Title: Global profit shifting, 1975–2023

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Abstract: This paper constructs and analyzes time series of global corporate profits and international profit shifting covering the period 1975–2023. We obtain three main findings. (i) The fraction of foreign profits shifted to tax havens has increased from 4 percent in 1975 to 34 percent in 2023. (ii) The corporate tax revenue lost from global profit shifting has increased from 1 percent of corporate tax revenue collected in 1975 to 8 percent in 2023. (iii) Profit shifting peaked on the eve of the Tax Cuts and Jobs Act of 2018 and began to decline thereafter; by 2023, it was below its level of 2015, the year of the launch of the OECD Base Erosion and Profit Shifting project.

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Note: Tables and figures at the end.

1 Introduction

A body of evidence suggests that multinational companies shift profits to tax havens (e.g., Bolwijn et al. 2018; Clausing 2016; Crivelli et al. 2015; Tørsløv et al. 2023a). This phenomenon has attracted considerable attention from economists and policy-makers. In 2015, the OECD launched the Base Erosion and Profit Shifting process to curb tax avoidance possibilities stemming from mismatches between different countries' tax systems. In 2017, the United States cut its corporate tax rate from 35 to 21 per cent and introduced measures to reduce profit shifting by US multinational companies. In 2021, more than 130 countries and territories agreed to a minimum tax of 15 per cent on the profits of multinational firms, with implementation that began in 2024 in the European Union, United Kingdom, Japan, Indonesia and many other countries. This reform was partially rolled back in 2026, when signatory countries agreed to exempt companies headquartered in the US from aspects of this minimum tax.

Yet despite these developments, we do not currently have a good sense of the dynamic of global profit shifting. Have corporations reduced the amounts they book in tax havens since 2015, or have they found ways to eschew the new regulations? A number of studies provide estimates of global profit shifting, but they typically do so for just one reference year. Moreover, because these studies rely on different raw sources and methodologies, their estimates are not directly comparable, making it hard to construct consistent time series by piecing different data points together. This limits our ability to study the dynamics of profit shifting and to learn about the effects of the various policies implemented to curb it.

This paper attempts to overcome this limitation by creating global profit shifting time series constructed following a common methodology. This is the first time that such long-run time series of global profit shifting are constructed. These new series allow us to characterize how the fraction of multinationals' foreign profits booked in relatively low-tax places has changed over time, to quantify the evolution of the cost of this shifting for governments of each country, and to shed light on the impact of recent high-profile policy developments.

Our starting point is the estimates of Tørsløv, Wier, and Zucman (2023a), which are for 2015. Building on the same sources and applying the same methodology, we first extend the Tørsløv et al. (2023a) estimates to cover the years 2015 to 2023, a period that includes the Base Erosion and Profit Shifting process and the US Tax Cuts and Jobs Act of 2017. We then construct pre-2015 series back to 1975, which allows us to capture the financial and trade liberalization decades that saw a dramatic rise of foreign profits. Due to the lack of some of the input data required to implement the full Tørsløv et al. (2023a) methodology, these pre-2015 series are based on additional assumptions and have some margin of error. However the main quantitative patterns that emerge from these series are likely to be reliable.

Our main findings can be summarized as follows. First, global corporate profits have grown much faster than global income[1] between 1975 and 2023. The share of profits in global income has increased by a third over this period, from 14 per cent to 20 per cent. This increase is due both to the rise of the share of global output originating from corporations (as opposed to, e.g., non-corporate businesses) and the rise of the capital share of corporate output. The fast growth of corporate profits means that if the effective global corporate income tax rate had stayed constant, global corporate tax revenues (as a fraction of global income) should have increased by about one third since 1975. In reality, corporate tax collection has stagnated relative to global income—that is, the global effective corporate income tax rate has declined by about a third.

[1] We define income as gross domestic product (GDP) minus capital depreciation.

Second, there has been a large rise in foreign profits, defined as profits booked by corporations in a country other than their headquarters. In the late 1970s and early 1980s, following the oil shocks, the share of foreign profits was high, up to 13 per cent. It then sharply declined as oil prices and foreign profits fell, down to 4 per cent in 1992. Since 1992, the share of foreign profits in global profits has more than quadrupled, from about 4 per cent to over 17 per cent in 2023. This evolution reflects the rise of multinational firms, a well-known development but for which a global quantification was lacking so far. The rise has been particularly pronounced since the beginning of the 21st century. This evolution may explain why the issue of how to tax multinational firms, although already discussed in the 1980s, has become more salient in the first two decades of the 21st century. When foreign profits accounted for only about 5 per cent of global profits as in the early 1990s, the tax revenues implications of properly taxing these profits were relatively small. With the rise of foreign profits, the revenue implications are significantly larger.

Third, there has been an upsurge in the fraction of foreign profits shifted to tax havens. By our estimates, this fraction has increased from 4 per cent in 1975 to 34 per cent in 2023. Because foreign profits themselves have been rising much faster than global profits, the fraction of global profits (multinational and non-multinational) shifted to tax havens has risen from 1 to about 7 per cent. Consistent with these findings, we estimate that the corporate tax lost from global profit shifting has increased from less than 1 per cent of corporate tax revenues in 1975 to 8 per cent in 2023.

Fourth, in 2023—eight years into the implementation of the Base Erosion and Profit Shifting (BEPS) process and six years after the Tax Cuts and Jobs Act (TCJA)—we can tentatively assess the impact of recent anti-shifting efforts. While shifted profits as a share of foreign profits grew by 0.7 percentage points annually from 1975-2015, they fell by 0.3 percentage points per year after 2015. This change in slope is statistically significant and has not been observed in any of the preceding years in our time series. Profit shifting peaked on the eve of the Tax Cuts and Jobs Act of 2018 and started declining afterwards. By 2023 it was below the level of profit shifting seen in 2015, the year of the launch of the OECD BEPS project. This decline in profit shifting suggests that recent anti-shifting efforts have had a measurable impact, although perhaps not as massive as in the most optimistic predictions made at the time of the presentation of the BEPS package by the OECD (2015) and a number of tax professionals.[2] Our work suggests that there remains scope for additional policy initiatives to significantly reduce global profit shifting. We plan to update our time series annually on www.atlas-offshore.world, making it possible to track the effects of the global minimum corporate tax implemented in more than 36 countries in 2024 and the consequences of the US carve-out agreed in 2026.

The rest of this paper is organized as follows. Section 2 presents our methodology. Section 3 analyses the dynamic of global profit shifting over the 2015–23 period, while Section 4 presents our series back to 1975. In Section 5 we discuss possible reasons for why anti-shifting efforts have (so far) failed to eliminate profit shifting and what to expect from the recent global minimum tax on corporate profits.

[2] Notable remarks include: "*...these measures will render BEPS-inspired tax planning structures ineffective*" (OECD, 2015); "*With tax administrations adopting BEPS and its robust documentation requirements, multinational enterprises have a much harder time artificially shifting their profits.*" (BVD, 2015); "*The international tax changes stemming from the OECD BEPS project will transform the global tax environment in which multinational corporations operate.*" (EY, 2015). Interestingly, the entire decline in profit shifting observed between 2018 and 2023 is accounted for by US multinationals.

2 Definitions and methodology

2.1 Definition: foreign profits

We follow the conceptual framework laid out in Tørsløv et al. (2023a). Using standard national accounts definitions and notations, we denote by Y the corporate output (or value added) of a country, which is obtained by combining effective labour AL and capital K. The corporate sector includes all resident corporations, both non-financial and financial. Part of corporate output is paid to workers; the rest, operating surplus, accrues to the owners of capital: $Y = F(K,AL) = rK + wL$. The capital share of corporate output (which we will often refer to as 'the capital share', for brevity) is $\alpha = rK/Y$. Corporations pay p per cent of their operating surplus rK in net interest. We define (pre-tax) corporate profits as $(1-p) \cdot rK$.

Within each country, all corporations can be classified as either 'local' or 'foreign'. Following international guidelines, foreign firms include all firms where foreign investors own more than 50 per cent of shares with voting rights. This condition is sufficient but not necessary: there are a few other ways firms can be classified as foreign (see Eurostat 2012).[3] 'Local firms' are all corporations incorporated in a given country that are not classified as foreign. In addition to firms with purely domestic operations, local firms include domestic multinationals. For example, foreign firms in Germany include the German affiliates of Microsoft; local firms in Germany include Siemens (a German multinational company) and German companies with no activity outside of Germany.

We define as foreign profits the profits booked by corporations outside of their headquarter country. In the preceding examples, profits booked by Microsoft in Germany and profits booked by Siemens outside of Germany are foreign profits, while profits booked by Microsoft in the United States are domestic profits. To be clear, foreign profits are not the same thing as multinationals' profits, which include both the profits booked by multinational companies in their headquarter country and outside of it. One of our main statistics of interest in this paper is the fraction of multinational profits as a share of global corporate profits, an important measure of financial globalization.

2.2 Definitions: shifted profits and tax havens

We define profit shifting as a tax-motivated transfer of profits within a multinational firm from high-tax to low-tax countries. We measure profit shifting to tax havens as the amount of foreign profits booked by companies in these havens above and beyond what can be explained by real economic activity such as capital, labour, country characteristics, industry composition, and research and development [R&D] spending.

There are three forms of profit shifting (see Beer et al. 2020; Brandt 2022; or Heckemeyer and Overesch 2017 for a survey). First, multinational groups can manipulate intra-group exports and import prices: subsidiaries in high-tax countries can try to export goods and services at low prices to related firms in low-tax countries, and import from them at high prices.[4] Second, multinationals can shift profits using intra-group interest payments (see, e.g., Huizinga et al. 2008): affiliates in high-tax countries can borrow money (potentially at relatively high interest rates) from affiliates in low-tax countries. Last, multina-

[3] The notion of control is used to classify firms as foreign in Eurostat (2012) guidelines. Control is 'the ability to determine the general policy of an enterprise by choosing appropriate directors, if necessary' (Eurostat 2012: 13). The ownership of more than 50 per cent of shares ensures control. In some cases, control can be exerted with a less than 50 per cent ownership, for instance if certain shares have more voting power than others.

[4] See, e.g., Bernard et al. (2006); Cristea and Nguyen (2016); Liu et al. (2020); Hebous and Johannesen (2021); Vicard (2015); Wier (2020). Wier (2020) includes a survey of the literature

tionals can move intangibles—such as trademarks, patents, logos, algorithms, or financial portfolios—produced or managed in high-tax countries to affiliates in low-tax countries, which then earn royalties, interest, or payments from final customers.[5] In theory, all of these channels of profit shifting could be curbed by rigorous enforcement of the so-called 'arm's length principle'. This principle states that all transactions within the multinational firms should be priced as they would have been in a transaction with an external third party. In practice, capacity-constrained tax agencies struggle to enforce the arm's length principle (see Tørsløv et al. 2023b), and in the case of intangible transactions the principle is often not conceptually well defined (Devereux and Vella 2017).

The literature suggests that profit shifting between countries with moderate tax differentials is of second order compared to profit shifting from high- or moderately high tax rate countries to tax havens (see, e.g., Davies et al. 2018). Our work therefore focuses on profit shifting to tax havens solely. Tørsløv et al. (2023a) define tax havens as countries with excess profitability of foreign firms (as detailed below) and an effective corporate tax rate below 15 per cent.[6] While some Eastern European countries have emerged with low effective corporate tax rates since their study, none of these show excess profitability among foreign firms (yet). We therefore keep the tax haven list from Tørsløv et al. (2023a) unchanged.

2.3 Methodology to estimate global profit shifting

To estimate the amount of profit shifted to tax havens globally, we build on the methodology of Tørsløv et al. (2023a) and update it to more recent years. Tørsløv, et al. (2023a) estimate profit shifting in 2015, proceeding as follows. They compute the profits-to-wage ratio of foreign vs. local firms in tax havens, in non-haven OECD countries, and in large developing countries. The basic finding is that in tax havens, the profits-to-wage ratio is much higher for foreign firms than for local firms. In Ireland for example, the profits-to-wage ratio is around eight for foreign firms (reflecting profit shifting by foreign multinationals into Ireland) vs. about 0.5 for local firms. By contrast, foreign firms are slightly less profitable than local firms in non-haven countries. The top panel of Figure 1 reproduces this key result.

The amount of profits shifted into each haven is obtained by assuming that, absent profit shifting, the profits-to-wage ratio of foreign firms would be equal to the profits-to-wage ratio of local firms. For example, the amount of profit shifted into Ireland is obtained by assuming that the profits-to-wage ratio of foreign firms in Ireland would be around 0.5 if there was no profit shifting (instead of the recorded value of eight). Tørsløv et al. (2023a) discuss the conditions under which this methodology delivers an accurate estimate and validate this approach in the case of US multinationals. In particular, they show that the excess profitability of foreign firms in tax havens relative to local firms in these havens cannot be explained by differences in capital intensity, sector composition, or R&D expenditures.[7] They also show that this methodology does not double count profits, because the underlying data (national accounts and foreign affiliates statistics) do not.[8] In 2015 data, they estimate that $616 billion in profits (corresponding to 36 per cent of global foreign profits) were shifted to tax havens.

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[5] See Faulkender et al. (2017) for evidence suggestive of profit shifting by US multinationals through the relocation of intangibles in low-tax countries. See Langenmayr and Reiter (2017) for evidence of profit shifting by German banks through the strategic relocation of financial portfolios in tax havens.

[6] These tax jurisdictions are Andorra, Anguilla, Antigua and Barbuda, Aruba, The Bahamas, Bahrain, Barbados, Belgium, Belize, Bermuda, the British Virgin Islands, the Cayman Islands, Cyprus, Gibraltar, Grenada, Guernsey, Hong Kong, Ireland, the Isle of Man, Jersey, Lebanon, Liechtenstein, Luxembourg, Macau, Malta, Marshall Islands, Mauritius, Monaco, Netherlands, the Netherlands Antilles, Panama, Puerto Rico, Samoa, Seychelles, Singapore, St. Kitts and Nevis, St. Lucia, St. Vincent & Grenadines, Switzerland, Turks and Caicos, Vanuatu.

[7] See Figure 3 and Table 2 in Tørsløv et al. (2023a).

[8] See Appendix C5 in Tørsløv et al. (2023a).

In a second step of the methodology, Tørsløv et al. (2023a) use bilateral balance of payments data to allocate the shifted profits to source countries. They show that the amount of above-normal intra-group transfers from high-tax countries to tax havens in the form of royalty payments, management fees, and interest payments (as recorded in balance of payments data) almost exactly amounts to the excess profits of foreign haven firms relative to local haven firms (as recorded in foreign affiliates statistics and national accounts data).[9] Using bilateral data capturing the origin of these intra-group payments, the excess haven profits are allocated to their origin country, making it possible to estimate the tax losses caused by profit shifting for each country. Overall, high-tax countries are found to lose the equivalent of 9 per cent of their corporate tax receipts in 2015 as a consequence of profit shifting (8 per cent of all corporate tax receipts are lost when including receipts in tax havens). The full methodology is described step-by-step in the Replication Guide of Tørsløv et al. (2023a).

We update the Tørsløv et al. (2023a) estimates as follows. First, thanks to the availability of more data, we are able to add seven countries to the database from 2016 on: Argentina, Egypt, Indonesia, Malaysia, Nigeria, Thailand, and Uruguay. With the addition of these countries, the database now covers 77 countries accounting for 92 per cent of the world economy and 70 per cent of the world population. Second, to ease the updating process and replicability of our findings, we moved our computations from the original paper from Excel to Stata. We provide a user guide that details each do-file and relates the Stata code to the overall methodology[10]. Third, we now update our series annually, as soon as statistical agencies publish the required input data. The living series we construct and publish on www.atlas-offshore.world can be used to monitor the development of profit shifting globally.

3 Global profit shifting since 2015

Tørsløv et al. (2023a) rely on 2015 data. Since then, a series of anti-shifting policies have been implemented warranting an update of the initial estimates. In 2016, the G20 and most relatively high-tax countries began implementing the OECD Base Erosion and Profit Shifting (BEPS) initiative. This includes 15 action points with the potential of significantly limiting profit shifting.[11] In December 2017, the United States passed the Tax Cuts and Jobs Act, which reduced the federal corporate income tax rate from 35% to 21% and introduced a number of anti-shifting measures, such as a minimum tax on some foreign income (Global Intangible Low-Tax Income, or GILTI) and limitations to deductions for payments out of the United States to low-tax countries (Base Erosion and Anti-Abuse Tax, or BEAT). Meanwhile the European Union Commission launched enforcement efforts to curb preferential tax agreements given by a number of EU governments to multinational companies such as Fiat, Ikea and Apple.[12] Last, curbing profit shifting to tax havens became an explicit part of the United Nations Sustainable Development Goals, with SDG 16.4.1.[13]

To learn more about the consequences of these policies, this section analyses the updated series and estimates. We start by studying changes in the pattern of differential profitability found in 2015. As shown by the bottom panel of Figure 1, in 2023 foreign firms in tax havens are still much more prof-

[9] Excess high-risk cross-border transfers to tax havens add up to $649 billion in 2015, compared to $616 billion in excess profits in tax havens.

[10] https://www.dropbox.com/scl/fi/hfjuk498f90ahwghgej6h/User-guide-profit-shifting-june-2026.pdf?rlkey=twn6cexuq7vfjpa5oj1x3ya8k&st=5kjmxpmv&raw=1

[11] For details see, e.g., the OECD background brief: https://www.oecd.org/tax/beps/background-brief-inclusive-framework-for-beps-implementation.pdf.

[12] For a description of some these efforts, see, e.g., e.g.https://tpcases.com/eu-vs-fiat-october-2015-eu-state-aid-rules/.

[13] See https://sustainabledevelopment.un.org/post2015/summit.

itable than local haven firms, while foreign firms in non-haven countries are still slightly less profitable than non-haven local firms—the original pattern uncovered in Tørsløv et al. (2023a) for the year 2015. Among tax havens, Puerto Rico still stands out with an exceptionally high profits-to-wage ratio of 1,475 per cent for foreign firms. In Ireland, the profits-to-wage ratio of foreign firms dropped from about 800 per cent to 667 per cent over the 2015–23 period, while in Luxembourg it increased from about 450 per cent to 571 per cent. In absolute terms, as reported in Appendix Table A2, Ireland remained the world's largest recipient of shifted profits in 2023 ($184 billion), surpassing the Netherlands ($164) and Singapore ($132).

Using this updated database, we estimate that $1,038 billion in profits were shifted to tax havens globally in 2023, the equivalent of 34 per cent of global foreign profits (see Table 1). This compares to 36 of foreign profits in 2015, i.e., a decline of 2 percentage points. Profit shifting as a fraction of foreign profits peaked on the eve of the Tax Cuts and Jobs Act of 2018 and started declining afterwards. While the absolute amount of profits shifted to tax havens increased by 69 per cent, from $616 in 2015 to over $1 trillion in 2023, foreign profits grew more, by 80 per cent in nominal terms over the same period. The growth in foreign profits also outpaced the growth in global corporate profits. As a result, the share of foreign profits in corporate profits rose from 15 to 18 per cent.

According to our estimates, the tax loss resulting from profit shifting decreased from 8.4 per cent of global corporate tax receipts in 2015 to 7.6 per cent in 2023. Figure 2 and Appendix Table A3 detail the updated loss estimates for high-tax countries. We find substantial differences between countries. The tax loss for the US first increased from 14 to 17 percent between 2015 and 2017, but then fell gradually to only 7 per cent in 2023. In the UK, where the corporate tax rate increased by 5 percentage points from 2015 to 2023, we estimate by contrast an increase in taxes lost from 18 to 23 per cent of corporate tax revenue. To investigate the heterogeneity in tax losses, Appendix Figure A3 plots the relationship between country-level reductions in statutory corporate tax rates and the evolution of tax revenue losses over the period 2015-2023. We find that, on average, countries that reduced their corporate tax rates during saw a fall in relative tax revenue losses due to profit shifting. The slope captures a mere correlation, not necessarily a causal relationship. Understanding the reasons for country-specific differences in profit shifting by multinationals is a fruitful avenue for future research.

To learn more about the impact of the 2015–2023 policy initiatives on profit shifting, we can make assumptions about the counterfactual evolution of this shifting absent these reforms. In Appendix Table A1, we do this by comparing the annual rate of change in profit shifting over the 2015–2023 period with the rate observed over the preceding period, 1982-2015 (the period for which complete US foreign affiliates statistics exist). We provide graphical evidence of profit shifting trends before and after 2015 in Figure A4. We find that the annual percentage-point change in profit shifting (as a share of foreign profits) in the years after 2015 is significantly lower than the one observed over the 33 years prior to 2015. While profit shifting as a share of foreign profits grew by 0.7 percentage points annually from 1982-2015, it fell by 0.3 percentage points annually in the years following 2015.[14] Had profit shifting followed the trajectory seen in the preceding years, more than 40 per cent of foreign profits would have been shifted to tax havens in 2023—instead we saw a decline by 2 percentage points to 34 per cent. This change in slope is statistically significant (Table A4) and a similar decline is not observed in any of the preceding years in our timeseries. Although this trend differential does not capture the causal impact of recent anti-shifting efforts, it suggests that they had an effect.

To focus on the impact of the Tax Cuts and Jobs Act specifically, we investigate the dynamics of profit shifting for US multinationals separately. We find that for US firms profit shifting rose until 2018, when more than 50 per cent of foreign profits of US multinationals are shifted to tax havens. After 2018, the

[14] This slope is statistically different from zero, see Table A4

trend reverses. The share of foreign profits shifted to tax havens falls to 41 per cent in 2023, see Figure A2. This change in slope is statistically significant (Table A4) and is the driver of the decline in global profit shifting over 2015-2023. In fact, profit shifting for firms headquartered outside the US increased from 27 to 31 percent from 2018 to 2023. We stress that this analysis should be seen as provisory, given the still small number of years passed since the Tax Cuts and Jobs Act.

4 Global profit shifting back to 1975

This section presents our historical estimates of global profit shifting prior to 2015, back to 1975. To construct these series, we proceed as follows. We first collect available historical national accounts data on corporate profits and national income to compute the share of global profits in global income. Second, we estimate foreign profits by using the global balance of payments compiled by the International Monetary Fund (IMF), which reports global direct investment equity income (i.e. profits made by firms more than 10-per-cent-owned by a foreign owner, which is close to our definition of foreign profits).[15] We assume that global foreign profits followed the evolution of (pre-tax) global direct investment equity income. Last, to estimate the fraction of foreign profits shifted to tax havens, we assume that the global annual growth rate in shifted profits has been equal to the global growth rate of profits shifted to tax havens by US multinational companies, for which long-run time series back to the 1960s exist (Wright and Zucman 2018).[16] That is, we assume that the share of US multinationals in the amount of globally shifted profits has remained constant, at about 50 per cent. While this assumption introduces a margin of error, the main patterns we obtain are so marked that they are not significantly affected by relaxing it (i.e. by allowing for a falling or declining fraction of profits being shifted by US multinationals).[17]

Figure A2 shows the evolution of global corporate profits (as a fraction of global income) and of global foreign profits (as a fraction of global corporate profits) back to 1975. A number of patterns are worth noting. First, the share of corporate profits in global income has increased from 14 per cent in 1975 to 20 per cent in 2023. This reflects the fact that a growing fraction of global economic activity takes place in the corporate sector (as opposed to, e.g., non-corporate businesses) and that the capital share of corporate value added has been rising globally (see, e.g., Bachas et al. 2022). Second, the share of foreign profits in global profits quadruples from the early 1990's until today. The increase was particularly fast in the early 2000s. Interestingly, the share of foreign profits has kept rising after 2015: by that metric, globalization keeps happening.

It is often noted that although statutory corporate tax rates have been cut in half between 1980 and the late 2010s globally (e.g. Tørsløv et al. 2023a), corporate tax revenues as a fraction of GDP have remained fairly stable (OECD 2021). One explanation sometimes put forward for this disconnect is that base broadening may have offset the effect of falling statutory rates, so that effective corporate tax rates might not have declined much. Our findings suggest that this explanation is quantitatively insufficient and highlight the importance of another factor: the rise in the share of corporate profits in global income. When this share rises, a constant (or even rising) ratio of corporate tax revenues to GDP can disguise a

[15] Direct investment equity income is net of corporate income taxes paid, in contrast to foreign profits as defined in Section 2; therefore, we gross up global direct investment equity income with an estimate of corporate taxes paid. For US owned multinationals, we have exact estimates of their effective tax rate on foreign profits based on the BEA FATS data series. For non-US multinationals we apply the average of the US foreign profits effective tax rate and the global effective corporate tax rate estimated by Bachas et al. (2022).

[16] See Appendix Figure A2 for the raw US time-series.

[17] Appendix Figure A1 provides robustness checks by relaxing these assumptions. We show two extreme cases. The lower bound estimates assume there is no profit shifting outside of US multinationals before 2015. The upper bound estimates assume that the share of profit shifting from non-US multinationals is constant and equal to the share observed in 2015.

declining effective corporate tax rate. Bachas et al. (2022) estimate that the global effective corporate tax rate was 27 per cent in 1967, which compares to 20 per cent in 2023, a decline of roughly a third. This implies that any broadening of the corporate income tax base has not been large enough to offset the decline in statutory rates. Below we discuss how profit shifting has contributed to the decline in effective tax rates.

In Figure 4, we report our estimates of the amount of profits shifted to tax havens back to 1975. The patterns are striking. In the late 1970s, there was virtually little profit shifting. The seminal work by Hines and Rice (1994) on profit shifting uses US data for the year 1982, when only 14 per cent of global foreign profits were shifted to tax havens. Then in the early 1980s, a trend of sustained and gradual increase in profit shifting begins; the share of foreign profits shifted to tax havens increases from 11 per cent in 1980 to 22 per cent in 1998. This increase can partly be explained by the rise of the tax avoidance industry in the 1980s (e.g. Saez and Zucman 2019) and US policies adopted in the mid-1990s that facilitated shifting from foreign high-tax countries to tax havens, known as check-the-box regulations (e.g. Wright and Zucman 2018). Importantly, the rise of profit shifting as a share of foreign profits did not mean much for corporate tax revenues, as foreign profits were still small until the late 1990s. By our estimates, corporate tax revenue losses stayed below 3 per cent of corporate tax receipts throughout the 1975–99 period.

In the 2000s profit shifting as a share of foreign profits plateaus at roughly 20 per cent, but the loss of corporate tax revenue almost doubles from 3.6 per cent in 2000 to 6.1 per cent in 2009. This leap is caused by the fast growth of multinational firms in the first decade of the 21st century documented in Figure 4. The next leap occurs in the first half of the 2010s, when profit shifting as a share of foreign profits increases from roughly 22 per cent in 2010 to 36 per cent in 2015. One possible explanation for this jump is the fast growth in the profits of giant US tech companies, which, as documented in the literature, are known to use tax havens extensively, although this issue would deserve to be further investigated in future research. Corporate tax losses moved in tandem—as the share of foreign profits in global profits remained fairly constant—rising from 5.9 per cent in 2010 to 8.4 per cent in 2015.

Finally, from 2015 to 2019 profit shifting as a share of foreign profits stagnates at about 36 per cent, before falling to 31 per cent in 2020–2022 and resurging to 34 per cent in 2023. We estimate that absent profit shifting, corporate tax receipts would be 8 per cent higher in 2023 but nearly unchanged in 1975.

5 Discussion: Why have anti-shifting measures not eliminated profit shifting so far?

In this paper we document how profit shifting rose over the last four decades and started declining following anti-shifting policies such as the OECD BEPS package and the US TCJA. Profit shifting was, however, still at a historically high level in 2023, two percentage points below the level seen in the year of the launch of the BEPS initiative. BEPS was not enough to end profit shifting entirely.

One possible explanation for this finding is that recent initiatives have left some key features of the international taxation system unchanged. Profit shifting stems from differences in corporate tax rates across countries and the possibility to strategically price intra-group transactions. The safeguard against strategic pricing is the "arm's-length principle," requiring multinationals to engage with related subsidiaries as they would engage with external parties. However, this principle can be difficult to enforce in practice (Torslov et al., 2023b) and may not always be conceptually well-defined (Vella and Devereux, 2007). The recent reforms do not address this limitation.

A well enforced global minimum corporate tax rate could make a larger difference, as incentives to shift profits would be reduced. This was already suggested by the EU Commission's Ruding Committee in

1992, which proposed a minimum EU-wide corporate tax rate of 30 percent. Similarly, if the arm's-length principle was replaced by a system of formulary apportionment, profit shifting might become more difficult (depending on specifics of the formula used). This was proposed by, among others, the EU Commission through the Common Consolidated Corporate Tax Base (CCCTB) proposal of 2011.

The initial BEPS project mainly tried to ramp up enforcement of the arm's-length principle. But for lack of binding rules on effective tax rates, incentives to work around these enforcement efforts remained. A nascent literature on transfer price enforcement finds that the main effect of increased transfer price enforcement seem to be increased activity among tax professionals (Bustos et al. 2022; Tørsløv et al. 2023b; Wier, 2020). Subsequently, the OECD launched the two-pillar solution also known as BEPS 2.0. The OECD states in their motivation that there are "increasing doubts that the arm's length principle can be relied on to give an appropriate result[18] and new solutions must "depart from the separate entity principle". BEPS 2.0 more directly reduces profit shifting incentives by creating a minimum corporate tax rate of 15 percent. The modest decline in profit shifting observed in 2021 and 2022 could be interpreted as reflecting the anticipation of the implementation of this reform, although we stress that much more research is needed to establish a causal link. Assessing the impacts of Pillar 2 is a fruitful avenue for future research.[19] The living series we publish on www.atlas-offshore.world can be used to monitor the development of profit shifting globally.

[18] https://www.oecd.org/tax/beps/public-consultation-document-secretariat-proposal-unified-approach-pillar-one.pdf

[19] In June 2025, the US and their G7-partners agreed on treating US firms "side-by-side" in Pillar 2; see https://home.treasury.gov/news/press-releases/sb0181.

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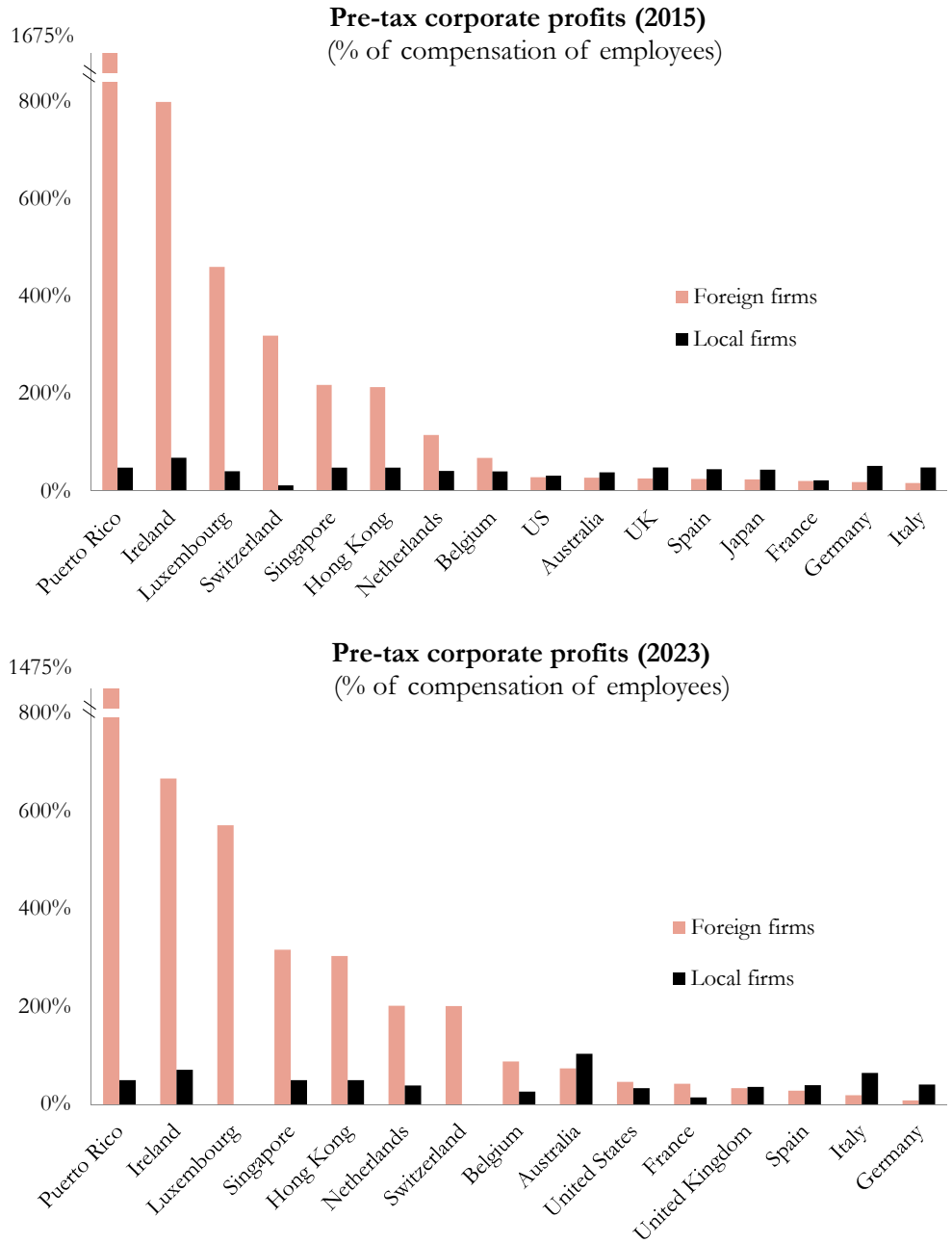
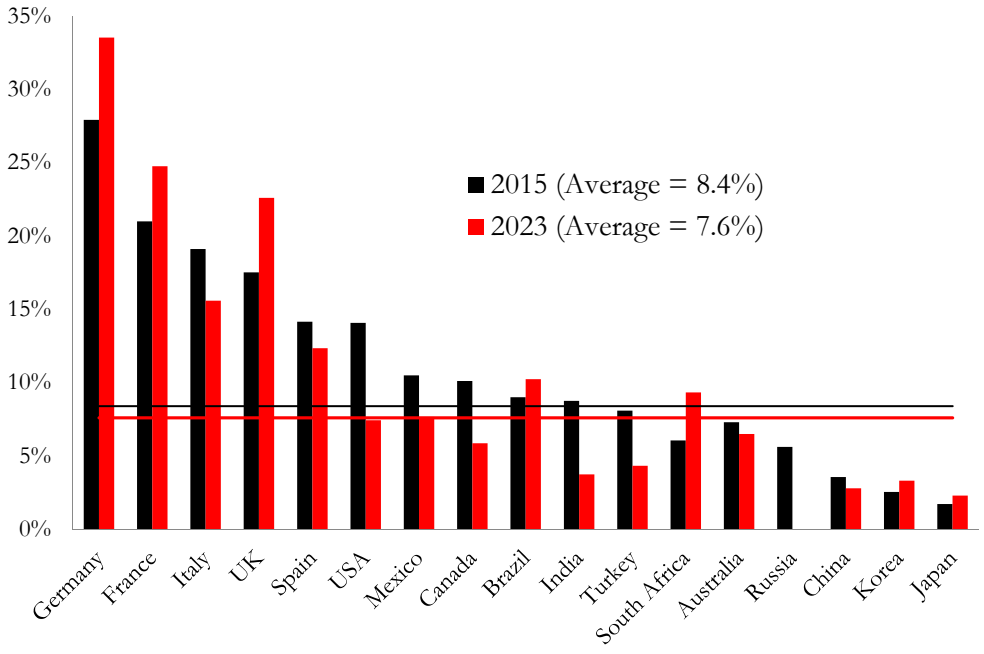
Figures and tables

Figure 1: Profitability in foreign vs. local firms in 2015 and 2023



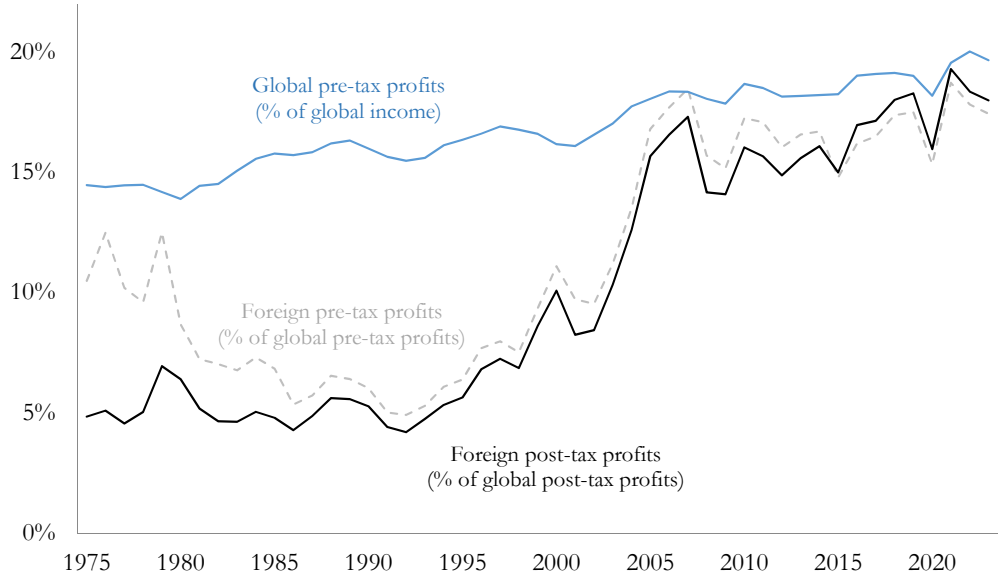
Note: this figure updates Figure 4 of Tørsløv et al. (2023a). The pink bar shows the ratio of pre-tax corporate profits (after net interest payments and depreciation) to compensation of employees for foreign firms (firms more than 50%-owned by a foreign investor, i.e. typically affiliates of foreign multinational companies). The black bar shows the same ratio but for local firms—defined as all domestic firms that are not classified as 'foreign'. Source: top panel is taken from Tørsløv et al. (2023a), Figure 4; bottom panel data is obtained by following the updating methodology described in the text.

Figure 2: Corporate tax revenue lost: 2015 vs 2023 (% of corporate tax revenue collected)



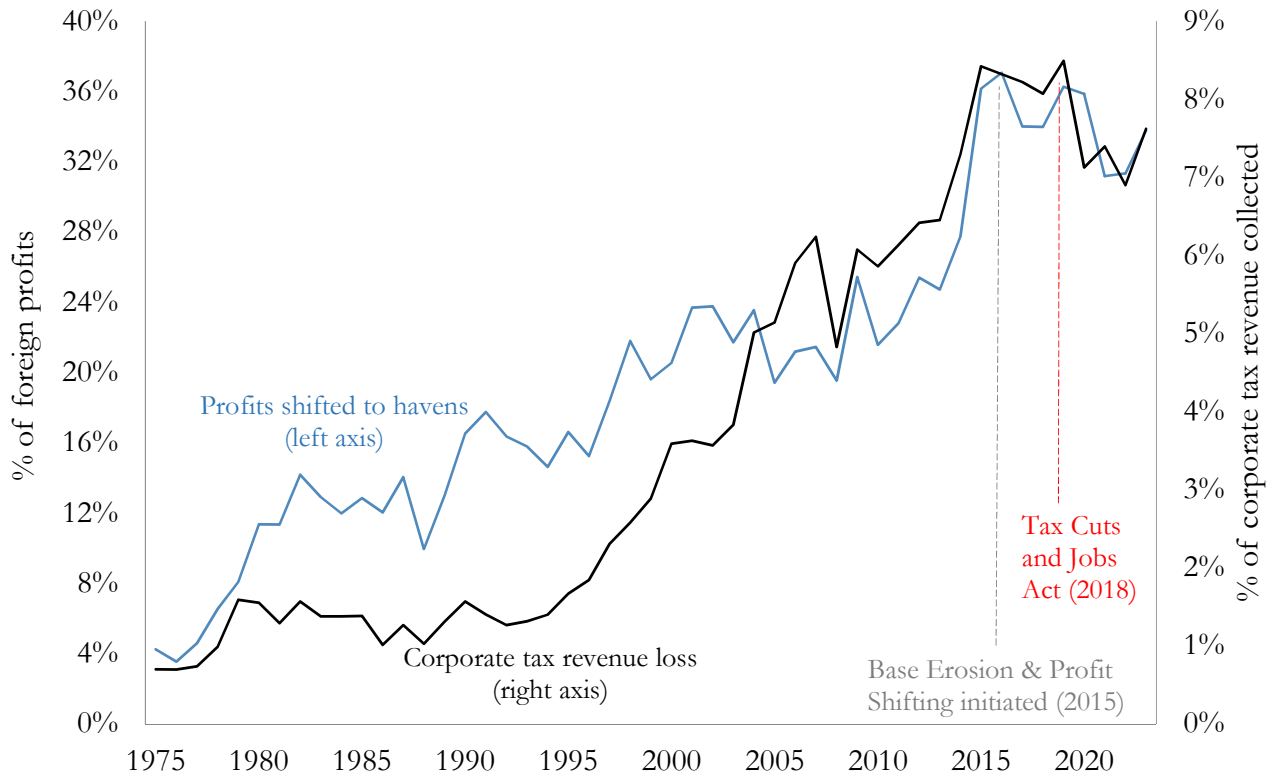
Note: this figure shows our estimate of the amount of corporate tax revenue lost due to profit shifting, as a share of corporate tax revenue collected. The sample of countries include all G20 countries except Argentina and Indonesia (for which no data are available in 2015 and/or 2023), as well as Spain. The black bar shows the estimated loss in 2015 and the red bar shows the estimated loss in 2023. Countries are ranked by their 2015 tax loss. Source: 2015 figures from Tørsløv et al. (2023a), Table 3; 2023 figures obtained by following the updating methodology described in the text.

Figure 3: Global corporate profits and foreign profits, 1975–2023



Note: the blue line shows the evolution of the share of global corporate profits in global income (defined as global GDP minus global depreciation). The black line shows the share of global after-tax foreign profits (as defined in the text) in global after-tax corporate profits. The dashed grey line shows the same series but on a pre-tax basis. The gap between pre-tax and post-tax foreign profits in the 1970s and early 1980s is due to the relatively high tax rates on foreign profits, especially in the petroleum sector. Source: 1975–2015: Tørsløv et al. (2023a), Replication Guide Table C6; for 2016–23: this paper, Table 1.

Figure 4: Foreign profits shifted to tax havens and corporate tax revenue loss, 1975–2023



Note: The blue line (left axis) shows the fraction of foreign profits (as defined in the text) shifted to tax havens globally. This share increased from about 2% in the late 1970s to 34% in 2023. The black line (right axis) shows our estimate of the amount of corporate tax revenue lost due to profit shifting globally, expressed as fraction of global corporate income tax receipts.

Source: See text.

Table 1: Global profits: Comparing 2015 and 2023 estimates

Billions of current US$	2015	2016	2017	2018	2019	2020	2021	2022	2023	**2023 - 2015 change**
Global income	63,099	64,225	68,372	72,696	73,733	71,629	81,609	85,488	89,663	**42%**
Corporate profits	11,515	12,216	13,054	13,908	14,021	13,028	15,961	17,118	17,628	**53%**
Foreign profits	1,703	1,979	2,154	2,417	2,454	1,998	2,989	3,051	3,074	**80%**
Profits shifted	616	733	732	822	890	717	932	956	1,038	**69%**
Profits shifted (% of foreign profits)	36.2%	37.1%	34.0%	34.0%	36.3%	35.9%	31.2%	31.3%	33.8%	**-2.4 pp**
Corporate tax revenues collected	2,154	2,427	2,491	2,600	2,669	2,525	3,138	3,488	3,508	**63%**
Tax loss	181	202	205	210	227	180	232	241	267	**47%**
Tax loss (% of corporate tax collected)	8.4%	8.3%	8.2%	8.1%	8.5%	7.1%	7.4%	6.9%	7.6%	**-.8 pp**

Notes: This table updates Table 1 of Tørsløv et al. (2023a). It reports the global totals in our database each year from 2015 to 2023. “Foreign profits" include all the profits made by companies more than 50%-owned by foreign shareholders. Source: 2015 figures: Tørsløv et al. (2023a) Table 1; for 2016–2023 figures: this paper, following the updating methodology described in the text.

Appendix Tables and Figures

Table A1: Profit shifting: US vs. non-US multinationals

Billions of current US$	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change post BEPS (pp per year)	Change post TCJA (pp per year)	Increase 1982-2015 (pp per year)
All multinationals												
Foreign profits	1,703	1,979	2,154	2,417	2,454	1,998	2,989	3,051	3,074			
Profits shifted to tax havens	616	733	732	822	890	717	932	956	1038			
as a % of foreign profits	**36%**	**37%**	**34%**	**34%**	**36%**	**36%**	**31%**	**31%**	**34%**	**-0.3%**	**-0.04%**	**0.7%**
US multinationals												
Foreign profits	572	585	677	723	729	618	753	792	809			
as a % of foreign profits of all multinationals	34%	30%	31%	30%	30%	31%	25%	26%	26%			
Profits shifted to tax havens	265	305	327	366	348	314	327	310	329			
as a % of profits shifted by all multinationals	43%	42%	45%	45%	39%	44%	35%	32%	32%			
as a % of foreign profits of US multinationals	**46%**	**52%**	**48%**	**51%**	**48%**	**51%**	**43%**	**39%**	**41%**	**-0.7%**	**-2.0%**	**0.9%**
Non-US multinationals												
Foreign profits	1,131	1,393	1,476	1,694	1,724	1,380	2,236	2,259	2,265			
Profits shifted to tax havens	351	428	406	456	542	403	605	646	710			
as a % of foreign profits of non-US multinationals	**31%**	**31%**	**27%**	**27%**	**31%**	**29%**	**27%**	**29%**	**31%**	**0.0%**	**0.9%**	**0.6%**

Notes: This table provides estimates of profit shifting globally and for US multinationals vs. non-US multinationals separately. The top panel reports the global totals in our database each year from 2015 to 2023, updating Table 1 of Tørsløv et al. (2023a). “Foreign profits" include all the profits booked by firms more than 50%-owned by foreign shareholders (i.e., typically subsidiaries of foreign multinationals). In 2023, foreign profits amounted to $3,074 billion, of which $1,038 billion (or 34%) was shifted to tax havens. The second panel reports statistics for US multinationals. In 2023, US multinationals booked $809 billion in affiliates outside of the United States (including in Puerto Rico, which is separate from the United States for tax purposes), of which $329 billion (or 41%) was shifted to tax havens. The bottom panel reports statistics for non-US multinationals. In 2023, non-US multinationals booked $2,265 billion in profit in affiliates located in countries other than their headquarter country (“foreign profits"), of which $717 billion (or 32%) was shifted to tax havens. The right panel shows the average annual increase in the fraction of foreign profits booked in tax havens globally, and for US vs. non-US multinationals separately. Sources: top panel: Tørsløv et al. (2023a), Table 1, updated following the methodology described in the text. Second panel: foreign profits are equal to pre-tax US direct investment equity income, computed as direct investment equity income (from BEA’s international accounts) grossed up by foreign income taxes; see Garcia-Bernardo, Janský, and Zucman (2022). Foreign profits shifted to tax havens are equal to the amount of profits booked by US multinationals in tax havens (as defined in Tørsløv et al., 2023a), reduced by the amount estimated to reflect real activity in tax havens (itself estimated by applying the profits/wage ratio observed in the non-haven subsidiaries of US multinationals to the wages paid in haven subsidiaries, taken from Tørsløv et al., 2023a, Figure 3, updated). The bottom panel is obtained as a residual.

Table A2: Country estimates of profit shifting, 2015-2023

	Shifted profits (billions of current US$)									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	Difference (2023-2015)
OECD countries										
Australia	13.0	15.2	18.8	21.0	62.1	18.7	22.4	21.8	22.4	9.5
Austria	3.6	2.9	3.4	4.0	4.1	4.4	6.2	7.6	7.8	4.3
Canada	18.9	17.3	20.7	20.4	22.8	17.7	22.0	22.7	23.6	4.6
Chile	5.2	8.2	9.8	5.9	6.2	4.9	5.2	5.5	5.1	0.0
Czech Rep.	1.8	1.5	1.8	2.2	2.6	2.4	3.8	4.0	4.8	3.1
Denmark	3.0	3.4	4.1	5.4	4.8	4.9	7.1	13.7	15.4	12.4
Estonia, Rep. of	0.2	1.4	0.2	0.3	0.3	0.4	0.7	0.8	1.1	0.9
Finland	2.7	2.6	3.1	3.8	3.6	4.0	5.6	6.0	6.4	3.7
France	32.1	26.7	29.7	35.2	30.9	34.3	48.5	55.6	68.8	36.7
Germany	54.9	48.1	52.7	62.8	56.7	62.2	91.6	103.8	114.5	59.6
Greece	1.0	1.3	1.4	1.6	1.7	2.1	3.6	12.2	11.6	10.5
Hungary	2.4	2.5	2.9	3.9	3.9	4.5	22.3	5.7	7.0	4.6
Iceland	0.4	1.1	0.7	1.0	1.0	0.5	0.8	0.5	0.5	0.1
Israel	0.7	3.4	4.3	5.1	5.7	3.8	4.9	5.4	5.5	4.8
Italy	22.7	16.1	18.3	22.3	19.5	21.4	30.6	29.0	35.6	12.9
Japan	8.6	9.1	10.7	12.1	12.6	11.8	15.7	15.3	15.5	7.0
Korea, Rep. of	4.8	8.2	5.7	6.8	6.9	6.4	7.1	8.1	9.0	4.2
Latvia	0.2	0.2	0.2	0.4	0.3	0.4	0.6	0.7	0.8	0.6
Mexico	13.1	10.4	12.6	15.3	17.0	13.0	15.3	16.7	17.9	4.8
New Zealand	1.5	3.1	1.9	2.2	2.4	2.3	2.5	2.8	2.7	1.2
Norway	5.2	5.4	5.8	6.0	6.4	6.1	7.0	7.3	8.0	2.7
Poland, Rep. of	3.7	3.4	3.9	5.2	4.4	5.4	7.6	8.5	9.8	6.1
Portugal	2.6	2.1	2.4	2.8	2.7	2.9	3.6	3.9	4.8	2.2
Slovak Rep.	0.6	0.6	0.7	0.9	0.8	0.7	1.2	1.1	1.4	0.7
Slovenia, Rep. of	0.2	0.5	1.1	0.3	0.3	0.4	0.6	0.8	0.8	0.6
Spain	14.4	10.1	12.2	14.8	12.2	13.5	19.9	20.2	23.3	8.9
Sweden	8.5	6.9	8.1	9.9	8.9	10.0	14.7	15.0	16.4	7.9
Türkiye, Rep. of	5.0	3.5	3.9	4.0	4.1	3.8	3.6	4.2	5.8	0.8
United Kingdom	61.5	52.5	58.4	72.9	74.1	74.7	101.4	91.5	102.9	41.4
United States	142.6	110.1	131.6	135.5	150.7	124.7	159.7	165.0	176.0	33.5
Non-OECD countries										
Brazil	14.2	16.0	19.8	19.5	20.3	16.1	18.7	20.8	24.1	9.9
China, P.R.: Mainland	60.5	53.0	59.7	67.2	72.8	61.5	78.4	77.8	74.0	13.5
Colombia	1.4	1.9	1.4	1.5	1.6	1.0	1.0	1.1	1.1	-0.3
Costa Rica	1.1	1.7	1.2	1.4	1.5	0.9	1.1	1.2	1.2	0.2
India	9.5	9.0	12.0	13.2	12.9	12.9	16.7	15.6	19.6	10.1
Russian Federation	11.8	12.1	14.2	14.7	16.6	13.6	16.5	4.9	4.2	-7.7
South Africa	4.1	3.9	4.7	4.8	5.1	4.5	6.6	6.3	5.7	1.7
Argentina		3.5	2.3	2.4	2.3	2.1	2.7	3.0	3.4	3.4
Egypt		0.4	0.4	0.4	0.4	0.6	0.8	0.8	0.8	0.8
Malaysia		8.7	10.3	7.2	7.5	3.4	4.3	4.7	4.5	4.5
Nigeria		3.9	2.3	2.6	2.4	1.6	2.3	1.8	1.8	1.8
Thailand		8.1	5.5	6.9	8.0	6.5	6.0	7.7	7.6	7.6
Uruguay		1.4	0.8	4.2	0.9	0.7	0.8	0.9	0.8	0.8
Non-haven total	616.0	733.3	732.5	821.5	890.0	716.6	932.1	956.0	1,038.4	422.4
Rest of the world	78.3	231.8	166.8	191.7	208.0	128.7	140.2	154.0	164.1	85.9
Tax havens										
Belgium	-13.1	-34.3	-28.7	-38.3	-34.6	-21.1	-38.4	-39.1	-33.4	-20.3
Switzerland	-58.2	-69.5	-79.5	-91.7	-104.7	-80.1	-104.0	-94.6	-103.0	-44.9
Ireland	-106.3	-114.5	-131.3	-134.5	-143.4	-140.4	-141.3	-170.1	-183.8	-77.5
Luxembourg	-46.8	-41.6	-62.0	-78.7	-1.3	-33.8	-78.4	-74.3	-97.5	-50.7
Netherlands, The	-57.4	-143.5	-114.3	-143.8	-168.7	-111.1	-145.3	-153.2	-164.3	-106.9
Malta	-12.3	-2.0	-2.1	-2.3	-3.8	-3.7	-3.0	-2.4	-13.3	-0.9
Caribbean	-96.7	-78.0	-83.2	-86.1	-109.4	-93.7	-101.2	-98.2	-94.8	1.9
Bermuda	-24.0	-56.6	-54.9	-45.6	-73.8	-37.1	-27.6	-20.1	-34.1	-10.2
Singapore	-70.4	-57.3	-54.4	-63.9	-84.0	-67.2	-115.0	-127.0	-132.4	-61.9
Puerto Rico	-41.7	-38.1	-33.4	-36.9	-32.4	-33.3	-33.2	-33.1	-33.1	8.5
Hong Kong	-39.0	-69.1	-58.7	-63.8	-88.2	-68.2	-96.7	-91.0	-95.0	-55.9
Other	-50.6	-29.4	-30.4	-36.2	-46.0	-27.1	-48.3	-53.3	-53.7	-3.1

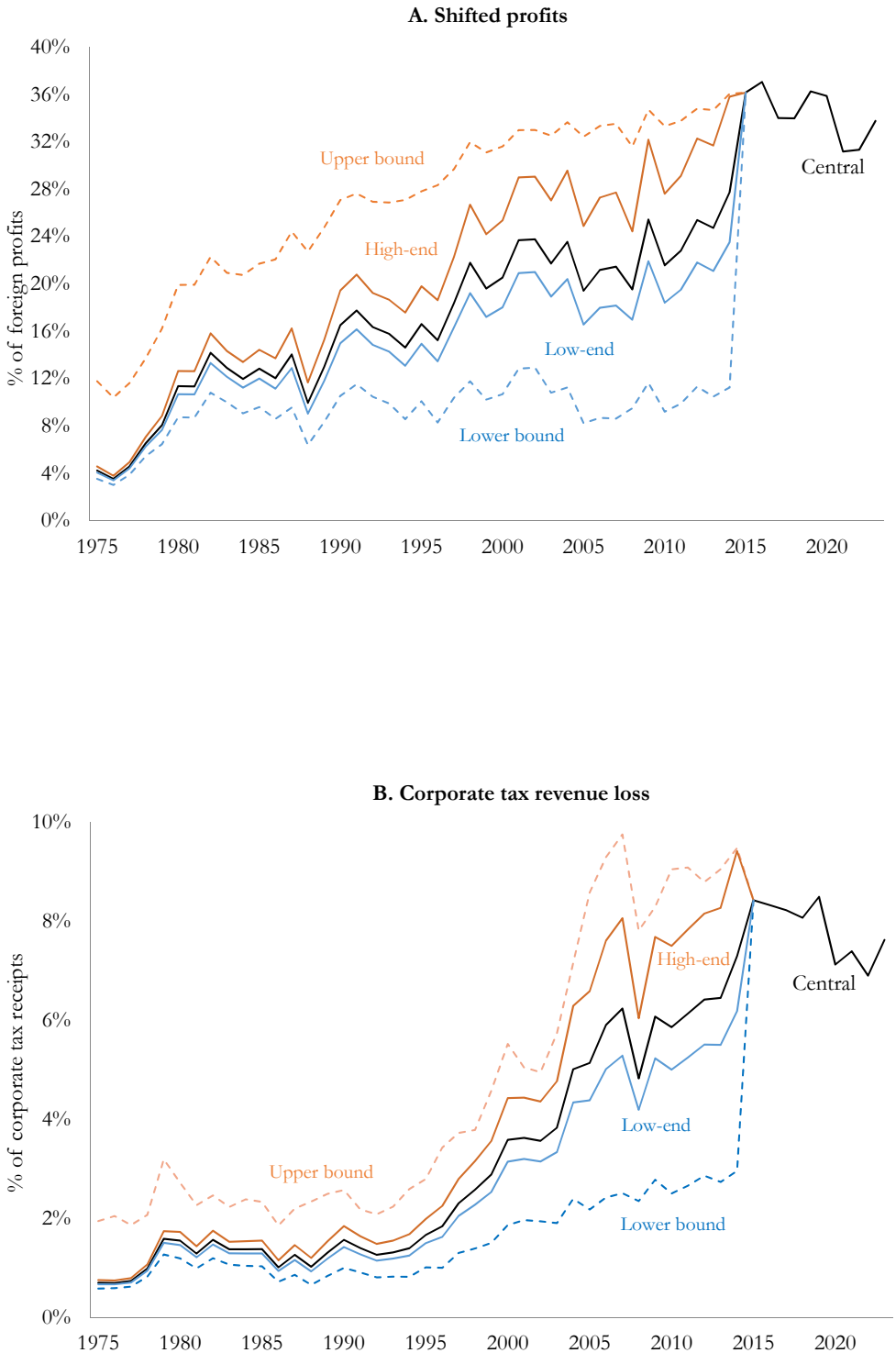
Notes: when 2015 is missing, the 2023-2015 difference is computed as 2023 minus 2016. Source: 2015 figures: Tørsløv et al. (2023), Tables 2 and Tables 3. For 2016–2023: this paper, following the updating methodology described in the text.

Table A3: Country estimates of tax revenue losses due to profit shifting, 2015-2023

	Corporate tax revenue loss (% of corporate tax revenue collected)									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	Difference (2023-2015)
OECD countries										
Australia	7%	8%	8%	8%	29%	7%	6%	5%	7%	*-1%*
Austria	11%	7%	8%	8%	8%	12%	12%	10%	11%	*1%*
Canada	10%	7%	8%	7%	9%	6%	6%	5%	6%	*-4%*
Chile	12%	17%	22%	12%	12%	10%	10%	7%	8%	*-4%*
Czech Rep.	5%	3%	4%	5%	5%	6%	7%	6%	6%	*1%*
Denmark	8%	8%	8%	13%	10%	11%	10%	21%	23%	*14%*
Estonia, Rep. of	10%	59%	11%	11%	11%	15%	25%	25%	29%	*18%*
Finland	11%	9%	9%	11%	10%	14%	15%	14%	15%	*5%*
France	21%	17%	16%	20%	15%	12%	12%	17%	25%	*4%*
Germany	28%	20%	21%	23%	21%	30%	29%	30%	34%	*6%*
Greece	7%	7%	11%	11%	11%	24%	23%	47%	36%	*29%*
Hungary	21%	15%	9%	17%	17%	18%	76%	13%	13%	*-7%*
Iceland	22%	33%	16%	28%	29%	14%	24%	10%	10%	*-12%*
Israel	2%	7%	7%	9%	10%	7%	7%	5%	7%	*5%*
Italy	19%	11%	10%	13%	11%	12%	20%	11%	16%	*-4%*
Japan	2%	2%	2%	2%	2%	2%	2%	2%	2%	*1%*
Korea, Rep. of	3%	4%	2%	2%	2%	3%	3%	2%	3%	*1%*
Latvia	7%	5%	7%	20%	14%	30%	36%	31%	29%	*22%*
Mexico	11%	7%	8%	10%	11%	8%	9%	8%	8%	*-3%*
New Zealand	5%	8%	5%	5%	7%	5%	5%	7%	7%	*2%*
Norway	8%	8%	7%	5%	6%	12%	3%	1%	3%	*-5%*
Poland, Rep. of	8%	7%	7%	8%	6%	8%	8%	7%	9%	*1%*
Portugal	9%	7%	7%	8%	8%	10%	20%	14%	15%	*6%*
Slovak Rep.	5%	4%	4%	5%	5%	4%	6%	5%	6%	*1%*
Slovenia, Rep. of	6%	10%	24%	6%	5%	8%	8%	10%	10%	*4%*
Spain	14%	9%	10%	11%	11%	14%	14%	12%	12%	*-2%*
Sweden	13%	11%	13%	15%	12%	14%	16%	14%	16%	*4%*
Türkiye, Rep. of	8%	6%	7%	6%	6%	4%	3%	1%	4%	*-4%*
United Kingdom	18%	14%	15%	19%	20%	23%	22%	16%	23%	*5%*
United States	14%	11%	17%	13%	15%	13%	12%	8%	7%	-7%
Non-OECD countries										
Brazil	9%	10%	12%	11%	11%	9%	7%	5%	10%	*1%*
China, P.R.: Mainla	4%	2%	3%	3%	3%	2%	3%	3%	3%	*-1%*
Colombia	2%	3%	3%	3%	3%	2%	2%	1%	1%	*-1%*
Costa Rica	21%	28%	17%	19%	20%	13%	12%	12%	16%	*-4%*
India	9%	4%	5%	6%	4%	4%	5%	3%	4%	*-5%*
Russian Federation	6%	5%	5%	4%	4%	4%	4%	1%	1%	*-5%*
South Africa	7%	6%	7%	8%	8%	8%	8%	6%	9%	*2%*
Argentina		11%	7%	7%	4%	3%	3%	1%	7%	*-4%*
Egypt		1%	1%	1%	1%	1%	1%	1%	1%	*0%*
Malaysia		11%	13%	8%	8%	5%	4%	4%	4%	*-7%*
Nigeria		13%	7%	6%	6%	5%	5%	2%	4%	*-9%*
Thailand		8%	5%	6%	6%	6%	6%	6%	7%	*-1%*
Uruguay		23%	11%	60%	13%	9%	9%	8%	10%	-13%

Notes: when 2015 is missing, the 2023-2015 difference is computed as 2023 minus 2016. Source: 2015 figures: Tørsløv et al. (2023), Tables 2 and Tables 3. For 2016–2023: this paper, following the updating methodology described in the text.

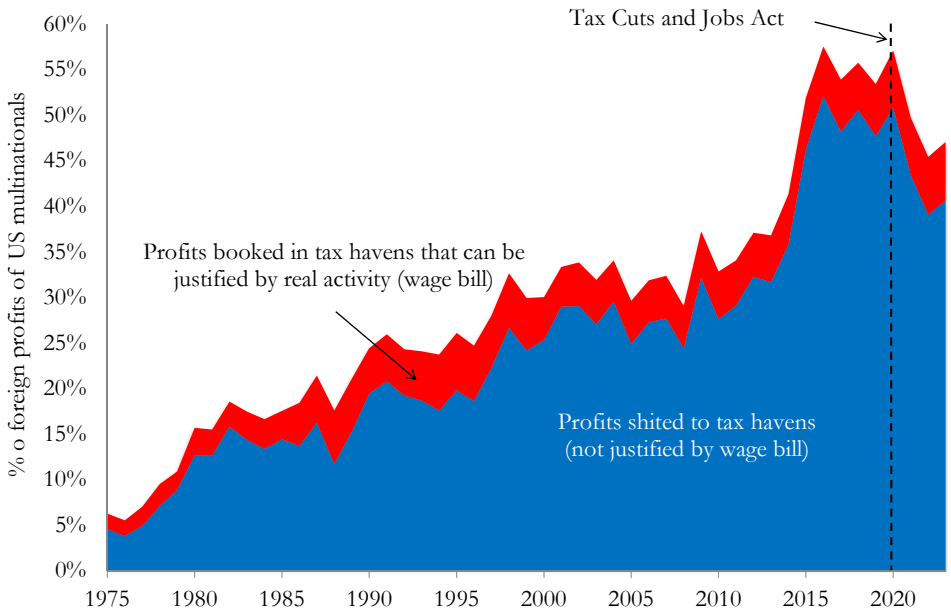
Figure A1: Global profit shifting and implied corporate tax revenue loss (bounds), 1975–2023



Note: This figure shows various scenarios for the evolution of global profit shifting (Panel A) and the implied loss of corporate income tax revenue (panel B) before 2015. See text for description of the high-end, low-end, upper-bound, and lower-bounds scenarios.

Source: for 1975–2015: Tørsløv et al. (2023a), Data Appendix Table C7; for 2016–23 figures: Data Appendix, Table 1.

Figure A2: Foreign profits shifted to tax havens by US multinationals, 1975–2023

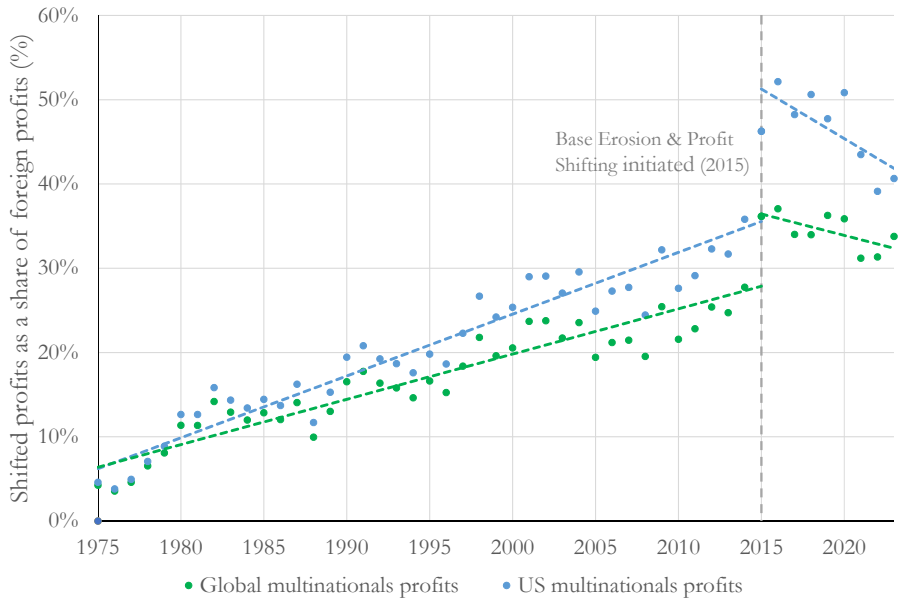


Note: This figure plots the fraction of US multinationals' profits booked in tax havens. The red area shows the fraction of these profits that can be explained by real activity in these havens (proxied by the wage bill paid to workers employed in these haven subsidiaries), while the blue area shows the residual, which can be interpreted as profit shifting. Source: US Bureau of Economic Analysis, annual surveys of the activities of US multinationals abroad, 1982–2023.

Figure A3: Tax revenue losses and corporate tax rates by country, 2015-2023

Note: This figure plots country-level differences in tax revenue losses from profit shifting relative to differences in statutory corporate income tax rates over the period 2015-2023. Differences are taken as the value for 2023 minus the value for 2015. Tax losses are computed as a share of corporate tax revenue collected. Country bubble sizes are scaled by the value of profit losses from profit shifting in 2023. The dotted line captures the slope of the relationship between tax loss (as a share of corporate tax revenue) and corporate tax rate differences, weighted by profit shifting losses in 2023.
Source: Tax revenue losses as a share of corporate tax revenue collected, Data Appendix, Table A3; Statutory corporate tax rates, Tax Foundation: Corporate tax rates around the world.

Figure A4: Trend differentials in profit shifting as a share of foreign profits, 1975-2023



Note: This figure plots multinationals' profits booked in tax havens as a fraction of foreign profits over the period 1975-2023. Green dots represent global multinational profits as a share of global foreign profits, while blue dots show profits of US multinationals, as a share of foreign profits of US multinationals. Dotted lines represent the growth trends in profit shifting across the two samples. Trends are computed separately before and after 2015, the year of the launch of the OECD Base Erosion and Profit Shifting initiative.
Source: for 1975–2015: Tørsløv et al. (2023a), Data Appendix Table C7; for 2016–23 figures: Data Appendix, Table 1.

Table A4: Chow test for trend differentials of global profit shifting

Dependent variable: Growth of profits shifted as a share of total foreign profits			
Panel a: All multinationals	Pre-2015	Post-2015	Difference pre-post 2015
Coefficient	0.005369***	-0.005083**	-0.010452***
(Standard errors)	(0.000425)	(0.00187)	(0.001918)
N Observations	41	9	
R-squared	0.8637	0.4276	
Panel b: US multinationals			
Coefficient	0.007334***	-0.012398**	-0.019732***
(Standard errors)	(0.000425)	(0.004902)	(0.004929)
N Observations	41	9	
R-squared	0.8959	0.5084	

Note: This table reports the results of the OLS regression of profit shifting over years. Slopes are computed separately between the period before and after 2015, the year of the launch of the OECD Base Erosion and Profit Shifting initiative. Panel a) reports the slope outcomes for global profit shifting estimates. while panel b) reports results for US multinationals profit shifting estimates. Post-2015 estimates rely on a smaller number of observation units and as such should be interpreted with greater caution. Pre- and post-2015 standard errors are heteroskedasticity-robust. Standard errors for the difference are computed as $SE_d = \sqrt{SE^2_{pre} + SE^2_{post}}$. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: for 1975–2015: Tørsløv et al. (2023a), Data Appendix Table C7; for 2016–23 figures: Data Appendix, Table 1.