in tax havens contrasts with the dispersion of employment and tangible assets. Consistently across sources, only 4–9% of foreign employees and 18–23% of foreign tangible assets are located in tax havens (panels B and C of Figure 2),

primarily in coordination centers such as Ireland, Singapore or the Netherlands. The shares of foreign employees and foreign tangible assets in tax havens are stable over the 2015–2019 period, suggesting no significant changes in patterns of tax competition for production factors.

Finally, we can combine the results from Section 4 on the share of profits booked abroad, with these results on the share of foreign profits booked in tax havens. For this computation, we use profit-type return series as our measure of the share of foreign profits booked in tax havens. Because profit-type returns series can be constructed back to 1982, we can show the long-run evolution of the fraction of US firms' total profits booked in tax havens.[12] Figure 3 reports the results.

Figure 3: Profits Booked by US Corporations in Tax Havens



Note: This figure shows the ratio of pre-tax profits booked in tax havens to global pre-tax profits for all US corporations (whether they have foreign affiliates or not). At the numerator, haven profits are estimated using data from the BEA survey of the foreign operations of US multinationals, series "profit-type return." "Caribbean" includes Bermuda. At the denominator, global pre-tax profits include all domestic and foreign profits of US corporations, as reported in the US macroeconomic accounts; see Section 3.1. Puerto Rico is excluded from both the numerator and denominator.

The series in this figure is constructed by multiplying the share of global profits made abroad (Figure 1a, line "All corporations (NIPA)") by the share of foreign profits booked in tax havens

[12]Due to the lack of long-run time series on profits booked in Puerto Rico, we have to exclude this territory from the list of havens considered in Figure 3. Including Puerto Rico would increase the haven share throughout, though more research is required to know by how much exactly back in time.

(Figure 2, line "profit-type return," removing Puerto Rico). For instance, in 2017, 32% of the total profits of US corporations (including firms with no foreign affiliates) were booked abroad, and 46% of the profit-type return of majority-owned affiliates was in tax havens. Therefore, 46% $\times$ 32% = close to 15% of the global profits of US firms were booked in tax havens in 2017, a historical peak. This statistic fell back to 13% in 2020, driven by the decline in the foreign share of profit. Overall, the share of total profit booked in havens slightly fell but remained at a historically high level after the Tax Cuts and Jobs Act. This share was less than 5% in the 1980s and 1990s.

In sum, the Tax Cuts and Jobs Act was not followed by a major decline in the fraction of US firms' profits booked in tax havens. Once all publicly available sources are confronted and harmonized—so that profits are defined in the same way and any double counting is removed—these sources paint a consistent picture. There was a small decline the share of profits booked outside of the United States, largely driven by the repatriation of intellectual property to the United States by six large companies. In 2018–2020, US multinational corporations booked a similar share of their foreign profits in tax havens—around half—as in the years immediately preceding the reform. Combining these two findings implies a modest decline in the fraction of their total (US plus foreign) profits that US firms book in tax havens. These results suggest that additional policy efforts have the potential to further reduce profit shifting by US multinational companies.

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Online Appendix (Not for Publication)

Section A details the construction of domestic and foreign profit in the US National Income and Product Accounts and International Economic Accounts. Section B details the correction for double-counting in the country-by-country data. Section C provides additional details on the firm-level analysis in Compustat. Appendix Figures and Tables are in Section D and Section E respectively.

A Domestic and Foreign Profits in the National Accounts

To compute the fraction of US firms' profits that are made outside of the United States, we construct a consistent measure of US and foreign profits in the US national income and product accounts (NIPA) and International Economic Accounts.

We compute *foreign pre-tax profits of US corporations* in three steps:

- We start with direct investment equity income received without current cost adjustment, taken from BEA's International Economic Accounts (e.g., $420B in 2016).

- Direct investment equity income is net of foreign income taxes paid. We convert it to a pre-tax basis by dividing direct investment equity income by 1 minus the foreign effective income tax rate of the majority-owned affiliates of US multinationals. This effective rate is computed in the BEA survey as foreign income taxes paid by majority-owned affiliates divided by profit-type return of majority-owned affiliates. In 2016, the effective tax rate is $87B/$434B = 20.0%. Thus on a pre-tax basis, direct investment equity income is $420B/0.8 = $525B in 2016.

- We then add BEA's current-cost adjustment. This adjustment converts book depreciation to economic depreciation (see Bureau of Economic Analysis, 2021, p. 122), making foreign

profit comparable to domestic NIPA profit.[13] In 2016, the current-cost adjustment is $21B; thus total pre-tax foreign profits that year add up to $525B + $21B = $546B.

We compute *domestic pre-tax profits of US corporations* in two steps.

- We start with NIPA corporate profits as included in national income (e.g., $2,038B in 2016), which includes foreign income (net of foreign income taxes). From this we subtract Federal Reserve profits ($93B in 2016) and portfolio dividends received from the rest of the world net of portfolio dividends paid ($218B - $139B = $79B). The result ($1,866 in 2016) is the global income of US-headquartered corporations.

- We then remove the foreign profits included in NIPA corporate profits, i.e., direct investment equity income received with current-cost adjustment ($441B in 2016; cf. above). The result (e.g., $1,425B in 2016) is the domestic income of US-headquartered corporations.

From there we compute the fraction of US corporations' profits booked abroad as foreign pre-tax profits / (foreign + domestic pre-tax profits); e.g., in 2016 546B/(546B + 1425B) = 28% (series reported in Figure 1a, "All corporations (NIPA)").

B Correction of Country-by-Country Data

B.1 Correction of Double-Counting in the Country-by-Country Data

The country-by-country data double-count some profits as a number of companies include as profit tax-exempt dividends flowing through subsidiaries. When intra-group dividends are included, profits can be counted multiple times as they flow through chains of holding companies. This double counting can occur in the data for the period that we use (2017-2019), because the OECD reporting guidelines were changed only in 2020 to explicitly instruct companies to remove intra-group dividends from profits.

[13] In series without current-cost adjustments (such as profit-type return), depreciation and depletion are based on charges as reported in accounting statements (called "consumption capital allowance" by BEA). In series with current-cost adjustments, depreciation is computed using depreciation rates used for structures and equipment to reflect economic depreciation (called "consumption of fixed capital" by BEA); depletion is not subtracted because it is not a production cost in the System of National Accounts (Bureau of Economic Analysis, 2021, paragraph 13.14). Series without current-cost adjustments are more comparable to financial profits (as reported in, e.g., Compustat), while series with current-cost adjustments are comparable to national account statistics (such as corporate profits as reported in the NIPAs). The current-cost adjustment is computed for all foreign affiliates globally by BEA, but not at the country or industry level.

To correct the country-by-country data for double-counting of profits, we develop a methodology to eliminate double counting from these data, building on Horst and Curatolo (2020). We also reconcile the data with the Bureau of Economic Analysis surveys of the activities of US multinational enterprises.

As in Horst and Curatolo (2020), we use Compustat data to estimate the theoretical profits which should be reported in the CBCR data. We extract information through Wharton Research Data Services (WRDS) on foreign profits (pifo), foreign taxes (txfo), total profits (pi) and total taxes (txc). We also collect data on total assets (at), intangible assets (intan), employees (emp) and total sales (revt). Our cleaning procedure consists of four steps: First, we maintain observations using the industrial reporting format (indfmt=="INDL") whenever possible. Second, we retain only US-headquartered multinational companies (loc=="USA"), which reduces the sample to 7,789, 7,821, and 7,651 companies for 2017, 2018 and 2019. Third, we keep companies with revenues over $850 million, which reduce the sample to 1,741, 1,756, and 1,737 companies. For comparison, the CBCR samples include 1,575, 1,641 and 1,698 companies in 2017, 2018 and 2019 and may thus be considered to represent complete coverage for this purpose. Fourth, we drop companies which lack information on foreign profits or foreign taxes, which reduces the sample to 1,444, 1,468, and 1,443 companies. The total profit in 2017 for the sample of 1,444 companies is $1,342 bn (Table A1, columns B–C) and of this sum, $550 bn corresponds to foreign profits, $503 bn to domestic profits, and a total of $289 bn is unknown.

To estimate the theoretical total profits, we first estimate the foreign and domestic profits of the approximately 120 companies with missing data—i.e, bringing the sample size from approximately 1,330 companies to 1,450 companies. To do so, we model the logarithm of foreign profits using the logarithm of assets, revenue, intangibles, number of employees and foreign tax accrued using the data (running a regression for the companies with non-missing foreign profits). The model estimates that the companies with missing information in 2017 have $248 bn of domestic profits (out of the $293 bn which are unknown) (Table A1, columns G–H). Second, we estimate the financial information of companies missing in the sample—i.e, bringing the sample size from approximately 1,450 companies to the approximately 1,600 companies reporting CBCR. Since those companies are private companies, they are expected to be smaller than publicly listed companies. We assign to these missing companies 20% of the average profits of non-missing observations. The profits of

all companies reporting CBCR are estimated at $1,361 bn in 2017, $1,514 bn in 2018 and $1,513 bn in 2019 (Table A1, column I). Given that $1,818 bn, $2,406 bn and $2,064 bn are reported to CBCR, excluding stateless entities, this implies a double-counting of 34%, 59% and 36% respectively (Table A1, column K). Double-counting primarily takes place in the United States. Splitting this into domestic and foreign components, we estimate domestic double-counting at 54%, 74% and 42% in 2017, 2018 and 2019 ($415 bn, $632 bn and $385 bn) and foreign double-counting at 7%, 39%, and 28% ($42 bn, $260 bn, and $166 bn) (Table A1, columns K and M). The extent of foreign double-counting is higher when stateless entities are included (Table A1, columns J and L).

In addition, we present three robustness checks. The first excludes the imputation of missing financial information. As in our benchmark method, we assume that the foreign profits of all companies which paid zero foreign tax are zero. This increases the sample size from around 1,000 to around 1,330 companies. As in our benchmark method, the second step assumes that missing firms have the same average profits as non-missing firms. The second robustness test begins with the sample with non-zero foreign profits and assumes that the average profit of all missing observations is 20% of the average profit of non-missing observations. This value is calculated using information on listed vs non-listed companies in Orbis with a revenue over $850 million. The third robustness test adjusts information on profits based on information on employees and sales in CBCR data, which are not subject to double-counting. All methods provide similar estimates of double counting.

B.2 Comparison and Reconciliation with Other Sources

After correcting the double-counting in the CBCR data we find good agreement between all datasets (Table A1).

In 2017 we estimate foreign profits in CBCR at $596 bn, comparable to the $570–669 bn found in other datasets. In 2018 we estimate foreign profits at $658 bn, comparable to the $580–694 bn found in the other datasets. In 2019 we estimate foreign profits at $602 bn, comparable to the $547–671 bn found in the other datasets. The total profits are also comparable to those of Compustat and Orbis, both of which exhibit smaller sample sizes.

Next, we move past the aggregate level and correct for double-counting in CBCR data at country level. We remove double-counting proportionally to the profits reported in the CBCR

data with profit-making entities, since profits (potentially including dividends) offset by losses are still reflected in that data. Since it is unlikely that profits are double-counted in countries not used as conduits or tax havens, we remove all double-counting from all tax havens with two exceptions: the United Kingdom and Ireland. While we do not classify the United Kingdom as a tax haven, it is often the location of corporate holdings and serves as a conduit. We do not remove profits from Ireland since the effective tax rate is 12% (similar to the statutory tax rate) and the Irish profits in CBCR data are much lower than those of other sources—which could point to a reporting of profits attributable to double Irish structures in other jurisdictions (e.g. Bermuda or stateless entities).

The CBCR data at country level is highly correlated with profit-type return (BEA) series (Figure A5). Among the countries featured in both datasets, CBCR and profit-type return show a stronger correlation (Kendall rank 0.77-0.78), although BEA data show lower profits for the Netherlands, Bermuda, Luxembourg and the UK Caribbean. Conversely, the direct investment series (BoP) show a weaker correlation (Kendall rank 0.74–0.76), especially in countries reporting less than $20 bn in profits.

C Changes in Profit Shifting at the Firm Level

We identify listed firms that engaged in changes in profit shifting behavior after the TCJA by combining quantitative and qualitative evidence obtained from firms' annual reports. We restrict our analysis to firms that had over $10bn revenue and remained profitable over the period 2017-2020. Using data from Compustat, we first find corporations that experience a persistent 20 percentage point drop in their foreign share of profits on a given year after the reform, when compared to the previous 3-year average. Among those firms, we isolate the ones for which we think the drop could be caused by profit shifting. Concretely, we look at drops that are persistent and happen while total profits do not experience sharp changes. Most often, this implies that we see clear opposite trends in the trajectories of domestic and foreign profits, with a rise in profits booked in the US and a symmetric fall in profits booked abroad.

We then search the firms' annual reports (10-K SEC fillings) for any mention of a change in profit shifting behavior. Most often this implies searching for intra-group transfers of intangible assets such as patents, trademarks, copyrights, and other intellectual property. In one case we

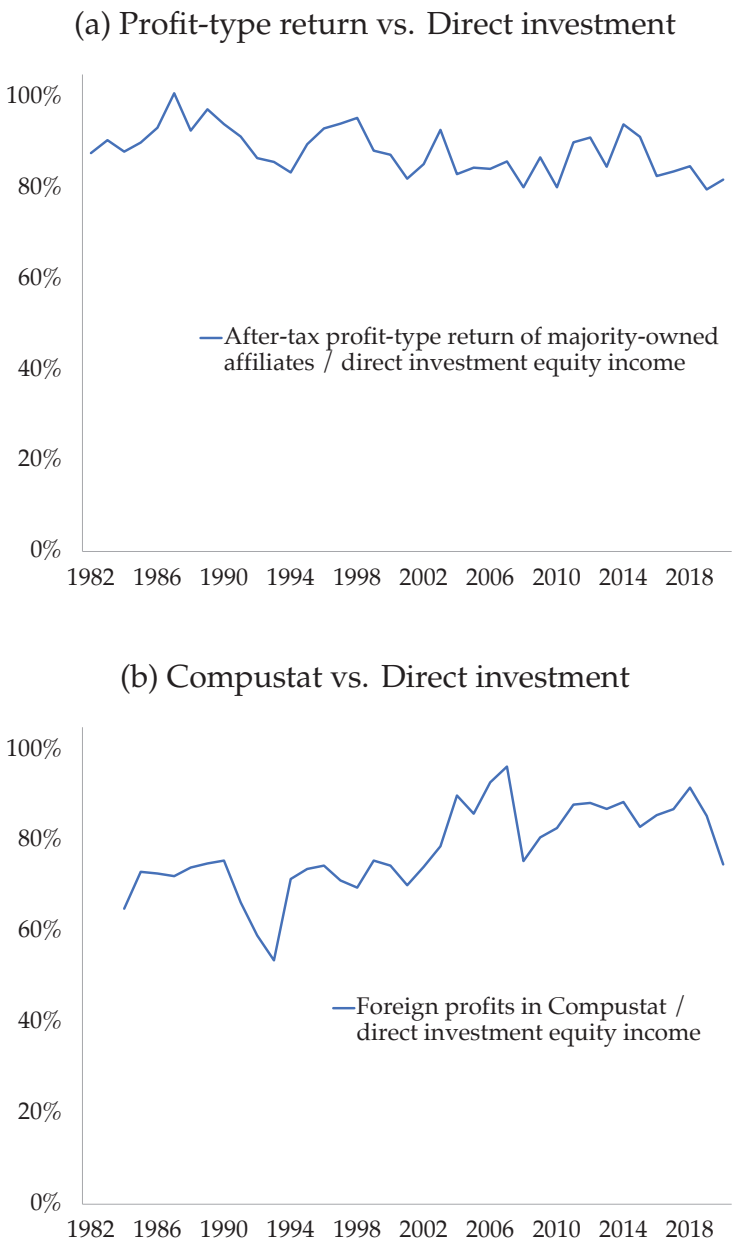
find a change in intra-group lending practices. We conclude that firms have changed their profit shifting behavior after the TCJA if: (1) their annual reports explicitly mention changes in profit shifting behavior; and/or (2) their domestic and foreign profits move symmetrically (see Table A2 for case by case details and Table A4 for an example of domestic and foreign profits moving symmetrically).

We list the firms we suspect have changed their profit shifting practices but do not satisfy the above criteria separately. We exclude from this subgroup all firms for which we have strong suspicions that the drops in the foreign share of profits that we observe were not due to changes in profit shifting.

We repeat the exercise looking at firms that experienced a drop of 10 percentage points in their foreign share and do not find any additional firms having clearly changed their profit shifting behavior.

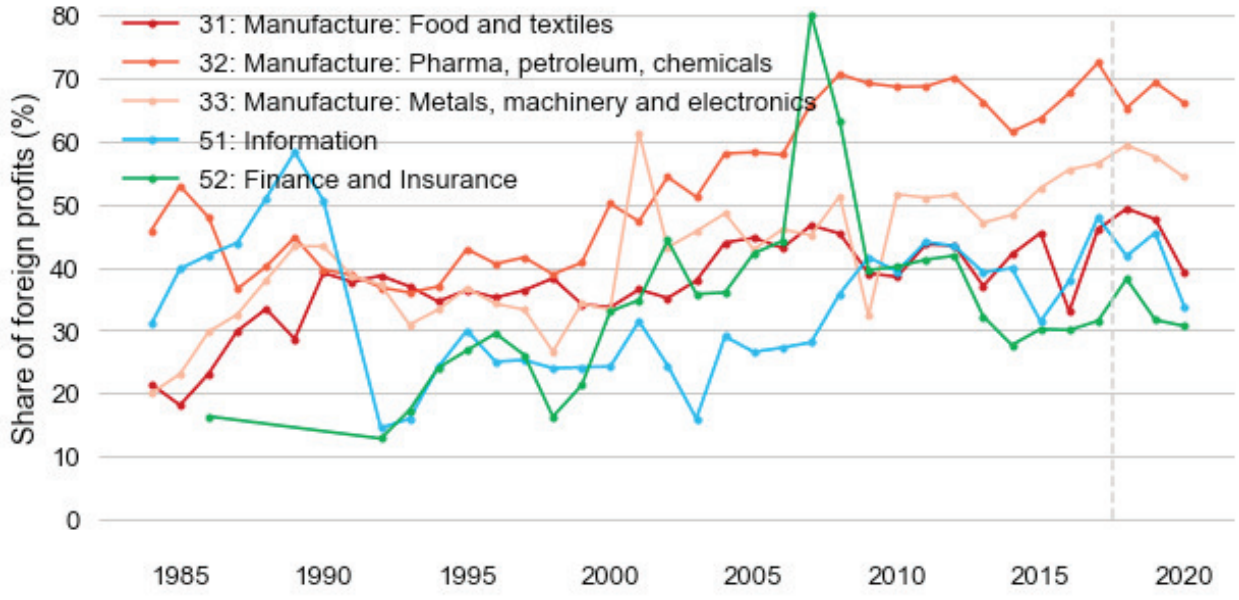
D Appendix Figures

Figure A1: Comparison of foreign profit measures



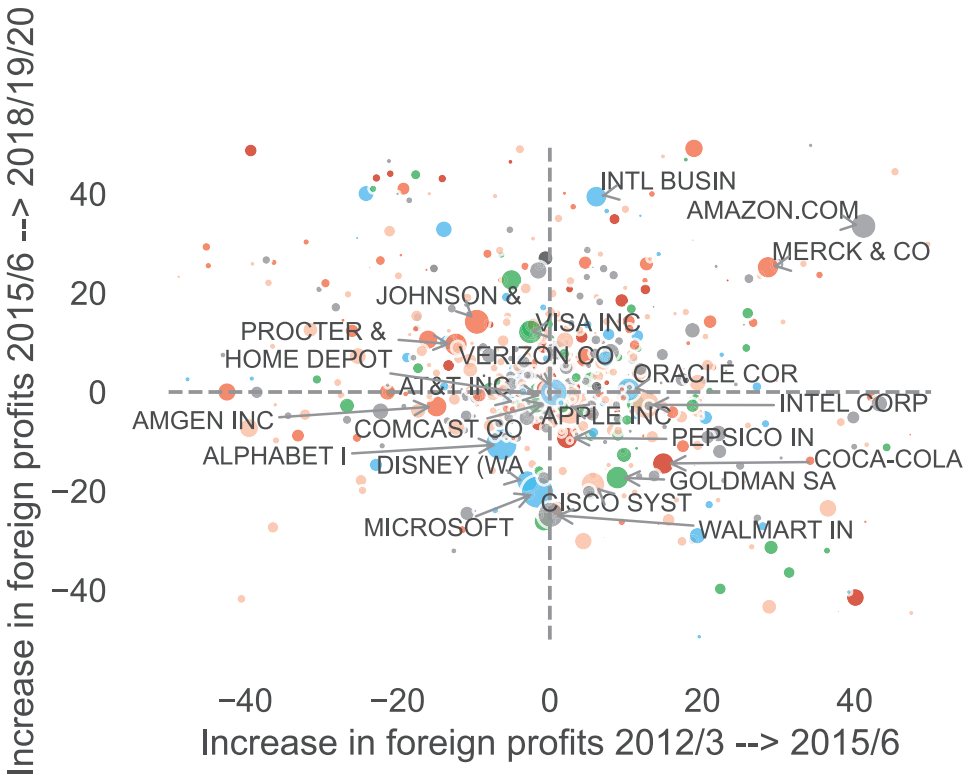
Notes: Panel A plots the ratio of after-tax profit-type return of the majority-owned affiliates of US multinational companies (defined as profit-type return minus foreign corporate income taxes paid), to direct investment equity income earned by the United States. The ratio is stable over time and slightly below 100%, as the numerator excludes the profits of minority-owned affiliates. Panel B plots the ratio of the foreign pre-tax profits of US listed companies as recorded in Compustat, to pre-tax direct investment income received by the United States, from the BEA international economic accounts. Pre-tax direct investment equity income is direct investment equity income without current-cost adjustment, divided by 1 minus the foreign income tax rate of the majority-owned affiliates of US multinational companies. The ratio is less than 100% because of the exclusion of private companies in Compustat.

Figure A2: Share of foreign profits in selected sectors



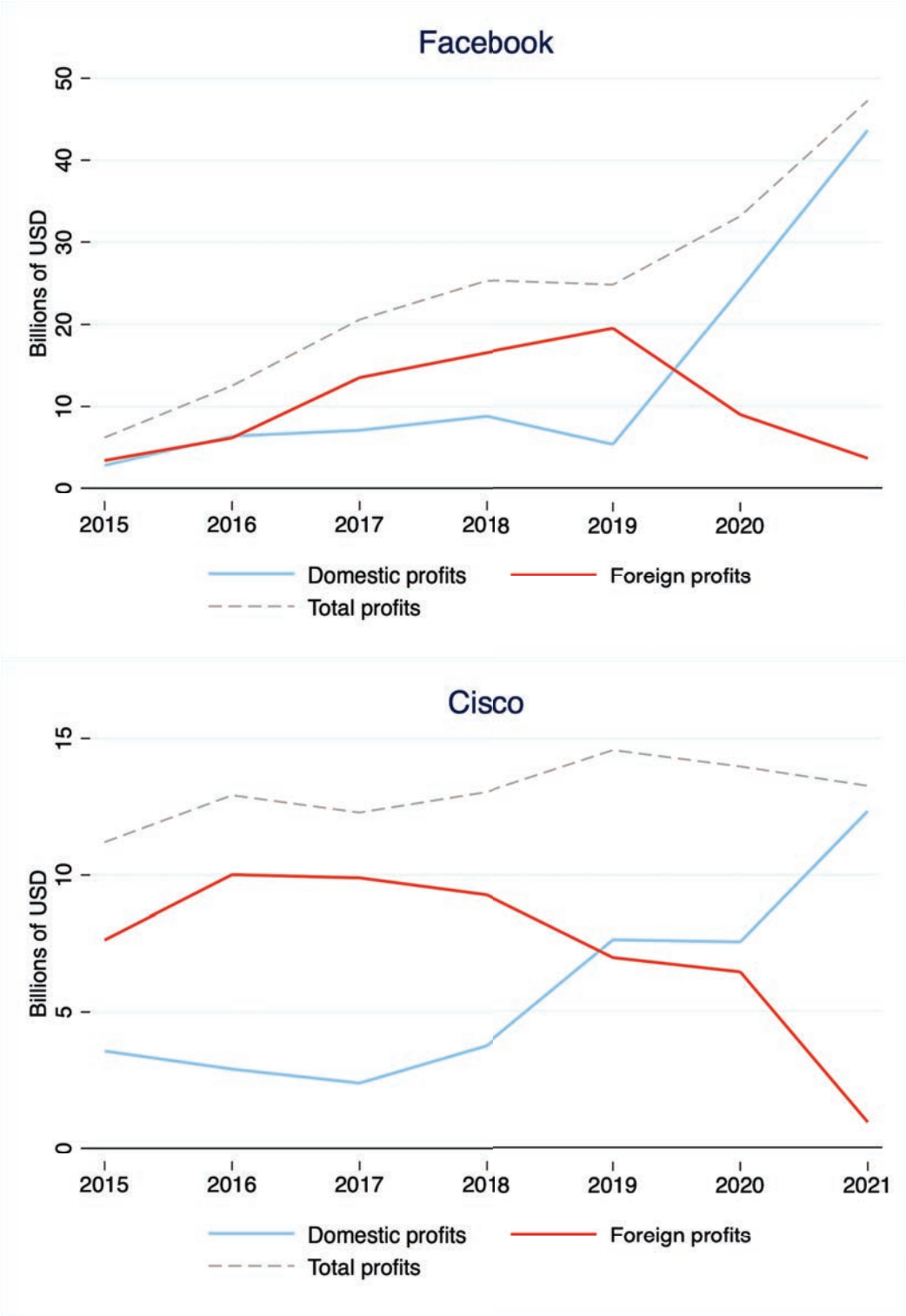
Notes: Source: Compustat.

Figure A3: Increase in foreign profits for companies



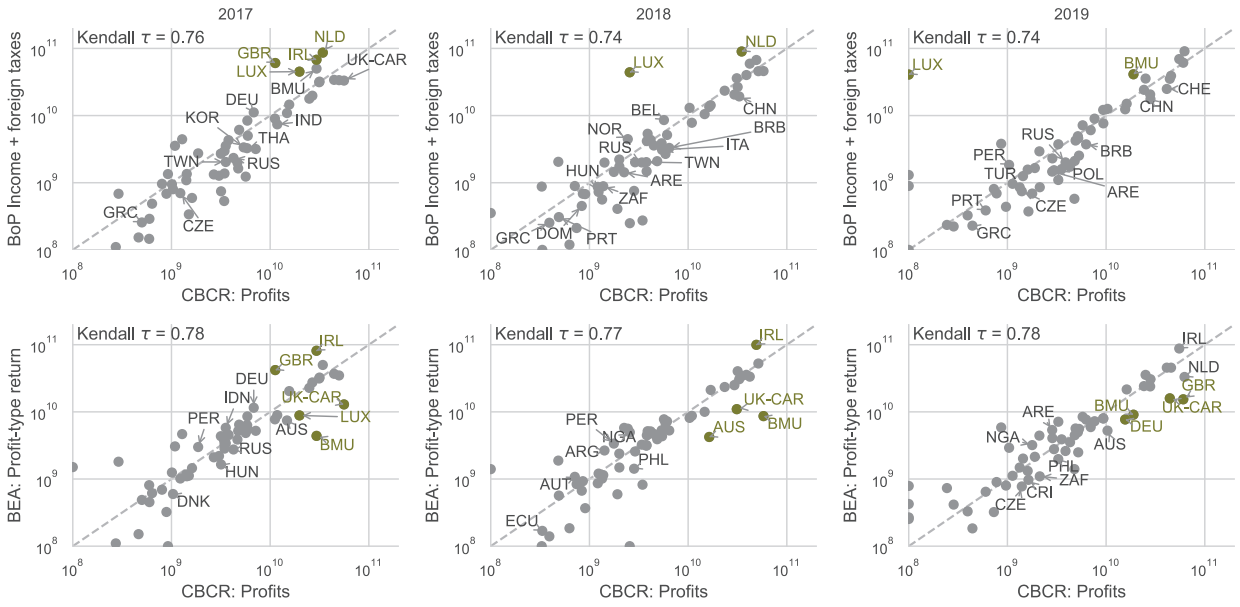
Notes: The distribution of changes in profits between 2015/16 and 2018/19 (and, for comparison, between 2012/13 and 2015/16) does not differ systematically across sectors. Furthermore, in this figure we do not observe many firms that are around the 0% line on the x-axis and below the 0% line on the y-axis (i.e., moved profits home after the TCJA). Only companies with profits in the three periods (2012/3, 2015/16 and 2018/9) are included. The largest companies are annotated and the bubble size is proportional to profits in 2018/19. Source: Compustat.

Figure A4: Total, domestic, and foreign profits series showing changes in profit shifting for Cisco and Facebook



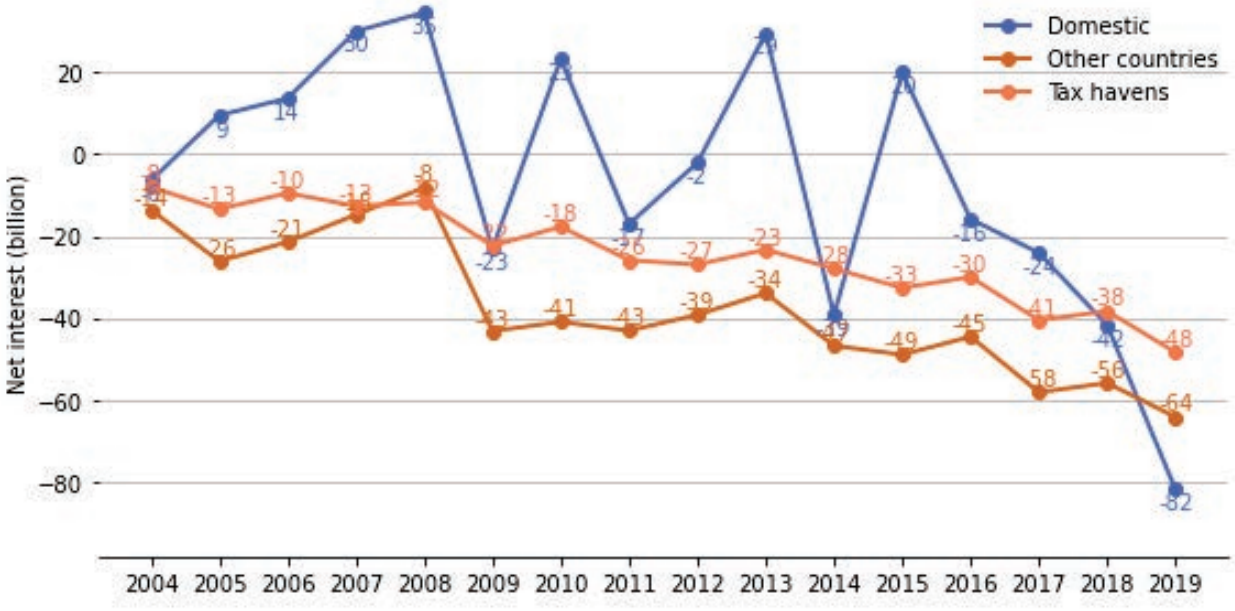
Source: Compustat

Figure A5: Comparison of CBCR and BEA



Notes: "BoP income + foreign taxes" equals direct investment income (as published in the international economic accounts) plus foreign income taxes paid by majority-owned foreign affiliates (from the BEA survey) plus the current-cost adjustment allocated proportionally to DI income + income taxes. Total "BoP income + foreign taxes" lines up very closely with direct investment equity income reported in Table 1 of the main text. Countries where the difference between the two sources exceeds 50% of the smaller value are annotated. Countries where the difference exceeds 100% are visualized in olive.

Figure A6: Net interest paid for the United States, tax havens and other countries



Notes: Net interest equals monetary interest payments plus imputed interest paid minus monetary interest receipts minus imputed interest received. Imputed interest paid and received, which are measures of the value of services provided by life insurance carriers and financial intermediaries without explicit charge, are estimated. Source: BEA survey.

E Appendix Tables

Table A1: Estimating Double-Counting in the Country-by-Country Data

		Compustat		CBCR			Imputation of missing profits using regression: Step 1		Step 2					Other datasets				
	Year	Profits	N	Profit (inc. stateless)	Profit (exc. Stateless)	N	Profit	N	**Final Profit**	Double count (inc. stateless)	Double count (exc. stateless)	Double count (inc. stateless) USD billion	Double count (exc. stateless) USD billion	Orbis (N = 1,234; 1,221,; 1,201)	Horst & Curatolo (N = 1,349)	DI	Profit-like	CFC
Dom	2017	641	1.325	1.180	1.180		750	1.428	**765**	54%	54%	415	415					
	2018	748	1.345	1.488	1.488		842	1.453	**856**	74%	74%	632	632					
	2019	684	1.323	1.296	1.296		893	1.431	**911**	42%	42%	385	385					
For	2016	450	1.313				475	1.415	**486**							567	473	706
	2017	551	1.325	842	638		584	1.428	**596**	41%	7%	246	42			669	570	
	2018	617	1.345	1.116	918		647	1.453	**658**	70%	39%	458	260			694	580	
	2019	560	1.323	933	768		590	1.431	**602**	55%	28%	331	166			671	547	
Total	2017	1.342	1.444	2.022	1.818	1.575	1.334	1.444	**1.361**	49%	34%	661	457	1.317	1.450			
	2018	1.493	1.468	2.604	2.406	1.641	1.489	1.468	**1.514**	72%	59%	1.090	891	1.418				
	2019	1.490	1.443	2.229	2.064	1.698	1.483	1.443	**1.513**	47%	36%	716	551	1.502				
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R

Notes: The table provides basic descriptive statistics for US multinational companies on the basis of a variety of data sources and our new estimates correcting for double-counting in the CBCR data. We present profits along with the number of companies, whenever available, for 2017 and 2018 for their total as well as for their domestic and foreign activities. The table provides information from Compustat, and the CBCR data as published by the IRS, as corrected for double-counting by Horst and Curatolo (2020) and as corrected by us in this paper. We estimate total profits at $1,359 bn and $1,511 bn in 2017 and 2018, which implies a double-counting of 33% and 59%. We estimate the double-counting in the United States at 55% and 75% ($417 and $636 bn), while the double-counting in foreign countries stands at 7% and 39% ($42 bn and $259 bn). Including stateless entities increases double-counting in foreign countries by $200 bn in both years. The CBCR data corrected for double-counting exhibits total profits similar to the various BoP and BEA series (between $573 and $659 bn in 2017 and between $608 and $702 bn in 2018), which include comprehensive coverage of US multinational companies akin to the CBCR data.

Table A2: Case studies of large falls in the foreign income share

Falls related to a change in profit shifting

Company Name	Year	Decline in the Foreign Share (Percentage Points)	Estimated Increase in 2020 Domestic Profits (Millions of USD)	Details
Alphabet	2020	36.0	17,288	In 10-K (2019): "As of December 31, 2019, we have simplified our corporate legal entity structure and now license intellectual property from the U.S. that was previously licensed from Bermuda."
Microsoft	2019	21.5	16,328	In 10-K (2019): "In the fourth quarter of fiscal year 2019, in response to the TCJA and recently issued regulations, we transferred certain intangible properties held by our foreign subsidiaries to the U.S. and Ireland..."
Facebook	2020	43.1	14,295	Domestic and foreign profits move almost symmetrically, clearly indicating a change in profit shifting.
Cisco	2019	28.5	4,223	Domestic and foreign profits move almost symmetrically, clearly indicating a change in profit shifting.
Qualcomm	2019	88.8	4,697	In 10-K (2019): "During fiscal 2018, one of our Singapore subsidiaries distributed certain intellectual property to a U.S. subsidiary."
Nike	2019	36.4	4,498	In 10-K (2020): "The foreign derived intangible income benefit reflects U.S. tax benefits introduced by the Tax Act for companies serving foreign markets. This benefit became available to the Company as a result of a restructuring of its intellectual property interests."

Notes: The estimated increase in 2020 domestic profits is the difference between realized domestic profits in 2020 and our estimated counterfactual level of domestic profits absent the tax reform. This counterfactual is calculated by multiplying the foreign share of profits before the fall with total profits in 2020. An alternative estimate uses the magnitude of the fall instead, and yields very similar results. In both cases, our measure for the foreign share before the fall consists on the previous three year average, though once again, restricting the measure to the year immediately before the fall does not yield very different results.

Falls possibly related to a change in profit shifting

Company Name	Year	Decline in the Foreign Share (Percentage Points)	Estimated Increase in 2020 Domestic Profits (Millions of USD)	Details
Pfizer	2018	38.0	3,136	Change of intra-group lending practices reported on 10-K (2018), yet quantitative evidence is not fully consistent with a change in profit shifting.
HP	2020	36.4	1,175	Some quantitative evidence suggesting a possible change in profit shifting.
Metlife	2019	74.5	5,996	Some quantitative evidence suggesting a possible change in profit shifting. Intra-group transfer of assets reported on 10-K (2019) but the country of origin (UK) is not usually inked to profit shifting.
Netflix	2018	20.7	1,247	In 10-K (2019): "In connection with the Tax Cuts and Jobs Act of 2017, we simplified our global corporate structure, effective April 1, 2019. [É] The increase in our effective tax rate [...] is primarily due to the global corporate structure simplification". However, the fall in the foreign share is mainly caused by an increase in domestic profits, and data for 2019 shows no clear change in trends.
Abbot Laboratories	2020	23.4	1,161	Some quantitative evidence suggesting a possible change in profit shifting.
Newmont	2019	70.1	966	Some quantitative evidence suggesting a possible change in profit shifting.

Notes: The estimated increase in 2020 domestic profits is the difference between realized domestic profits in 2020 and our estimated counterfactual level of domestic profits absent the tax reform. This counterfactual is calculated by multiplying the foreign share of profits before the fall with total profits in 2020. An alternative estimate uses the magnitude of the fall instead, and yields very similar results. In both cases, our measure for the foreign share before the fall consists on the previous three year average, though once again, restricting the measure to the year immediately before the fall does not yield very different results.

Falls unrelated to profit shifting

Company Name	Year	Decline in the Foreign Share (Percentage Points)	Estimated Increase in 2020 Domestic Profits (Millions of USD)	Details
Walmart	2018	63.3	4,528	The fall in foreign profits is due to losses on the sale of a foreign subsidiary.
Coca-Cola	2019	28.8	3,018	The fall in the foreign share is caused by a rapid increase in domestic profits and no significant decline in foreign profits.
Thermo Fisher Scientific	2019	23.9	2,437	The fall in the foreign share is caused by a rapid increase in domestic profits and no significant decline in foreign profits.
Mondelez	2018	21.1	1,608	The fall in the foreign share is caused by abnormally high foreign profits in 2015.
Paypal	2019	23.0	2,654	The fall in the foreign share is likely linked to the acquisition of a foreign corporation unrelated to profit shifting, and is partially reversed in 2021.
General Motors Financial	2018	22.0	732	The fall in the foreign share is caused by a rapid increase in domestic profits and no significant decline in foreign profits.
Newmont	2019	70.1	966	The fall in the foreign share is likely due to low and volatile profits, and is partially reversed in 2021.
Salesforce	2018	62.4	2,095	The fall in the foreign share is caused by a rapid increase in domestic profits and no significant decline in foreign profits.
Ball Corporation	2018	44.3	280	The fall in the foreign share is caused by abnormally high foreign profits in 2017.
Quanta Services	2020	26.9	154	The fall in the foreign share is likely due to low and volatile profits.
Stonex	2020	45.9	95	The fall in the foreign share is likely due to low and volatile profits.

Notes: The estimated increase in 2020 domestic profits is the difference between realized domestic profits in 2020 and our estimated counterfactual level of domestic profits absent the tax reform. This counterfactual is calculated by multiplying the foreign share of profits before the fall with total profits in 2020. An alternative estimate uses the magnitude of the fall instead, and yields very similar results. In both cases, our measure for the foreign share before the fall consists on the previous three year average, though once again, restricting the measure to the year immediately before the fall does not yield very different results.