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Research Report

The distribution of profit shifting

EconPol Policy Brief, No. 78

Provided in Cooperation with:
Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Clifford, Sarah; Miethe, Jakob; Semelet, Camille (2025) : The distribution of profit shifting, EconPol Policy Brief, No. 78, CESifo GmbH, Munich

This Version is available at:
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ECONPOL
Policy Brief
10 | 25
78
Volume 9

The Distribution of Profit Shifting

Sarah Clifford, Jakob Miethe, Camille Semelet

- Tax haven subsidiaries are instrumental in multinational profit shifting
- Profit shifting is concentrated in firms exceeding the EUR 750 million revenue threshold of the recently introduced global minimum tax (GMT)
- The GMT captures 95 percent of shifted profits from German multinationals
- GMT compliance costs are modest compared to the revenues raised by large multinational firms
- Pursuing a consistent policy remains preferable even in light of the recent US exemption

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EconPol Policy Brief

Publisher and distributor: CESifo GmbH
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 89 9224-0, email office@cesifo.de
EconPol Europe: www.econpol.eu

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The Distribution of Profit Shifting

Sarah Clifford
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Camille Semelet *

By focusing exclusively on large multinational groups, the global minimum tax (GMT) aims to target most of the world's profit shifting while keeping aggregate compliance costs at an acceptable level. This policy brief presents new evidence on profit shifting behavior across the size distribution of multinational enterprises (MNEs) to study whether the current size threshold strikes the right balance between these two conflicting objectives.

Using German microeconomic administrative data with no reporting gaps for tax havens, we first document reductions in tax payments after tax haven subsidiaries are added to a group and confirm their outsized productivity. As the group size increases, so does the likelihood of including tax haven subsidiaries.

Second, we introduce a new methodology to estimate shifted profits at the group level and find an exponential group size gradient in profits shifted to tax havens. A total of EUR 19 billion was shifted to tax havens by German MNEs in 2022. This includes profits shifted out of Germany and out of other countries by German-owned MNEs. Large groups targeted by the GMT account for 95 percent of this amount. While this is mainly a function of their size, we also document a positive gradient in profit shifting aggressiveness – profits shifted relative to total employment.

Third, we relate revenue potential from taxing excess profits in low-tax jurisdictions to GMT compliance costs, using a 15 percent benchmark rate. For groups currently covered by the GMT, revenue gains significantly dominate costs, while extending coverage to additional groups yields only modest net gains. Using coarser macroeconomic data, we show that Germany is not the most aggressive profit shifting country. MNEs from the US, which has recently been exempted from important statutes of the GMT, are more aggressive. Such exemptions undermine the effectiveness of the GMT, and our results instead support policy consistency of the GMT in the face of such recent unilateral challenges.

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Introduction

International tax avoidance by multinational enterprises (MNEs) is one of the most pressing issues on the global tax policy agenda. On January 1, 2024, the global minimum tax (GMT) came into force, with the objective of establishing a worldwide minimum tax rate of 15 percent on the profits of large, internationally active firms. This reform is one of the most significant changes to the international tax system in recent history, affecting hundreds of tax administrations and thousands of MNEs across the globe. Its goal is to curb profit shifting, reduce harmful tax competition between countries, and ensure that large corporations contribute their fair share.

To keep administrative and compliance costs manageable, the GMT applies only to multinational groups with annual revenues above EUR 750 million. This threshold, however, has been largely driven by political negotiations rather than by solid economic evidence. The key policy question is whether it strikes the right balance: does it capture the firms that engage most heavily in profit shifting, without imposing unnecessary burdens on those that do not?

In a recent paper (Clifford, Miethe and Semelet 2025), we address this question using administrative data from Germany that, crucially, contains no reporting gaps for tax havens. This allows us to construct group-level estimates of shifted profits and assess their association to group size.

The Role of Tax Haven Affiliates in Profit Shifting

Our analysis first highlights that tax haven subsidiaries continue to play a central role in how multinational groups shift profits. Tax haven subsidiaries are entities set up in low-tax or zero-tax jurisdictions that allow companies to book profits away from higher-tax countries, even though little real economic activity takes place there. They stand out in our data in two main ways.

Tax Haven Affiliates Appear More Productive on Paper

First, their reported productivity is far higher than that of affiliates elsewhere. **Figure 1** shows that an employee of an average German firm in Malta appears to generate more than three times the profits of an employee in France. When profits and employment are aggregated at the country level, the gap is even starker: in 2022, the average Maltese employee of a German multinational “produced” around EUR 1.3 million in profit, compared with just EUR 50,000 for a French employee. It is difficult to explain such stark differences only with genuine productivity differences across countries. Instead of genuine economic activity, they can reflect the booking of paper profits in tax havens.

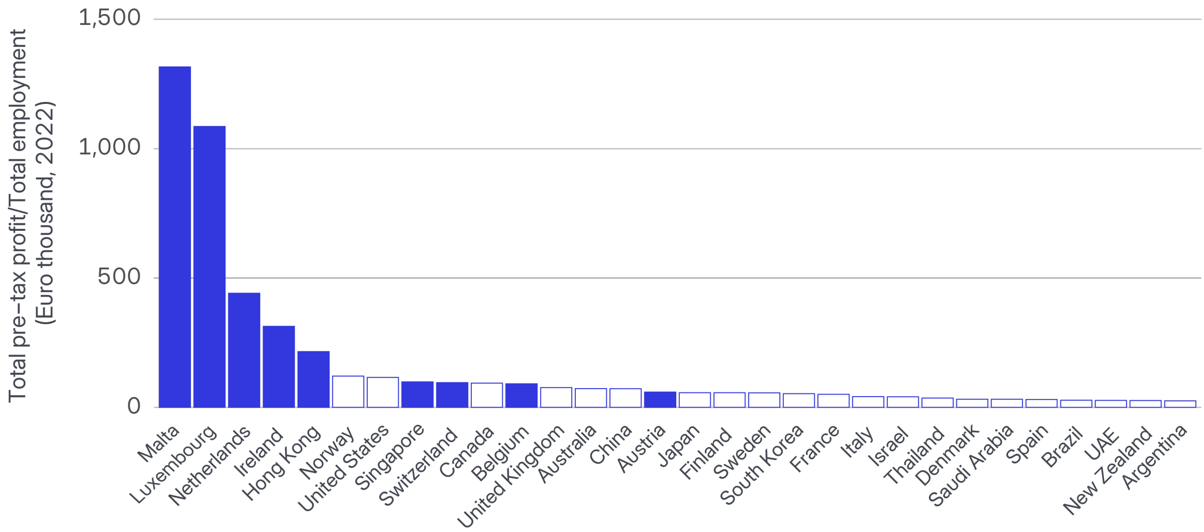
Establishing Affiliates in Tax Havens Precedes Lower Tax Payments

Second, when a multinational group establishes its first tax haven subsidiary, the taxes paid by its existing non-haven subsidiaries drop sharply: on average, a 35 percent decrease relative to turnover. This immediate fall in effective taxation is consistent with profit shifting: if these profits are rerouted to the new haven entity, less taxable profits end up in the non-haven part of the group, even if the location of real economic activity has not changed at all.

When looking at firms of different sizes, we find that the likelihood of them having a tax haven subsidiary increases strongly with group size. In the lower half of the size distribution, fewer than half of the groups use tax havens. But above the global minimum tax threshold of EUR 750 million in revenue, which covers the top 25 percent of German MNE groups in terms of revenue, tax haven use is almost universal. Around three-quarters of the firms around the threshold have at least one tax haven subsidiary, and in the top decile almost all do. The pattern is even sharper for specialized financial affiliates in tax havens, which enable specific profit-shifting strategies like internal debt shifting. This is the first pointer that targeting anti-profit shifting legislation at larger groups has some justification.

Figure 1

Tax Haven Subsidiaries Look Far More Profitable Than Others



Notes: This figure plots the top 30 profitability ratios by country in 2022. Columns represent the aggregate pre-tax profit and employment for the entire country before taking the ratio. Countries that we classify as tax havens are shaded in dark blue.
Source: Clifford et al. (2025).

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How Much Profit is Shifted by German MNEs?

To measure the scale of profit shifting, we developed a method that compares the profitability of tax haven subsidiaries with that of non-haven subsidiaries of similar size and that belong to groups of a similar revenue range. The idea is straightforward: if tax haven subsidiaries appear systematically more profitable than comparable affiliates elsewhere, the difference can be interpreted as profits being artificially booked in the haven. Using this approach, we can estimate the total amount of profit shifted for each multinational.

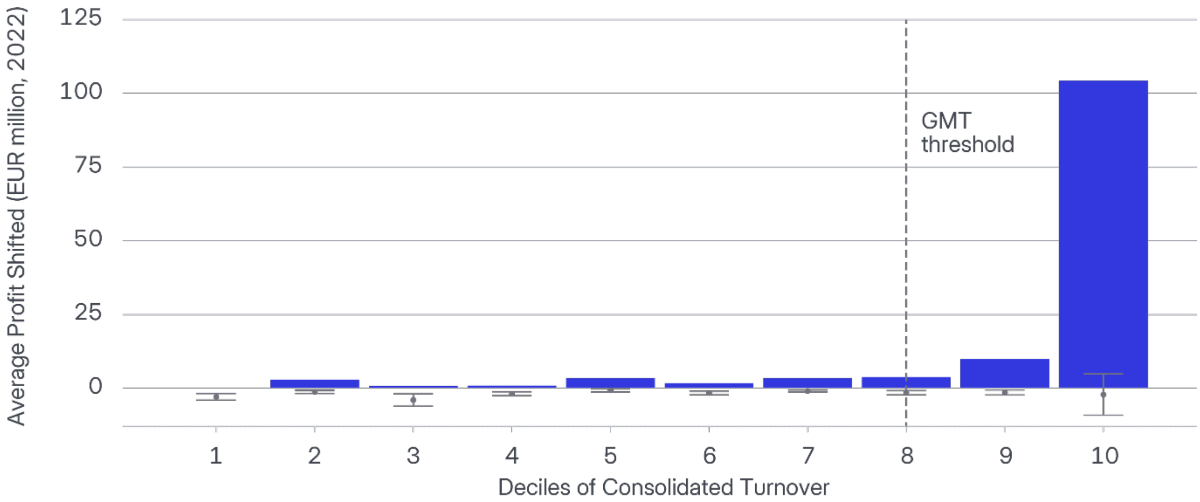
Applying this method to German multinationals in 2022, we find that **about EUR 19 billion in profits were shifted to tax havens**, a number that falls in between the lower existing estimates of Fuest, Greil, Hugger and Neumeier (2025) and Tørsløv, Wier and Zucman (2023). Figure 2 shows how this activity is distributed across group size. For most of the size distribution, shifted amounts are modest, below EUR 2 million per group on average. But at the top of the distribution, the picture changes dramatically: profit shifting rises exponentially, reaching over EUR 100 million per group in the largest decile.

Overall, we find that **95 percent of all profits shifted are attributable to groups above the EUR 750 million revenue threshold set by the global minimum tax** and plotted in the vertical dashed line in Figure

2. This confirms that while some smaller groups do shift profits, the bulk of the problem is concentrated among the very largest groups.

Figure 2

95 % of Shifted Profits Come from Firms Above the Global Minimum Tax Threshold



Notes: This figure plots the average profit shifted per group across group size. Consolidated turnover bins are plotted on the horizontal axis. On the vertical axis, we plot the average profits shifted per group in each decile. The dashed line shows the GMT threshold which lies close to the beginning of the 8th decile. The grey dots and confidence bands show the mean and standard error of the means of the 100 placebo samples we draw in a dataset without tax haven subsidiaries.
Source: Clifford et al. (2025).

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Why are large groups responsible for so much more profit shifting? Part of the explanation is mechanical: bigger firms simply earn more profits, so they have more to shift. But part of it also reflects behavior. When we adjust for group size by looking at profits shifted per employee, we still find that large groups are more aggressive than smaller ones. That said, this "aggressiveness gradient" is much flatter: the largest groups shift more than 10 times as much in absolute terms as the next decile down, but only about twice as much when scaled by their employment. In other words, **most of the concentration of profit shifting at the top is because large groups have a lot of profits, but a part of the concentration is further attributable to higher aggressiveness in their tax planning**.

The Global Minimum Tax

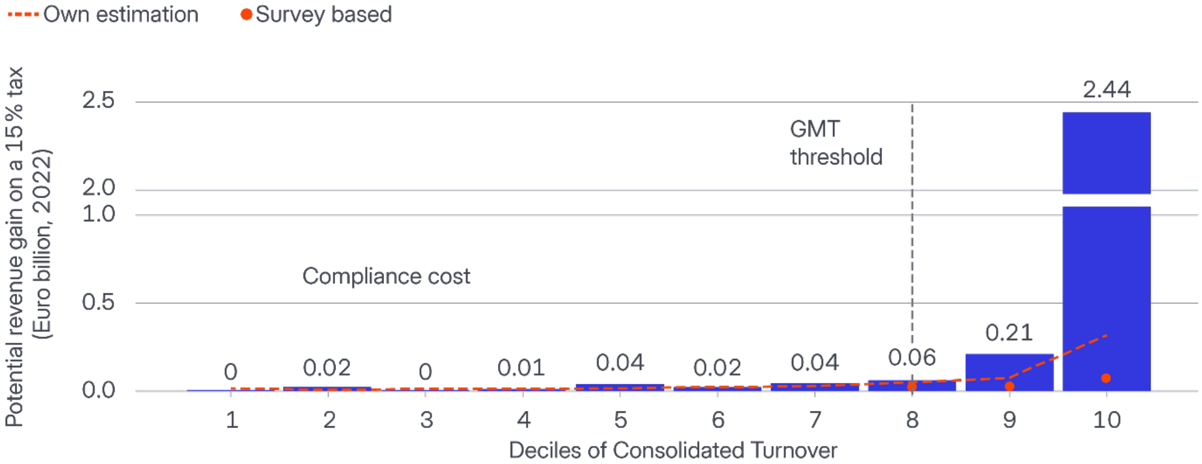
Above the Threshold, Tax Revenues Far Exceed Compliance Costs

To compare potential revenue gains with GMT compliance costs (excluding tax administration costs), we draw on Gaul et al. (2022), who surveyed German MNEs above the threshold. Figure 3 compares the potential revenue gain from applying a 15 percent GMT on shifted profits with the compliance costs firms would incur to meet the new rules. Orange dots show total compliance costs for firms in the top three deciles based on reported size categories; the dashed line shows an alternative measure assuming a fixed cost per subsidiary using the survey's average compliance cost.

The results show that for smaller firms, the balance is marginal: tax gains and compliance costs are roughly comparable. However, above the EUR 750 million revenue threshold, the picture changes. Here, potential revenues grow exponentially, while compliance costs, though sizeable, remain far smaller in comparison. In the top decile, for instance, compliance costs are estimated at under EUR 300 million, while potential revenues exceed EUR 2.4 billion. Overall, all deciles above the GMT threshold deliver clear net gains, confirming that the policy is well targeted: it captures nearly all of the profit shifting while at the same time ensuring that tax revenues outweigh compliance burdens.

Figure 3

Tax Revenues from the GMT Outweigh Compliance Costs for Large Firms



Notes: This figure plots the potential tax revenue gain from a 15% tax on aggregateprofits shifted estimated in Figure 2 across group size and the estimated aggregate compliance cost. Consolidated turnover bins are plotted on the horizontal axis. The vertical bars show revenue from a 15% tax on aggregate profit shifted at the bin level. The dashed line plots the compliance cost that is group size dependent: each affiliate is worth around EUR 30,000 of compliance cost to the group. The orange dots represent the weighted average cost per group as per the survey by Gaul et al. (2022). The dashed line shows the GMT threshold which lies at the 74th percentile of the distribution.
Source: Clifford et al. (2025).

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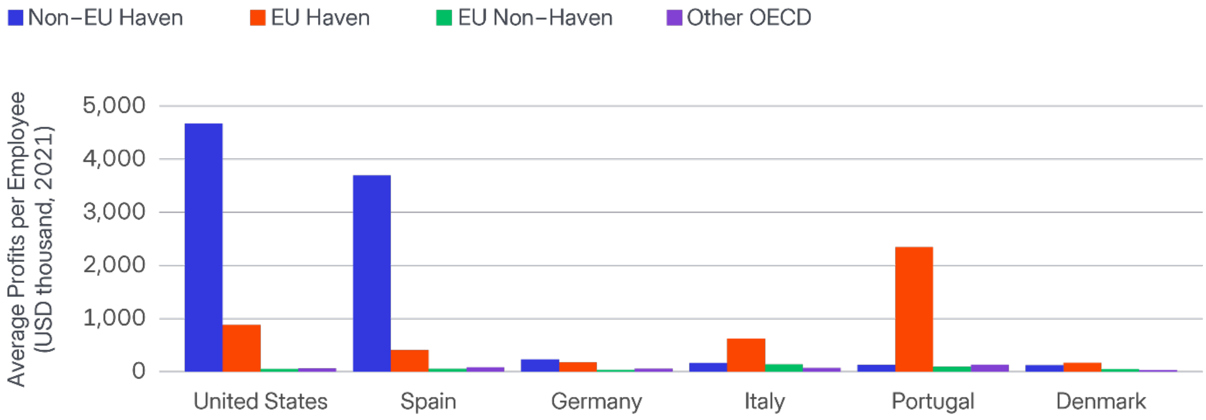
Moving Forward: The European Perspective and the Absence of the US

The global minimum tax went into effect on January 1, 2024, with 138 countries already participating. Crucially, the GMT also allows countries to tax profits of MNEs from non-participating jurisdictions (such as the US) if the home country chooses not to tax the foreign profit of their multinationals. However, on June 28 this year, the G7 agreed to essentially exempt US multinationals from such taxes. As the US treasury points out in a press release, this agreement was reached to avoid what is known as "revenge taxes," which are included in the One Big Beautiful Bill Act of the second Trump administration. At the time of writing, this seems to have succeeded. In order to understand how important this exemption is, we first need to understand how representative our German results are for other countries, in particular the US. Since we only have microeconomic data for Germany, Figure 4 below instead relies on public country-by-country reports to check whether the profitability ratios in and outside of tax havens are generally comparable to those in Germany. The caveat in this figure is that we cannot control for other determinants of productivity, such as size, as we do when using microeconomic data.

Figure 4

Haven and Non-Haven Profitability Ratios for Selected Countries



EU Haven: Cyprus, Ireland, Malta, The Netherlands, Switzerland.
Non-EU Haven: Bermuda, Britisch Virgin Islands, Cayman Islands, Guernsey, Jersey, Isle of Man, Hong Kong, Macao, Panama, Puerto Rico, Singapore, Bahamas, Barbados, Mauritius, Seychelles.
Notes: This figure plots the total profits over the total employees by jurisdiction for selected parent countries of multinational enterprises. The data comes from publicly available macroeconomic CbC reports. We plot four groups of countries: non-EU Havens, EU Havens, EU Non-Havens, and other OECD economies. The tax haven lists are provided at the bottom of the figure. The data is weighted by the number of CbC reports at the target jurisdiction – home country level to avoid the impact of single outliers if tax havens are used by very few firms.
Source: OECD (2025).

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Looking first at non-EU tax havens, Germany is in the same ballpark as other European countries such as Italy, Portugal, and Denmark. Spain notably reports very high profits in the Cayman Islands (albeit of few firms). The United States, on the other hand, with substantial presence in the tax havens in the sample, has higher productivity ratios than any other country. This result echoes recent research showing that US MNEs are particularly aggressive in shifting their profits (Dyreng, Hills and Markle 2023; Tørsløv et al. 2023). The picture is less stark when looking at EU havens such as Luxembourg and Switzerland: here, Germany is outperformed by most countries plotted with the exception of Denmark. Portugal, in particular, reports high profits in European tax havens, even higher than those of the US, which follows second, however. So Germany does not appear to be one of the most aggressive profit shifting countries. The US, on the other hand, is. Unlike the smaller South European economies, the sheer size of US MNEs therefore means that substantial potential tax revenue is lost when they are excluded from the global minimum tax. For the tax revenue estimations, however, it is important to keep in mind that the US also has unilateral anti-profit shifting legislation in place. It is a matter of future research to show how well these measures work, however, and why, if they do, US multinationals book such substantial profits in tax havens.

Policy Implications

Overall, our results suggest that the GMT is well targeted, supporting policy consistency in the face of current unilateral challenges against it. With the objective of balancing firm compliance costs with government tax revenue for the marginal firm entering the scope of the GMT, the current threshold appears well placed. With an objective of only maximizing total tax revenue gain, the current threshold also appears sensible with a coverage of 95 percent of all profits shifted. Level-playing-field and fairness concerns remain but are mitigated by the observation that the MNEs above the GMT threshold are also the most aggressive profit shifters relative to their size.

This policy was rolled out in 2024, with 138 countries participating. One of its main selling points was that MNE profits can be taxed even if the headquarter country does not participate in the GMT. The point of this structure was to make headquarter inversions to tax havens unattractive and instead give tax havens an incentive to tax the profits booked within their jurisdiction. While not all countries participate in the GMT, most notably the US and China, European countries could, in theory, tax the profits of their multinationals. The recent exemption of the US from this system undermines the effectiveness of the GMT for a country whose MNEs are, according to public CbC reports, the most aggressive users of non-EU tax havens. Additionally, regulatory changes of this scale so soon after the rollout of a long-anticipated global policy create adjustment costs and reduce planning certainty on the side of firms. The GMT largely succeeds in targeting large, highly profitable multinational firms as intended. Even in light of the US exemption, staying the course and maintaining policy consistency as the regime rolls out is preferable to introducing further deviations.

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