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The Real Effects of Tax Havens

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The Real Effects of Tax Havens

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Abstract: It is common to summarize the impact of tax havens as a shift of tax revenues from high to low-tax jurisdictions. This chapter discusses the economic impact of tax havens that goes beyond a zero-sum transfer of the tax base, what we label *real effects*. We review the literature and focus on exploring how profit shifting affects employment, investment, and innovation in firms. We consider in turn how real effects shape market structure and their implications in general equilibrium. In conclusion, we propose some potential pathways for future research in terms of methodology and areas that we deem promising for further exploration.

JEL Codes: H25, H26, F23

Keywords: Tax Haven, Profit Shifting, Tax Evasion, Real Effects

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1. Introduction

In many discussions surrounding tax havens, the consequences are generally treated as zero-sum. In this view, profits shifted out of a high-tax country equal those booked in a tax haven and taxes saved by a tax-avoiding taxpayer equals the amount of revenues lost to the government, and so forth. This oversimplified perspective disregards the actual impact of tax havens on the economy, which breaks the zero-sum assumption.

Nevertheless, even a simplistic approach where tax avoiders capture the same amount of money lost to the government suggests significant real effects. By lowering tax revenues, profit shifting undermines provision of public services like education, healthcare, and public infrastructure. Tørsløv, Wier, and Zucman (2023a) suggest that these losses are significant, topping 18 percent of corporate tax revenues in the European Union, 14 percent in the US, and 5 percent in other major economies. Reductions in these services then create effects that ripple through the economy. At the same time, however, by lowering its tax burden, a profit-shifting firm has leeway to increase R&D and other activities that improve both its own productivity and affect the wider economy. Thus, not only does profit shifting generate real effects from both government and firm responses, but the overall net effect depends on the relative efficiency of public and private investment. Furthermore, this does not even begin to account for the cost of tax enforcement, changes in investment patterns (including those meant to engender profit shifting), or the impacts that tax avoidance has on firms' interactions with workers, competitors, and customers. Therefore, profit shifting is far from zero-sum and instead implies reallocation of resources between the public and private sectors, between profit-shifters and other firms, and even within the profit-shifting firm itself. There is thus an urgent need to move beyond a zero-sum understanding of profit shifting to consider the nuanced ways in which the use of tax havens affects economic outcomes.

From the perspective of a profit-shifting firm, tax havens can affect where they choose to locate their investment either because they may choose to invest directly in a haven or because the ability to shift profits out of a high-tax country to tax havens lowers their effective tax burden. Furthermore, the tax savings of tax-avoiding firms can be turned in a competitive asset which materializes in various ways, e.g., their interactions with workers, competitors, and customers. These effects are not zero-sum, as they imply within-firm reallocation of resources with end-effects on employment, investment, and sales. These firm-level effects can have economy-wide implications, e.g., on productivity growth across firms and more generally on the interaction between the public and private sectors. As a result, the use of tax havens also has important general equilibrium welfare effects and are far from a zero-sum game.

This chapter provides a detailed discussion of these real effects, drawing on the nascent literature that has tried to measure their size and scope. While we will focus on tax havens specifically, we also touch on the broader literature linking profit shifting by multinational enterprises (MNEs) and their choices. Given that Tørsløv, Wier, and Zucman (2023a) find that over a third of MNE's foreign profits are shifted to tax havens, we feel reasonably assured in attributing a sizable portion of those effects to havens specifically.

Our discussion largely focuses on the use of havens by MNEs, as this is where most of the research to date has been concentrated. We begin by reviewing the employment effects of tax havens, which are particularly important for high-tax countries. We then move on to the relationship between haven usage and investment, exploring how firms' choices about the size

and location of their affiliates and their investment in research and development are affected by their use of havens. These factors, in turn, influence the firm's market performance, affecting its sales and the overall performance of the markets in which it operates.

Following this, we discuss the real effects of personal use of tax havens as this is an increasingly important aspect of the broader discussion about tax avoidance's social and economic consequences. Finally, we highlight some of the most important challenges researchers face in studying the real effects of tax havens, particularly in establishing causality and addressing measurement issues. We also highlight several topics for future exploration, including tax morale, the general equilibrium effects of tax havens, and the costs of potential policy solutions to the problem of tax avoidance.

2. Tax Havens and Workers

The small but growing literature on the link between tax havens and workers has focused on wage and employment effects. Since profit shifting is generally unobservable, two approaches have been used in these investigations. First, researchers use the introduction of anti-profit shifting policies as a negative shock to a firm's ability to avoid tax. However, by virtue of their reporting requirements, these policies can affect both firms that shift profits and those that do not. Alternatively, some studies compare MNEs with tax haven affiliates (haven users) to firms without such ownership links (which can include non-haven-using MNEs and non-MNEs). The presumption is that those firms with haven links are more likely to be profit shifters. Finally, the two approaches can be combined with the policy shock having an asymmetric effect on treated firms (haven users) and other firms.

One feature of this approach is that one must remember that MNEs are not the average firm. They tend to have higher productivity, hire more workers, and pay better wages (see Crinò, 2009, for an overview). Thus, care must be taken when comparing haven users - who are MNEs by definition - with purely domestic firms (even if they export).[1] Otherwise, any labour market effects attributed to haven use could instead be driven by other underlying differences.

2.1 Wages

Why should there be a relationship between haven use and wages? One possibility is provided by the tax incidence literature, which posits that when a firm's tax burden changes, so do the wages it pays, particularly when wages are bargained over. In essence, this approach views a reduction in tax as increased surplus that is split between the firm's owner and its workers. Thus, this literature finds that average wages rise as the tax burden falls. That said, this average effect often masks significant heterogeneity across workers, with those in more skilled occupations benefiting the most from a tax decrease (or being hurt the least as taxes rise). This result is found by, among others, Fuest et al. (2018) for German data, Saez et al. (2019) for Swedish data, and Carbonnier et al. (2022) for French data. Taking these insights to tax havens, one might expect that establishing a tax haven affiliate - enabling profit shifting and lowering the firm's tax bill - would lead to a comparable pattern.

To our knowledge, only three studies have looked at the impact of establishing a tax haven affiliate on wages. First, Souillard (2020) uses data on US-listed companies, a group of large

[1] To effectively profit shift, a firm needs to move money from a high-tax location to a low-tax one while retaining control of the funds. This implies that the firm has at least two affiliates (and so is *multi*-) in different tax jurisdictions (yielding -*national*).

firms that are essentially all MNEs. He then compares the compensation paid to the chief executive and chief financial officers for firms with and without tax haven affiliates. When doing so, he finds a "haven wage premium", meaning that these individuals earn more when the firm is a haven user. However, such a haven wage premium does not seem to extend to non-executives. Although he does not have individual employee-level data for the non-executives, by using the total wage bill and total employment he can compare the average non-executive wage between haven users and non-users. This exercise finds no significant difference. This is consistent with the tax windfall literature and suggests that tax savings benefit those at the top. López Forero (2021) finds a comparable result for the average wage in French firms (although, unlike Souillard, she cannot look specifically at executive compensation).

Alstadsæter et al. (2022a) build on these studies by using matched employer-employee data from Norway. In contrast to Souillard (2020) and López Forero (2021), their data provides individual wages (and bonuses) for all workers in a firm, not just the executives. In their baseline specification, which assumes that any haven wage premium is the same for all employees of haven-using firms, they find no statistically significant link between haven use and wages. This mirrors the results from the US and French studies. However, as with the tax windfall literature, this average effect conceals significant heterogeneity. One source of this heterogeneity is across industries; when Alstadsæter et al. separate service firms from manufacturing ones, they find a 2 percent haven wage premium for service workers but none for manufacturing. This echoes Souillard (2020), who found that executive wage premia are highest for firms where intangibles comprise a large share of their total assets. These intangible-intensive firms are arguably more in services than manufacturing.

The second source of heterogeneity Alstadsæter et al. (2022a) find is across worker occupations. When allowing for different haven wage premia across workers, they find that skilled occupations receive positive haven wage premia regardless of whether they are in services or manufacturing. CEOs of haven users especially benefit, with their compensation (wages inclusive of bonuses, but exclusive of stock options) nearly 10 percent higher. Lower skilled occupations, however, do not have a significant haven wage premium. Thus, their results indicate that although the wage effects from profit shifting to tax havens may be small on average, they are sizable for certain, generally well-paid employees. This suggests that profit shifting contributes meaningfully to both within- and across-firm income inequality. As a final point, their results hold when comparing haven users only to firms that do significant business with tax havens but do not have an affiliate there, as well as only to other MNEs. This suggests that it is not doing business with havens or being an MNE *per se* that drives the results but specifically the ability to record shifted profits in an affiliated tax haven entity that matters.

2.2 Employment

As with wages, one can again use the existing literature to develop hypotheses regarding havens' employment effects even if those studies do not consider haven use directly. For example, Bilicka, Qui, and Zing (2022) estimate employment effects in the UK from a debt limit regulation intended to curb profit shifting via intra-firm debt and found that this impediment to profit shifting lowered British employment. Suárez Serrato (2018) meanwhile found a comparable result following the repeal of an American law which eliminated the ability of firms to avoid taxation by shifting profits to Puerto Rico (he also finds a reduction in

investment as discussed below). Based on these, it is natural to expect that haven use increases employment.

Nevertheless, the results directly examining firm haven usage with employment numbers provide mixed results. López Forero (2021) uses an event study design with French firm-level data to show that employment in France fell after a French firm established a haven affiliate. This contradicts expectations since one would anticipate that effective taxes fall after entering a haven. In contrast, Souillard (2022) uses data on US-listed firms' financial statements and subsidiaries and difference-in-differences (DiD) estimation techniques, finding that US-listed MNEs increase worldwide employment after entering a haven. He reconciles this with López Forero by noting the different scope of their employment numbers: whereas López Forero considers employment just within France, Souillard's data are on the haven user's global employment. If some jobs are offshored at the same time as the haven affiliate is created, this could explain both the drop in López Forero's domestic employment and Souillard's increase in global employment. This explanation is supported by Davies and Scheuerer (2023) who use Norwegian firm-worker data and find that profit-shifting is associated with a decline in the number of high-skill workers employed in Norway but no change for low-skill workers.[2] They suggest that in addition to potential high-skill offshoring (for discussion see Crinò, 2009), this may be associated with firms relocating intra-firm services such as intellectual property management to the tax haven affiliate in order to justify moving profits to it.

3. Investment, Innovation and Sales

3.1. Investment

The notion that MNEs are often subject to varying tax regimes across countries, which can significantly impact their investment decisions, is well recognized. Indeed, this belief underpins the entire notion of tax competition for foreign direct investment (FDI). This applies also to certain activities within the firm, with R&D investments of particular interest. The existing literature has focused primarily on the impact of tax policies on the location and size of investment by MNEs, with higher tax rates reducing after-tax returns and, therefore, lowering the likelihood (Devereux and Griffith, 1998a,b; Grubert, 2003; Devereux and Lockwood, 2006)[3] and size of investment (Davies et al., 2009; Davies et al. 2021).[4] However, the interaction between tax havens and MNEs' investment decisions remains underexplored. Tax havens, which provide lower effective tax rates and lesser legal and tax transparency, affect profit-shifting decisions, which can then interact with the investment decisions of MNEs in complex ways by altering the effective tax in non-haven hosts. This is important because even

[2] Combined with Alstadsæter et al. (2022a), this indicates that those who remain with the firm see compensation rise.

[3] Examples of papers that examine the impact of corporate taxes on the location decision include Hebous et al. (2011), Barrios et al. (2012), Merlo et al. (2016), Behrendt and Wamser (2018), Davies and Killeen (2018), and Lawless et al. (2018). Although these studies vary according to the data used (e.g., some use data from a single home country, others for several), measurement of taxes (which includes effective taxes, statutory taxes, and the tax difference between the home and host), and methodology (with conditional logit, nested logit, and mixed logit being employed across and within analyses), the consensus is that taxes tend to lower the probability of a firm choosing a potential host.

[4] Given the size of the literature, the surveys of Fuest et al. (2005) and Voget (2015) provide useful starting points.

if the investment in havens is essentially on paper only, the same cannot be said for non-havens where real production occurs.

Because of this, some studies have argued that profit shifting can mitigate distortions from existing tax systems on real capital. For example, Hong and Smart (2010) show that profit shifting can reduce the tax-induced distortions in investment location. Similarly, Desai, Foley, and Hines (2006) find that profit shifting can offset the adverse effects of tax asymmetries on real investment. In a recent survey, Dharmapala (2020) argues that non-haven countries have a range of tax law instruments that can effectively neutralize the impact of MNEs utilizing havens to minimize their tax liabilities. However, he notes that there appears to be a lack of widespread deployment of these tax laws among non-haven countries. This can be attributed to two possible causes. The first possibility is that collective action problems exist among non-havens which could hinder their ability to take concerted action against MNEs engaging in profit shifting. Alternatively, he suggests that in some circumstances, MNEs' use of havens might enhance the welfare of non-haven countries so that it is not actually in their best interest to shut down profit shifting. This latter notion would be consistent with the above ideas that allowing for profit shifting encourages investment in high-tax hosts that otherwise would find it challenging to attract investment. Ferrari et al. (2022) show that high-tax countries benefit from the proximity of tax havens towards which firms can shift their profits at low costs.

Indeed, a handful of recent studies have examined the spillover effects of anti-avoidance rules on the investment decisions of MNEs and found evidence in line with this notion. For instance, De Mooij and Liu (2018) analyse the effect of transfer pricing regulations on MNEs' investment in fixed assets. They find that tightening transfer pricing rules reduce MNE investment in fixed assets. Similarly, Büttner, Overesch, and Wamser (2018) find that FDI becomes more sensitive to the tax rate when a country introduces thin capitalization rules (TCRs). Further, they show that FDI declines substantially when TCRs are introduced, suggesting that profit-shifting opportunities may matter significantly for real investment activity by MNEs. Using a regression continuity design, Egger and Wamser (2015) study the impact of limitations on foreign income exemptions on investment. They find that the German controlled foreign corporation (CFC) rule decreased foreign subsidiaries' real investment. Bilicka, Qi and Xing (2022) use the introduction of the UK worldwide debt cap in 2010 as a quasi-natural experiment to show that MNEs affected by the reform reallocated a share of their investment and employment away from the UK. Overall, these studies suggest that unilateral tightening of profit shifting through anti-avoidance rules may negatively affect MNE investment in high-tax locations.

The issue of unintended consequences from anti-avoidance measures is further highlighted in a study by Suárez Serrato (2018). Until the repeal of a favourable treatment provision by Congress in 1996, US tax law allowed US firms to report income in Puerto Rican and other US territories with lower tax rates. Suárez Serrato uses establishment-level data to identify US firms that had Puerto Rican establishments to which profits could be shifted from the US mainland. He finds that the repeal led to substantial declines in both investment and employment in the US operations of US firms that previously engaged in profit shifting to Puerto Rico. These firms tended to be concentrated in certain local regions and labour markets within the US, which he then links to a long-term decline in employment and wage growth in those areas most exposed to these firms. These results suggest that provisions intended to limit

MNEs' profit shifting may have harmful effects on local communities and provide an explanation for why governments of non-haven countries may encourage MNEs to shift profits to havens.

The studies above show that changes in tax regulations – including the rules covering transfer pricing, TCRs, and CFCs – affect firms' investments in the various locations where they operate. Ferrari et al. (2022) quantify the impact of changes in corporate tax rates and taxing rights on the geography of profit shifting and economic activity. Their model takes into account that the location of MNEs' real activity in non-haven countries depends on their ability to shift their profits to tax havens. They empirically show the importance of bilateral profit-shifting frictions that affect the choice of a tax haven. In turn, this choice matters for the location of production. In particular, profit-shifting frictions and the elasticities of the reported tax base, which depends both on shifted income and changes in real activity, govern the distribution of MNEs' activities and welfare. Looking forward to the implication of global tax reform, Ferrari et al. (2022) find that minimum taxation would increase welfare since it would increase public good provision by curbing profit-shifting to tax havens. In contrast, a border-adjustment tax eliminating profit shifting could increase real consumption but result in welfare losses.

Thus, the literature on taxation and firm investment suggests that investment in a location depends not only on that country's tax policy but also on taxes in other locations. Moreover, while tax competition's base-stealing effect is supported by evidence (see Merlo and Wamser (2023) and Beer and Loeprick (2023) in this volume for micro- and macro-based approaches to measurement), it is not the entire picture. In particular, shifting profits to tax havens can be complementary to investment in high-tax locations which can have real – and meaningful – impacts on private consumption, at the expense of public-good provision.

3.2 Innovation

Intellectual property has been considered a central component of FDI from the earliest treatment of MNEs (e.g., Markusen, 1984). As such, changing the tax environment would be expected to have important consequences on the innovation efforts of MNEs, a group of firms which make up a sizable part of worldwide innovation.[5] Just as the ability to shift profits to a haven can affect a firm's labour and investment decisions, we might also expect it to affect R&D efforts (see Stantcheva, 2021, for an in-depth survey). Since profit shifting lowers the firm's effective tax rate, this can increase the benefit of successful innovation, leading to increased research activities. A similar increase can also arise from tax havens affecting the cost of R&D. Since innovation incurs costs before it succeeds, sufficient access to funding is required to finance research costs before any revenue stream begins. These funds must come from loans, equity investors, or the firm itself. In particular, haven users combine the first and last of these (see Buettner and Wamser, 2013, for discussion). By using intra-firm debt, the firm can lower its debt costs, making it more profitable (in expected terms) to engage in more risky investment projects. Together, these suggest that establishing a tax haven affiliate may increase a firm's R&D. Although no work directly ties havens to innovation, the evidence of, e.g., Bosenberg and Egger (2017) finds a negative relationship between effective tax rates and

[5] See the review of Papanastassiou, Pearce, and Zanfei (2020) for detailed discussion.

innovation. Thus, if a firm can lower its effective tax via profit shifting, it seems plausible that this could spur the amount of R&D it does.

In addition, tax havens may affect the location of R&D activities. As with other types of investment, the tax haven relief valve can make investment in high-tax locations profitable (Hong and Smart, 2010). The focus, however, has been centred on the R&D incentives offered by various governments. In particular, patent boxes - an incentive in which corporate taxes are significantly lower for income attributed to qualifying intellectual property - have received a lot of attention.[6] Indeed, even countries outside typical tax haven lists who offer such tax breaks have been labelled "patent havens" by Schwab and Todtenhaupt (2021). Such a comparison is especially apt for some patent box countries because their schemes permit intellectual property to be developed outside the patent haven, as would be useful if the necessary researchers and facilities are elsewhere, and then shifted to the patent haven affiliate for tax purposes. Indeed, Schwab and Todtenhaupt (2021) and Dischinger and Riedel (2011) find evidence consistent with just such behaviour.

However, they also show that this shifting effect can be mitigated by introducing nexus requirements - regulations that require a sufficient level of the R&D behind the intellectual property to be done locally - to the patent box. While nexus requirements can reduce some of the aggressive shifting of profits via intellectual property, they raise the tension between doing R&D where it is most productive and where it is most profitable after-tax, an effect reminiscent of the beneficial aspect of profit shifting highlighted by Hong and Smart (2010). This has real effects not just for those directly involved in R&D but can have significant impacts when innovation spillovers are local (see Lychagin et al., 2016, for evidence on the local nature of such spillovers).[7] As a final point, note that the relocation of innovation activities can apply to inventors as well as firms or labs. In particular, Akcigit et al. (2016) find that while top inventors overall move to lower personal tax locations, those working for MNEs are particularly sensitive to tax differentials. We return to this last issue in Section 5.

3.3 Sales

The basic strategy MNEs use to move profits is to shift sales from high-tax to low-tax jurisdictions while moving expenses in the opposite direction. Laffite and Toubal (2022) focus on the location of sales by US MNEs using aggregate and sector-level data that decompose total sales into local and foreign components. They show that the share of foreign sales in total sales recorded in tax havens is disproportionately larger than in non-tax havens, a fact not explained by access to large markets. Thus, US MNEs record both their sales and the resulting profits in tax havens even though their goods and services are physically sold in other countries. As a specific example, until recently, Apple set up its sales operations in Europe in such a way

[6] An additional impact of patent boxes is shown by Davies, Hynes, and Kogler (2020) who find that patent boxes increase the probability that a given patent application is approved by the patent office, an effect they attribute to increased R&D efforts underlying these applications.

[7] Theoretically, patent boxes attract R&D activities and impact a broader range of operations. Nonetheless, their effect on innovation is uncertain, especially in terms of the intensive margin when credit constraints are not considered. This uncertainty arises from countries adjusting their direct R&D subsidies and focusing the patent box primarily on addressing profit manipulation (Haufler and Schindler, 2023). The theoretical model proposed by Haufler and Schindler (2023) emphasizes the need to empirically assess the impact of patent boxes on innovation while simultaneously accounting for concurrent R&D subsidy policies. Neglecting these policies, given the recent surge in R&D subsidies, may incorrectly attribute the heightened innovation solely to the patent box regimes.

that customers were contractually buying products from Apple Sales International, one of its Irish-incorporated companies, rather than from the Apple stores that physically sold the products to customers (Levin, 2013). In this way, Apple recorded all sales and resulting profits in Ireland allowing it to avail of favourable tax rules (European Commission, 2016). Several such approaches exist across countries and sectors.[8]

By constructing complex international structures, especially those involving secretive tax havens, profit shifters can both move profits and make it increasingly costly for governments to enforce anti-tax avoidance regulations. Such complex strategies involving many countries is one of the reasons of the discrepancies between micro- and macro-level estimates of profit shifting. Further, such strategies are likely to hinder multilateral efforts to mitigate profit shifting when those efforts at least partly focus on revenues generated from selling goods or services directly to consumers. These sales are one of the important factors discussed in allocating the taxing rights under Pillar One of the current OECD/G20 negotiations (OECD, 2020). The key element is to identify sales according to their final destination so as to assign taxing rights. However, when MNEs can manipulate sales, this calls into question the ability to implement such an allocation of rights because sales are most commonly identified on an origin basis (the seller's location), and not where the final consumers are located (see, for instance, Neubig, 2019, and Delpeuch et al., 2019, on country-by-country reporting).

4. The Performance of Markets

The effects at the firm level discussed above have important implications for markets as well. As research has shown, profit shifters are typically among the largest firms in their industry (Bilicka, 2019; Davies et al., 2018; Reynolds and Wier, 2016; Dowd, Landefeld, and Moore, 2017). Thus, even a small number of such firms engaging in profit shifting is enough to reshape the market structure and affect market performance. This may be especially true in tight markets. Cai and Liu (2009) found that firms facing greater competitive pressure are more incentivized to avoid taxes to have more funds for investment. This effect is confirmed in their study of Chinese firms, with companies in more competitive industries and less advantageous positions having stronger incentives to avoid tax.

In turn, this implies that tax avoidance may give a competitive edge to firms that engage in it. A recent study by Martin, et al. (2022) provides compelling evidence of such a causal relationship between tax avoidance and firm-level sales. If tax-dodgers can lower their effective taxation, this is analogous to a cost reduction which gives them a competitive edge. Thus, if large, cash-rich firms are the ones capable of exploiting haven links, this competitive advantage can help them retain their market power. The two-way nature of this relationship between firm size and tax avoidance makes it difficult to identify the two channels, something the authors overcome by exploiting changes in tax auditing practices. In particular, the U.S. tax authority lost over a third of its budget to monitor and enforce tax laws between 1991 and 2017. Due to insufficient resources, the audit rate plummeted, lowering the likelihood of auditing overall but particularly for the largest firms because of their especially costly audits. These developments

[8] See Murphy (2013) for an overview. Jenniges et al. (2018) discuss cost-sharing agreements and Gravelle (2015) considers contract manufacturing techniques. Note that these may be particularly difficult to see in bilateral transaction data such as that often used.

then favoured large companies' tax avoidance (Hoopes et al., 2012). Using the audit rate of firms as an exogenous shift and controlling for other important determinants of the level of sales (labour productivity, asset buyouts, acquisitions, MNE status, intangibles intensity, and different industry trajectories), Martin et al. (2022) show that firms that engaged in tax avoidance increased their sales relative to those that did not. Shifting the focus to European MNEs and profit shifting, Gauß et al. (2023) show that changes in transfer pricing provisions raise MNEs' effective tax costs and significantly increase the observed sales and profits of affected firms' national competitors.

These results then suggest that large corporations' increase in tax avoidance contributed significantly to their sales and thus raised industry concentration since the 1990s. This is one of the key findings of Martin et al. (2022). They show that in specific sectors, such as non-store retailers, or computer products, tax avoidance by large firms is influential in explaining the increase of industry concentration. They also find that tax avoidance can distort market shares and influence real production in many industries beyond its impact on government revenues.

Furthermore, these studies highlight the interdependence of tax and competition policy and suggest that the enforcement of corporate tax policy can help curb industry concentration. Alternatively, they warn that lax tax enforcement which especially favours larger firms (such as that in the US since the 1990s) can stifle competition. Indeed, it is worth recognising that the EU cases against Apple, Fiat, Amazon, and Starbucks were filed under competition – not tax – law. According to Commissioner Margrethe Vestager, "We have to continue to use all tools at our disposal to ensure companies pay their fair share of tax… If Member States give certain multinational companies tax advantages unavailable to their rivals, this harms fair competition in the European Union in breach of state aid rules" (European Commission, 2020).

Thus, aggressive tax avoidance and tax havens have real impacts not just for individual firms or their workers, but on the entire operation of the marketplace. If the uneven ability to avoid taxes increases the market power of large, already powerful MNEs, this will have significant effects on sales, markups, and the survival rate of smaller firms. This extends the reach of tax evasion effects into general equilibrium and likewise suggests that combating it requires placing tax policy into the broader context of overall industrial policy.

5. Personal Taxation and Havens

Personal use of havens has both its own direct real effects and the potential to interact with those stemming from firms' haven use. Just as havens permit firms to lower their tax liability, they provide comparable opportunities for individuals. Indeed, Alstadsæter, Johannesen, and Zucman (2019) find that the wealthiest Scandinavian households reduce their personal tax payments by 25 percent via haven use, suggesting potentially substantial losses to tax revenues. This can also significantly increase wealth inequality. Furthermore, increased spending on assets excluded from the increasing cross-country automatic exchange of information on financial can lead to changing prices in markets for art and real estate, as recently documented Bomare and Le Guern Herry (2022).

There is a burgeoning literature on tax and personal residency that mirrors the tax-motivated firm location literature. While contributions such as those reviewed by Kleven et al. (2020) highlight the role of tax in migration decisions, these do not focus specifically on the role of

tax havens. More recently Langenmayr and Zyska (2023) examine the interaction of havens and citizenship-by-investment schemes. These schemes provide citizenship for a fixed fee, a move that then allows the individual to open a bank account in a haven under the new citizenship and avoid having that automatically reported to their original homeland. Consistent with their model, they find that such schemes are linked to significant increases in cross-border deposits in havens. This is reinforced by Organ (2022) who finds that US citizens residing in tax havens are more likely to renounce their US citizenship, a move that eliminates the need to file US tax returns. Thus, there is mounting evidence of a link between havens and migration for people as well as companies.

Although corporations are independent legal persons, it must be remembered that they are still only tools for economic activity. They are owned and managed by (mostly wealthy) individuals who ultimately benefit from corporate haven use in the form of higher compensation and dividends. It is generally presumed that individuals are less mobile than firms and certainly less so than paper money. With that in mind, if havens enable firms to avoid taxes, it may be possible to generate revenues by taxing the owners instead. This requires the tax administration to have information on individuals' global income and wealth something havens impede (see the review of Økland, 2023, in this handbook).

Finally, while most countries tax corporations by the source principle (where profits are taxed in the country where they are generated), individuals are usually taxed by the residence principle (where global income (and potentially wealth) is taxable in the country where they are tax resident). However, the definition of tax residency varies across countries, leaving scope for competition for affluent taxpayers. In particular Switzerland exploits such possibilities, creating a potential need for rule harmonization (see Baselgia and Martínez, 2023, Alstadsæter et.al. 2023).

6. Suggestions for Future Research

Despite the many contributions above, there is still a significant need for more exploration of the real effects caused by tax havens. In this section, we address what we feel are some of the most significant challenges to this research as well as highlight areas we feel are particularly in need of consideration.

6.1 The Challenge of Identification

By far, the most significant challenge for the empirical research on the real effects of havens lies in identification. This has three components.

The first component is perhaps the most obvious – when declaring that an MNE invested in a tax haven is shifting profits, this is a presumption. This has two aspects. First, there is the decision of which countries count as tax havens. While it is widely acknowledged that to be a haven requires more than just a low tax rate and necessitates financial secrecy among other attributes (see Dharmapala, 2023, in this volume), there is some disagreement on what exactly should define a haven. This has given rise to a variety of similar, but not identical lists and therefore potential misclassification. We contend that empirical importance of this issue is likely to be small since the variation across haven lists is mostly for relatively minor countries who receive minimal amounts of investment. Second, investment in a haven does not in and of itself mean that an MNE is using that affiliate to minimize tax liabilities. Further, even when tax evasion is present, some havens simultaneously host significant real production activity

(see Clausing, 2020a). As an alternative approach, we suggest that it may be useful to combine investment in a haven with other firm-level information such as abnormally low returns on assets to distil the set of haven users into a potentially more accurate set of profit shifters. Alternatively, there may be value in using "leaked" whistle-blower data which clearly indicates the activities of listed firms.[9]

The second major challenge to identification is that the decision to engage with a tax haven is a firm choice and is therefore open to endogeneity bias. The standard approach to dealing with this is to look for a presumably exogenous policy shift such as the imposition of TCRs or CFCs. This has three difficulties. To begin with, there is the issue of timing. If firms anticipate the introduction of such a policy, they may begin to alter behaviour prior to its implementation. While this might not be such a problem for "paper money" choices such as transfer prices, it may be quite significant for real decisions such as location and employment. This same feature can also imply a delayed response after policy implementation, a delay which can vary across firms depending on, for example, the timing of employment contracts. Thus, the event of a policy implementation is unlikely to be cleanly determined and may vary across firms in unobservable ways, both of which will decrease the precision of the estimated policy effect.

A further difficulty in using policy changes for identification is that a given policy may not affect all firms equally. For example, transfer price regulations generally apply only to firms over a certain size (see Knoll, Kruse-Becher, and Riedel, 2021). While this can be a boon since it predicts a discontinuity in behaviour around that limit, it also can lead to bunching as firms limit their size in order to skirt the regulation, resulting in additional estimation considerations. Furthermore, depending on where that notch is set in policy, the notch may not contain much useful information. For example, if the size at which reporting becomes mandatory is set well below the size of the smallest profit shifting firm, then this will result in no differences on either side of that point. This will limit the usefulness of the policy variable in estimation. Beyond this, in our experience the bulk of such policy changes are designed to ***limit*** profit shifting. This implies that the introduction to the policy is in essence a selection out of treatment. When decisions are costly to reverse, as is the case with fixed investment costs or significant severance costs for workers, then when a firm exits a haven this may mean relatively little for its short-run choices. As such, hysteresis may tend to bias estimated effects towards zero.

The third significant barrier to clean identification arises from general equilibrium effects. If haven usage affects the real activity of the profit-shifting MNE, then it stands to reason that this will affect the choices of other firms. While this is obvious in the market competition discussion above, the same applies more broadly. For example, if haven usage increases employment in the profit shifter, where do those workers come from? This creates general equilibrium labour market changes affecting the employment and wages in the non-haven users as well. This then contaminates the control group, affecting the interpretation of the estimated effects from haven use. While this may be minor in some settings, in others, such as the market for research scientists in a particular technological area, the general equilibrium effects may be substantial. Similar issues can arise in settings of strategic interaction across firms. For example, if access to tax havens (or even just tax-saving policies like patent boxes in non-haven

[9] See Alstadsæter et al. (2022b) for an application of leaked data to the issue of concealed overseas property ownership.

countries) increases the amount of R&D done by a profit shifter, this could impact the R&D done by other firms engaged in an innovation race.

6.2 Tax Confidence and Cost-Benefit Analysis

Setting such challenges aside, there are several areas that merit investigation. One such approach is to consider the impact of haven use on essentially any real decision by firms. As the above discussion suggests, the ability to avoid taxes provides funds which can be used for a breadth of firm choices that then affect critical outcomes. Although the literature to date has mainly focused on investment, innovation, and employment, there is no reason to rule out effects on investment in green technologies, changes in labour standards, or any other choice within a firm's remit. In addition, there is a need for understanding how these changes affect inequality along many lines, both within and across countries.

Beyond these, we highlight two areas of particular interest. The first of these regards tax confidence. One intangible, but nevertheless quite real, effect of haven use is how it affects social perceptions of the tax system. When some firms, especially those that are large and quite profitable, avoid taxes via havens this can quite easily affect the general perception of the fairness of the tax system. This has multiple layers. First, there is the obvious comparison non-haven users make between themselves and profit-shifters. When non-shifters read headlines about the very low effective taxes paid by dominant firms, this lowers tax morale. Comparable issues would arise from the aggressive use of havens by wealthy individuals. Second, there is the cross-country comparison highlighted by Devereux and Vella (2022). The use of havens is clearly of benefit to profit-shifting firms, most of which originate from wealthy countries. Likewise, the havens themselves appear to benefit from the arrangement and experience higher growth rates (Dharmapala and Hines, 2009). For countries not involved in this relationship, however, the benefits accruing to the profit-shifting home countries and their haven enablers will seem unfair. Further, if foreign investment primarily arises from the rich nations (as shown by Davies, Desbordes, and Ray, 2018), this inequity will be especially acute for the low-income countries which have difficulty both attracting needed investment and raising government revenues from their limited tax bases.

Together, these aspects mean that havens can contribute to a decline in tax morale both within countries and across them. As shown in the literature surveyed by Luttmer and Singhal (2014), this then has a significant detrimental effect on tax compliance. Within a high-tax country, decreased compliance can further lower tax revenues as even non-haven firms begin to avoid their taxes. Not only does this have real effects on government coffers but it can result in real effects comparable to those from profit shifting discussed above. Across countries, perceptions of unfairness can affect nations' willingness to participate in multilateral efforts to crack down on aggressive tax avoidance. Many of the suggestions to combating profit shifting in contributions such as Pogge and Mehta (2016) or those in this handbook rely on the multilateral collection and sharing of information. Such efforts, however, incur non-negligible costs for governments. Indeed, as discussed by Davies (2004), these costs are a significant problem for low-income countries even in simpler bilateral agreements. Therefore, expecting the buy-in of low-income, non-haven countries who perceive even the need for such efforts to be unfair to themselves may be a stumbling block to reducing evasion.

With this in mind, we believe that there is a need for research in the design of anti-avoidance measures that account for fairness along these lines. Here, we believe that much can be learned

theoretically and empirically from the literature on the design and enforcement of trade agreements (see, e.g., Fernandes, Rocha, and Ruta, 2021, or Maggi and Ossa, 2021). In particular, Rodrik (2021) provides a recent discussion on the issues of fairness in the design of the international trading system.

Even when a tax policy is deemed fair, there is the question of whether it makes economic sense to implement it. The need for careful cost-benefit comparisons is the second area we believe needs additional consideration. This requires careful consideration of both the benefits and costs of a given policy.

On the benefit side, there have been several attempts to quantify the revenue effects, both globally and to individual countries, of profit shifting (see Beer and Loeprick (2023) and Merlo and Wamser (2023) for surveys of macro- and micro-level approaches). Of central importance to these attempts is the need to estimate the elasticity of tax bases to changes in tax policy, an elasticity that is comprised of two further elasticities: that of profit shifting (moving of paper money) and that of real activity. When calculating the potential reallocation of tax bases in the wake of efforts such as the OECD's BEPS process, it is important to recognize that distribution and size of real economic activity will be affected by changes in the location of paper profits. When this gives rise to additional general equilibrium effects from labour markets, changes in market structure, and the movement of R&D spillovers, this may result in a quite different pattern of revenue responses. Thus, there is need of much more detailed analysis of the revenue benefits from anti-profit shifting measures.

Further, regardless of the effectiveness of such attempts to stop profit shifting, one thing is quite certain: they are costly.[10] Despite this, there is remarkably little evidence on the added costs incurred by firms or governments in the face of such regulations. This stands in contrast to the various estimates of the revenue costs of profit shifting (e.g. Tørsløv, Wier, and Zucman, 2023a, Clausing, 2020b, Bilicka, 2019). Although Slemrod (2019) does discuss alternative methods of improving compliance and notes that the costs of these may vary substantially (with "nudging" letters on the inexpensive end of the spectrum and full audits on the other), there is a notable lack of information on how much such efforts actually cost. As such, this makes it difficult to judge the cost effectiveness of efforts to stymie profit shifting (something further compounded by the often-disappointing results on their effectiveness).

One contribution in this direction is provided by Brun Bjørkheim and Scheuerer (2022). Using Norwegian worker-firm level data, they document a rise in spending on external tax consultants and in-house tax advisors following increased anti-transfer pricing regulations, with the latter increasing most starkly. Notably, they do not find a difference in this employment increase across haven users and non-users suggesting that the burden of regulation falls on more firms than their intended targets. Further, they find that these increased expenditures outweigh the rather modest increase in taxes by more than ten-fold. This suggests that, even setting aside the added cost to the Norwegian government of collecting and processing the newly required documentation, that the cost of the policy outweighs its value. A similar notion is posited by Tørsløv, Wier, and Zucman (2023b) who suggest that high-tax

[10] These are in addition to the costs associated with shifting itself. These latter costs govern both whether to shift and, if so, how much to move as discussed by Bilicka, Devereux, and Güçeri (2022).

countries do not bother with combating profit-shifting to havens precisely because of the high cost of doing so which is engendered by havens' secrecy and uncooperative stance.

Understanding these costs is important because not only are they real economic costs, but also because they underpin the design of any efficient effort intended to mitigate tax evasion. Further, when those costs are substantial and must be incurred prior to the collection of any recovered revenues or associated penalties, this can impact their feasibility for low-income, cash-starved governments. This final feature therefore also affects the potential success of multilateral efforts to curb profit shifting.

7. Conclusion

Despite the general sense that profit shifting is a zero-sum activity with paper money shifted effortlessly across borders, the reality is far more nuanced. The use of havens has clear (if difficult to measure) effects on government revenues which impacts investment in productive infrastructure. Further, the ability to avoid taxes affects the investment, innovation, and employment decisions of tax-dodging firms. This then impacts the markets in which they operate, the spillovers they generate to locals, and the overall tax morale which can undermine the entire tax system. Finally, efforts to combat the negative effects of profit shifting will impose significant costs, including on firms and countries not directly involved in haven use.

Any effort to design an efficient tax policy needs to be cognizant of these real effects of haven use. While there have been significant strides in our understanding of the role tax havens play in investment, further efforts to identify and quantify their role in other real outcomes is greatly needed. We hope that our overview provides a framework for moving forward in that direction.

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