Spillover Effects in International Law: Evidence from Tax Planning*

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Abstract

Multinational firms frequently route their foreign investments through intermediate shell companies. Increasingly, firms engage in *proxy arbitration*, using these shell companies to access other states' bilateral investment treaties and file investor-state disputes against their host states. I argue that proxy arbitration is actually a spillover effect of firms' efforts to reduce their tax burdens. Firms invest abroad through intermediate shell companies to access the bilateral tax treaty network, reducing their withholding taxes. Because the tax and investment treaty networks overlap extensively, these "tax-planning" firms often gain investment treaty coverage as a side benefit, enabling them to file proxy arbitration in the event of a dispute. Using novel, fine-grained data on the ownership structures of multinational firms, I find evidence in support of the spillover effects theory. The results shed new light on the costs of corporate tax planning, and inform ongoing policy debates about reforming the international investment regime; moreover, they make clear that understanding the true effects of global governance institutions requires attention to how firms strategically change their legal forms to access or avoid them.

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The modern regime for the regulation and protection of foreign investment—composed mainly of thousands of bilateral investment treaties (BITs)—is undergoing a legitimacy crisis, with states terminating or renegotiating their investment treaties increasingly frequently (Haftel and Thompson, 2018; Peinhardt and Wellhausen, 2016; Thompson, Broude, and Haftel, 2019). Capital-importing states thought that BITs would allow them to make a calculated bilateral exchange: in return for offering access to costly investor-state dispute settlement (ISDS) to investors from the partner state, they would receive greater foreign direct investment. However, the returns to BITs have been modest at best,[1] and host states have faced greater legal liabilities than they signed up for (See e.g. Poulsen, 2014).

The latter is true in large part due to the *in*direct structure of modern foreign direct investment. Firms and individuals who invest abroad often route their investments through intermediate (or "conduit") subsidiaries—typically shell companies, entities that exist only on paper and have no physical presence—that are incorporated in other states, fragmenting ownership across multiple national jurisdictions. These conduit subsidiaries frequently gain access to the BITs of the state in which they are incorporated, giving the conduit's ultimate owner the abillity to file ISDS against the host state using a legal agreement to which its own home state is not a party. Host states can therefore face legal liabilities from third-party investors under bilateral investment treaties; in fact, these types of cases are associated with the *supermajority* (75%) of all damages ever awarded in the regime ($88B).[2] In a recent example, British telecom giant Vodafone Plc won a USD $3B arbitration against India; however, the case was actually filed not by Vodafone Plc itself but rather by one of Vodafone's Dutch conduit subsidiaries under the Netherlands-India BIT.[3]

Why was Vodafone investing in India indirectly through a Dutch subsidiary, making this arbitration possible? More broadly, why do firms invest abroad indirectly through third-state subsidiaries, and how do they select these intermediate states? Some have argued

[1] See Brada, Drabek, and Iwasaki (2020) for a meta-analysis of BITs and FDI.

[2] Source: author's calculation.

[3] Upmanyu Trivedi and Ragini Saxena, "Vodafone Scores a Victory in $3 Billion Tax Spat With India", *Bloomberg*, 25 September 2020.

that instances of indirect (or "proxy") arbitrations like Vodafone's are the result of firms' strategic efforts to gain access to other states' BITs. Scholars of international law (van Os and Knottnerus, 2012) and more recently political science (Betz, Pond, and Yin, 2021; Gray, 2020) have posited that investors structure their investments in order to ensure that their foreign assets are protected under an investment treaty. According to this treaty shopping hypothesis, investors take the investment treaty network into account when planning their investment; if their home state does not have a treaty with the potential host state, they route their investment through a holding company in a third state that does have a treaty with the host state.

In this paper, I complicate the investment treaty-shopping argument by noting that multinational firms operate in a world characterized by multiple, overlapping international legal networks. The network of BITs exists alongside an equally large network of bilateral tax treaties (BTTs) that set the rates levied on transfers of capital between pairs of states. Originally intended as a technical fix for the problem of double taxation, BTTs have created opportunities for legal tax avoidance (or "tax planning," in the parlance of the business world): because BTTs create low-tax "paths" between certain pairs of states, firms can lower their overall tax bill by investing indirectly through third-state subsidiaries in a way that allows them to take advantage of these paths (Arel-Bundock, 2017). Tax treaties also have other features that make them desirable to firms, including access to arbitration for tax disputes and stability in bilateral tax policy.

I argue that, in most cases, the decision to invest indirectly is motivated by tax concerns and that the location of intermediate subsidiaries is therefore determined by the BTT network rather than the BIT network. However, the BIT and BTT networks are highly correlated: 55% of the dyads that have an active BTT also have an active BIT.[4] Intermediate subsidiaries that were created for tax purposes can therefore be repurposed as ISDS claimants in the event that a dispute arises with the host government. In this way, the

[4]Source: author's calculations based on BIT/tax treaty data from 2007.

tax planning behaviors induced by the tax treaty network create *spillover effects* on the investment treaty regime.

In order to evaluate predictions drawn from my argument, I draw on three sources of data on indirect investment. First, I introduce a new dataset on the corporate ownership structures of over 1,000 claimant firms that have filed ISDS cases between 1987 (the year of the first modern ISDS case) and 2015. Consulting a wide range of sources, I determine whether or not each of the claimants involved in 726 distinct ISDS cases was the direct and/or the ultimate owner of the disputed assets, and if not I determine who *was*. I find that 41% of ISDS cases contain at least one claimant that is investing indirectly through one or more third party-incorporated subsidiaries, and that 27% of all cases are proxy arbitrations in which the claimants are themselves subsidiaries of a third party-incorporated parent. Second, I use regulatory filings from the Securities and Exchange Commission (SEC) and Bureau van Dijk's Amadeus dataset to construct two large samples of corporate ownership structures, covering over 6,400 MNCs and over 57,000 foreign subsidiaries.

I present a range of evidence in support of the tax planning hypothesis. First, I use the SEC and Amadeus samples to show that tax planning, rather than investment treaty shopping, drives selection into indirect investment; firms are substantially more likely to hold ownership of a foreign subsidiary indirectly when the tax savings are largest. Second, conditional on choosing to invest indirectly, I show that firms are much more likely to incorporate their conduit subsidiaries in jurisdictions that offer them access to the tax treaty network and to lower tax rates on cross-border capital payments. Third, while tax considerations drive the initial decision to invest indirectly, firms are more likely to choose conduit locations that give them BIT access when host state political risk—defined as the government's ability to arbitrarily change or reinterpret policies in a way that enables predation—is highest. These results hold, and indeed are highly similar, for both the ISDS and non-ISDS samples.

These findings contribute to the literature on strategic investor behavior in the international investment regime (Moehlecke, 2019; Pelc, 2017), as well as recent work on corporate

arbitrage in international law more generally (Arel-Bundock, 2017; Betz, Pond, and Yin, 2021). By using extremely fine-grained data on subsidiary-level foreign investment as well as detailed data on tax institutions, I improve on past research designs by identifying the specific international agreements to which firms gain access through their shell companies. The results also have meaningful implications for ongoing policy conversations about investment treaty reform;[5] one such implication is that states who seek to curb investment treaty abuse would do well to invest simultaneously in reforming their bilateral tax treaties, as proxy arbitration is often a side effect of firms' tax planning behavior.

Further, I identify a new political consequence of firms' efforts to lower their tax burdens: while it is well known that tax avoidance impedes development (Tørsløv, Wier, and Zucman, 2022) and fosters inequality (Alstadsæter, Johannesen, and Zucman, 2019) by depriving states of tax revenue, I show that the indirect ownership structures that firms adopt in order to gain access to tax treaties create additional legal liabilities for states by opening them up to costly proxy arbitration cases. In addition to their monetary costs, ISDS cases have been shown to constrain host states' ability to impose new regulations (Moehlecke, 2019) and even to occasionally lead states to *reverse* policies that investors cite as violating treaty protections (Moehlecke, Thrall, and Wellhausen, 2023). By enabling proxy arbitration, then, legally admissable corporate tax planning creates even more concerning externalities for the developing world than previously thought.

Multinational firms are increasingly able to detach their *de jure* corporate forms from their actual global operations, whether by changing their state of incorporation without moving their headquarters or by routing their investments through anonymous shell companies. This separation of legal ownership and real activity fundamentally changes the nature of global economic governance: in a world in which corporate nationality is malleable, institutions that apply to firms according to their nation of origin will necessarily become global (if they are favorable) or easily avoided (if not). Further, as I demonstrate with the case of the

[5]See e.g. Lauge N. Skovgaard Poulsen and Geoffrey Gertz, "Reforming the investment treaty regime: a 'backward looking' approach", *Chatham House*, March 2021.

investment and tax treaty networks, the effects of corporate arbitrage are magnified when *overlap* across international legal networks allows firms to access multiple institutions with a single structure. Given the proliferation of global governance institutions—both public, private, or hybrid (Thrall, 2021)—in recent decades, the spillover effects framework could usefully be applied to understand the effects of overlapping institutions in a wide range of other substantive domains such as environmental governance or global trade.

1 BITs, states, and firms

The first BITs were signed in the late 1950s and early 1960s in order to solve a problem: capital-exporting states wanted to protect their firms operating abroad and depoliticize commercial disputes (Vandevelde, 1993), developing state governments wanted foreign direct investment (FDI) but could not credibly commit not to expropriate, and attempts to regulate international investment multilaterally had failed (Allee and Peinhardt, 2014; Simmons, 2014).[6] Substantively, BITs provide formal regulations for investors (e.g., which types of inward investment are allowed) as well as standards for the treatment of foreign investors (e.g., investors must be allowed to repatriate profits back to their home country); beginning in the late 1960s, they increasingly began to allow firms access to binding international arbitration in the event that the standards are violated (St John, 2020).

States who sign a BIT together make a calculated tradeoff: in exchange for the prospect of increased foreign investment, signatory states extend a set of special protections to each other's firms and open themselves up to costly investor-state arbitration in the event that these protections are violated. However, there is evidence that capital-importing states did not fully understand the nature of this tradeoff during the proliferation of ISDS-enabled BITs in the late 1980s and 1990s. Poulsen (2014) argues that, while states knew that their BITs left them liable to be sued by foreign investors in a process called investor-state dispute

[6]There is also evidence to suggest that capital-exporting states like France and the UK attempted to persuade their former colonies to sign BITs and ratify the ICSID Convention; see St John (2020).

settlement (ISDS), they did not foresee how costly ISDS would prove to be. Other research suggests that only once states face arbitration themselves do they begin to question the utility of their treaties, slowing their adoption of new BITs (Poulsen and Aisbett, 2013) or even renegotiating or terminating their current treaties (Haftel and Thompson, 2018; Peinhardt and Wellhausen, 2016).

Not only did states underestimate the frequency and intensity with which firms would file ISDS cases, they also failed to predict the variety of different ways that firms would use arbitration. Moehlecke (2019) and Pelc (2017) demonstrate that firms can use arbitration in order to suppress the global diffusion of a regulatory measure, targeting early adopters in order to "chill" other potential adopters. Gray (2020) highlights the phenomenon of proxy arbitration, in which a parent firm gains access to arbitration against a host state via a foreign subsidiary. Gray posits that proxy arbitration is the result of investment treaty-shopping, defined as the practice in which "nonstate actors such as firms structure their ownership to take advantage of other countries' arrangements" (Gray, 2020, 1). Betz, Pond, and Yin (2021) provide support for the BIT/IIA-shopping hypothesis using data on multinational firms' subsidiary creation decisions.[7]

The investment treaty-shopping argument rests on two key assumptions: first, that the insurance that BITs provide against host state mistreatment outweighs the costs associated with indirect investment. If this assumption was false, then firms would have no incentive to invest abroad indirectly in order to gain BIT access, as indirect investment (even with BIT protection) would be more costly than direct investment. Second, that investors choose where to locate their conduit subsidiaries based on the BIT network, rather than some other factor. If this assumption was false, then we might falsely ascribe indirect investment to investment treaty shopping when it is instead the result of other factors.

I argue that whether or not these assumptions hold is likely to be contingent on the domestic political institutions of the host state. In particular, the insurance function of BITs

[7] Betz and Pond (2019) also find evidence that firms pursue mergers with foreign firms as a method to gain BIT protection against their own government.

is more valuable to investors who are operating in states with unstable and unpredictable regulatory environments, as the probability that a dispute arises is higher in these states. As a result, we should only expect to see evidence of investment treaty shopping among firms who are investing in high-risk host states. Further, I argue that the literature has overlooked a crucial motivation behind firms' indirect investments: corporate tax planning. Regardless of the host state's political environment, all firms want to reduce their tax burdens. As I show in the following section, failing to account for international tax institutions such as tax treaties and bilateral withholding tax rates can result in the spurious attribution of tax planning behavior to investment treaty shopping instead.

2 Theory: tax planning and proxy arbitration

My basic argument is as follows. First, indirect investment—investing abroad through a wholly-owned foreign shell company (conduit subsidiary)—is costly for investors, and they will only pursue this strategy when the expected benefits outweigh the costs. I argue that the most profitable indirect investment strategies are those that reduce firms' tax burden by giving them access to low-tax jurisdictions and bilateral tax treaties. However, since there is a high degree of overlap between the tax and investment treaty networks, many of the investors who chose their conduit location to maximize tax favorability will gain access to a BIT as well. Herein lies the *spillover effect*: conduit subsidiaries that were created to access the bilateral tax treaty regime can often be *re*purposed as ISDS claimants in the event that a dispute arises.

2.1 The costs and benefits of indirect investment

2.1.1 Costs

Indirect investment carries several fixed costs for investors. Would-be indirect investors must pay fees to incorporate the intermediate subsidiary, they must pay for office space in

the hosting state, and some states require that even holding companies maintain at least one employee. Even in business-friendly jurisdictions such as the Netherlands, investors must pay some annual fees to maintain the subsidiary. Investing indirectly through a subsidiary also requires the assistance of legal and accounting firms, both of which carry costs. While no high-quality data exists on the costs of indirect investment, rough estimates of the cost of establishing an intermediate subsidiary range from USD $15,000[8] - $50,000[9] with subequent costs of $40,000 per year.[10] These numbers are likely dramatic underestimates of the true costs of indirect investment for multinational firms, who spend billions of dollars annually paying accounting firms to manage their subsidiary portfolios.[11]

2.1.2 Benefits: BIT access

Past studies have provided both qualitative (Gray, 2020) and quantitative (Betz, Pond, and Yin, 2021) evidence to suggest that investors engage in BIT-shopping, routing their foreign assets through intermediate states with the express purpose of gaining access to those states' investment treaties. In general, having access to a BIT is valuable to firms for two reasons. First, the knowledge that an investor has access to ISDS may deter a host state from expropriating or mistreating that investor's assets in the first place. Second, in the event that the investor's assets are mistreated by the host government, ISDS offers investors the opportunity to recoup some of their losses in the form of a binding award or settlement (Kerner, 2009). While ISDS does not guarantee investors a payout—only 51% of arbitrations end in either an investor victory or a negotiated settlement[12]—the combination of the deterrence and insurance effects means that investors whose home and host states do not have a BIT together might rationally seek to gain access to one via indirect investment.

[8] https://velocityglobal.com/blog/international-subsidiary-company-benefits-and-risks, first cited in Betz, Pond, and Yin (2021).

[9] https://10leaves.ae/publications/difc/how-much-does-it-cost-to-set-up-a-holding-company-in-the-difc

[10] See footnote 8.

[11] For example, leading accounting/tax-planning firm PwC grossed $43B in 2020 and provided services to 84% of Fortune 500 companies. See https://www.pwc.com/gx/en/about/global-annual-review-2020.html.

[12] Source: author calculations using UNCTAD data.

However, in a departure from the investment treaty shopping theory, I argue that gaining access to BIT protection is unlikely to be equally valuable for all investors. Rather, BIT access is most valuable for the investors who operate in high-political risk host states.[13] First, the deterrence effect of BITs should provide the greatest returns in the presence of a credible threat; if the probability of host state mistreatment was already near zero in the absence of a BIT, gaining access to one will provide little additional protection. Second, just as individuals are willing to pay more for health insurance as they grow older (and the probability of falling ill rises), investors should be willing to pay more to gain access to insurance against host state mistreatment as the probability of mistreatment rises. In sum, I argue that investing indirectly in order to gain access to BITs will only be rational for investors operating in host states characterized by high levels of political risk.

2.1.3 Benefits: tax planning

There are two categories of taxation that most directly impact multinational firms. The first is the corporate income tax, which is levied on corporate profits (defined as the firm's revenue after deducting expenses). The second is withholding taxes, which firms must pay whenever they transfer capital across national borders. Both taxes are highly costly, with rates often in excess of 30%, and firms therefore have a strong incentive to find ways to avoid paying them. The measures that firms take to (legally) avoid taxation are referred to as tax planning, and importantly they usually involve indirect investment through strategically located subsidiaries. In this section, I will use the real world example of Columbia Capital LLC's indirect investment in India (see Figure 1) to explain two types of tax planning: profit shifting and tax treaty shopping.

Indirect investment allows firms to benefit from cross-national heterogeneity in domestic corporate tax rates: Venezuela taxes corporate profits at a rate of 34%, while Bermuda

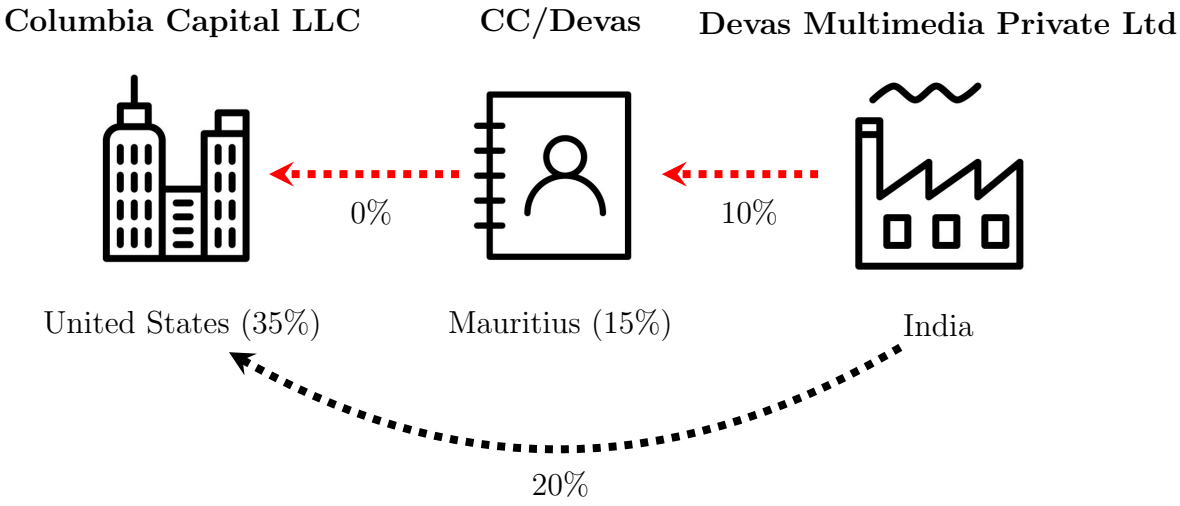
[13]Political risk stems from two primary factors. First, the state's ability to enact policy changes that negatively affect investors (raising taxes, imposing regulations, etc); second, the state's ability to directly expropriate any assets within its borders (Henisz, 2000).

does not tax corporate profits at all (Tørsløv, Wier, and Zucman, 2022). Thus, firms who wish to reduce their tax burden may wish to "book" their profits in a low-tax jurisdiction in a process called "profit-shifting" (Hines Jr. and Rice, 1994). For a parent firm, this process involves establishing a subsidiary in a low-tax state whose only purpose is to hold ownership of one of the firm's foreign assets; this type of subsidiary is sometimes referred to as a "conduit entity" (Wamser, 2011). In this case, the conduit subsidiary would book the profits generated by the asset in its own low-tax jurisdiction, reducing the parent firm's tax liability. For example, note that Columbia Capital established its conduit subsidiary (CC/Devas) in Mauritius, where the corporate tax rate was 20 percentage points lower than that of the United States.

When firms transfer capital across borders, they must pay withholding taxes to the state that the capital is being transferred out of. Such cross-border transfers are common for multinational firms, who frequently want to distribute dividend payments to foreign shareholders, fund their subsidiaries using intra-firm loans, or simply repatriate profits earned by a foreign subsidiary to the home state. Withholding tax rates vary at the directed-dyadic level; the withholding rate on interest payments made from Ukraine to Canada may be different from the rate on interest payments made from Ukraine to France, which may in turn be different from the rate on interest payments made from France to Ukraine. This variation exists because, similar to the investment treaty regime, international cooperation on issues of corporate taxation mainly occurs at the bilateral level in the form of bilateral tax treaty negotiations (Rixen, 2011). States have signed thousands of BTTs, each one lowering the withholding tax rates charged on transfers between State A and State B. As a result, there is substantial variation in the cost to firms of transferring capital between pairs of states.

Indirect investment allows firms to take advantage of this heterogeneity. By establishing an intermediate subsidiary in a strategically selected third state, investing firms can gain access to lower-tax "paths" on which to send their capital. Figure 1 provides an example of

Figure 1: **From tax planning to proxy arbitration: the example of *Devas v. India*, PCA 2012.**



The black arrow represents the direct transfer from host state to home state, red arrows represent the indirect path of transfers. Percentages above arrows indicate the withholding tax rate levied on interest payments made from State A → State B. Percentages inside parentheses indicate corporate income tax rates.

how this works, with respect to dividend payments: While the U.S. and India do have a tax treaty together, withholding taxes on direct India-U.S. transfers are still taxed at a rate of 20%. However, India's tax treaty with Mauritius is more favorable, providing a withholding tax rate of only 10% on India-Mauritius transfers. Mauritius, in turn, does not tax outward dividend payments; therefore, Columbia Capital can cut its withholding tax burden in half by investing in India indirectly through a Mauritius shell company.

In addition to lowering withholding tax rates, bilateral tax treaties have other properties that firms find desirable. First, they distribute taxing rights between the two signatory states. This can be in firms' favor if taxing rights are given to the state with the more favorable policy: for example, the BTT between India and Mauritius gives Mauritius the right to tax capital gains profits, although it chooses not to.[14] Tax treaties also typically give protected investors access to a dispute settlement mechanism, similar to ISDS, that can be used in the event of a tax dispute (Hearson and Tucker, 2021). However, it should be

[14]See Smarak Swain, "How the misuse of India's treaty with Mauritius is leading to tax revenue loss", *CNBC*, 02 February 2020.

noted that BITs and BTTs are not substitutes for one another: first, BTTs do not provide firms with the ability to initiate arbitration with their host states regarding any non-tax issue. Second, BITs do not provide any tax benefits for covered firms; in addition, BITs increasingly contain legal clauses specifying that the BIT *cannot* be used to arbitrate on issues related to taxation (Morris et al., 2024).

2.2 Spillover effects: tax planning and proxy arbitration

I argue that, while gaining BIT access may be valuable when investing into a high-political risk host state, tax planning is far more profitable in most cases and indirect investors will seek out conduit states that maximize tax savings. As a result, firms tend to locate their conduit subsidiaries in states that give them access to the tax treaty network. Due to the overlap between tax and investment treaty networks, subsidiaries that give their parent firm access to a tax treaty with the host government will often give them access to an investment treaty with the host government as well. Then, in the event that a dispute arises, conduit subsidiaries that were created for tax-planning purposes can be repurposed as claimants in proxy arbitration cases; hence, strategic planning in the tax treaty regime spills over into the investment treaty regime.

Columbia Capital (Figure 1) provides an instructive example. The firm made its initial investment in India in 2006, in order to carry out a lucrative procurement contract to construct telecommunications infrastructure for the Indian government.[15] As demonstrated above, the firm made an indirect investment that was tax-optimal; Mauritius has been the primary conduit for investment into India since the early 1980s, long before the two countries signed a BIT.[16] In 2011, the Indian government abruptly terminated Columbia Capital's procurement contract, citing the Indian military's desire to develop the telecom infrastructure for defense purposes. In response, and despite the fact that the U.S. and India have no BIT

[15] See Award document: https://www.italaw.com/sites/default/files/case-documents/italaw9750.pdf.

[16] See Ashish Khetan, "Why There is Still More Tax Reform Work To be Done on the Mauritius Front", *The Wire*, 15 June 2020.

together, Columbia Capital was able to use its Mauritian conduit to file a proxy arbitration against India under the India-Mauritius BIT. As Columbia Capital had no reason to suspect that the contract would be voided when they made their investment, and only one case had ever been filed under the India-Mauritius BIT, it is unlikely that the firm invested indirectly in order to gain BIT access. Rather, I argue that Columbia Capital invested indirectly to access the favorable India-Mauritius tax treaty; gaining access to the BIT was merely a side benefit.

2.3 Observable Implications

The spillover effects theory generates three main sets of testable implications about the investment strategies of firms that have filed proxy arbitrations as well as those that have not. The first set concerns firms' decision to make any given investment directly or indirectly. If indirect investment is motivated by tax concerns, as I've argued, then firms should be more likely to make their investments indirectly when the tax benefits are greatest. However, when their investment is located in a host state with high political risk, firms may also be motivated to invest indirectly if they lack access to a BIT.

To summarize, firms should invest indirectly (vs directly) when:

H1a: They lack direct access to a tax treaty with the host state.
H2a: They face high withholding tax rates on direct transfers.
H3a: They lack direct access to a BIT with the host (*and* risk is high).

The second set of observable implications concern firms' choice of conduit subsidiary location, conditionally on having already chosen to invest indirectly. The spillover effects theory predicts that firms will choose tax-optimal locations for their conduit subsidiaries; states that offer low corporate income tax rates, low withholding tax rates, and have tax treaties with both the host state and the investor's home state. When political risk in the

host state is high, investors should be more likely to choose conduit states that have a BIT with the host state in order to ensure access to ISDS. The spillover effects theory argues that the firms who did engage in proxy arbitrations were simply following tax planning strategies that are highly common in the corporate world; therefore, if these relationships hold for ISDS claimants as well as for comparable firms who did not engage in ISDS, it would provide strong support for the theory.

To summarize, indirect investors should choose conduit locations that:

H1b: Offer access to the tax treaty network.

H2b: Offer lower withholding tax rates.

H3b: Have lower corporate income tax rates.

H4b: Have a BIT with the host state (when risk is high).

Finally, a key prediction of the spillover effects theory is that—while firms typically create conduit subsidiaries for tax purposes, rather than BIT access—the high degree of overlap between tax and investment treaty networks means that many tax planning firms will gain BIT protection as a side benefit. Therefore, we should observe that a substantial percentage of conduit subsidiaries give their parent firms the ability to file proxy arbitration against the host state, even if BIT access is not a key predictor of subsidiary location choice.

An alternative hypothesis is that firms always seek to jointly maximize BIT access and tax favorability,[17] choosing to invest indirectly through the most tax favorable of their host state's BIT partners. While plausible, this hypothesis assumes that the benefits of BIT protection are comparable to those of tax savings; it assumes, for example, that a firm would choose *not* to invest through the most tax optimal conduit state if that state did not offer BIT access. I argue that, for the vast majority of investments, this assumption is not likely to hold; tax savings are a benefit that firms receive consistently and with certainty,

[17] Sztajerowska (2021) finds that this is the case for direct investments, for example.

while access to ISDS provides only potential insurance against events that may never occur. Still, I subject this hypothesis to empirical testing as well.

In order to evaluate the above hypotheses, I use novel data on the ownership structures of ISDS claimant firms as well as detailed data on the ownership structures of thousands of MNCs gathered from their filings with the Securities and Exchange Commission (SEC) and from Bureau van Dijk's Amadeus dataset.

3 Data

3.1 Ownership structures of ISDS claimants, 1987-2015

In order to explain trends in indirect investment and proxy arbitration, it is necessary to first identify the ISDS cases that are associated with these strategies. Doing so requires collecting two critical pieces of information about each claimant in each case:[18]

1. Is the claimant firm owned by an investor (firm or individual) from a different state? If so, what is the nationality of the ultimate/beneficial owner?

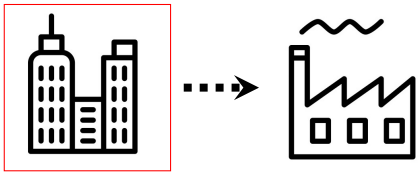
2. Does the claimant firm hold ownership of the disputed host state assets indirectly through one or more conduit subsidiaries? If so, in which state(s) are these subsidiaries incorporated?

I collected this information for over 1,000 claimants in 726 ISDS cases filed between 1987 (the first modern ISDS arbitration) and 2015. I consulted a wide range of resources in order to verify firms' ownership structures. First, as the ownership of the investment is often a salient issue in ISDS cases, I began by checking case documents for information about claimant ownership structures. Next, I searched business databases such as Orbis, Mergent

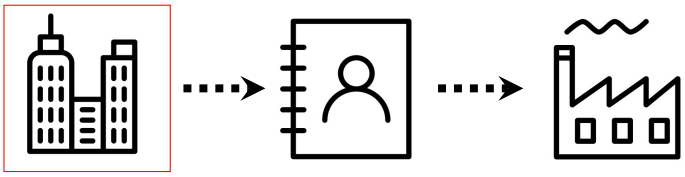
[18]Because my focus in this paper is on the investment strategies of multinational firms, I do not count ISDS cases that were filed by foreign minority shareholders of domestic firms as instances of proxy arbitration. However, future empirical study of these "shareholder claims for reflective loss" in ISDS would be valuable (Gaukrodger, 2013).

Figure 2: **Classification of ISDS cases according to claimant ownership structure.** Dashed arrows identify ownership relationships, pointing from owner to subsidiary. Red boxes identify the firm who filed the ISDS case (the claimant).

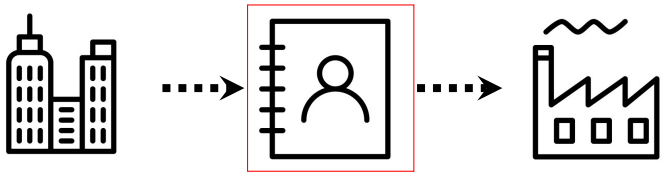
(a) Direct investment



(b) Indirect investment, no proxy arbitration



(c) Proxy arbitration

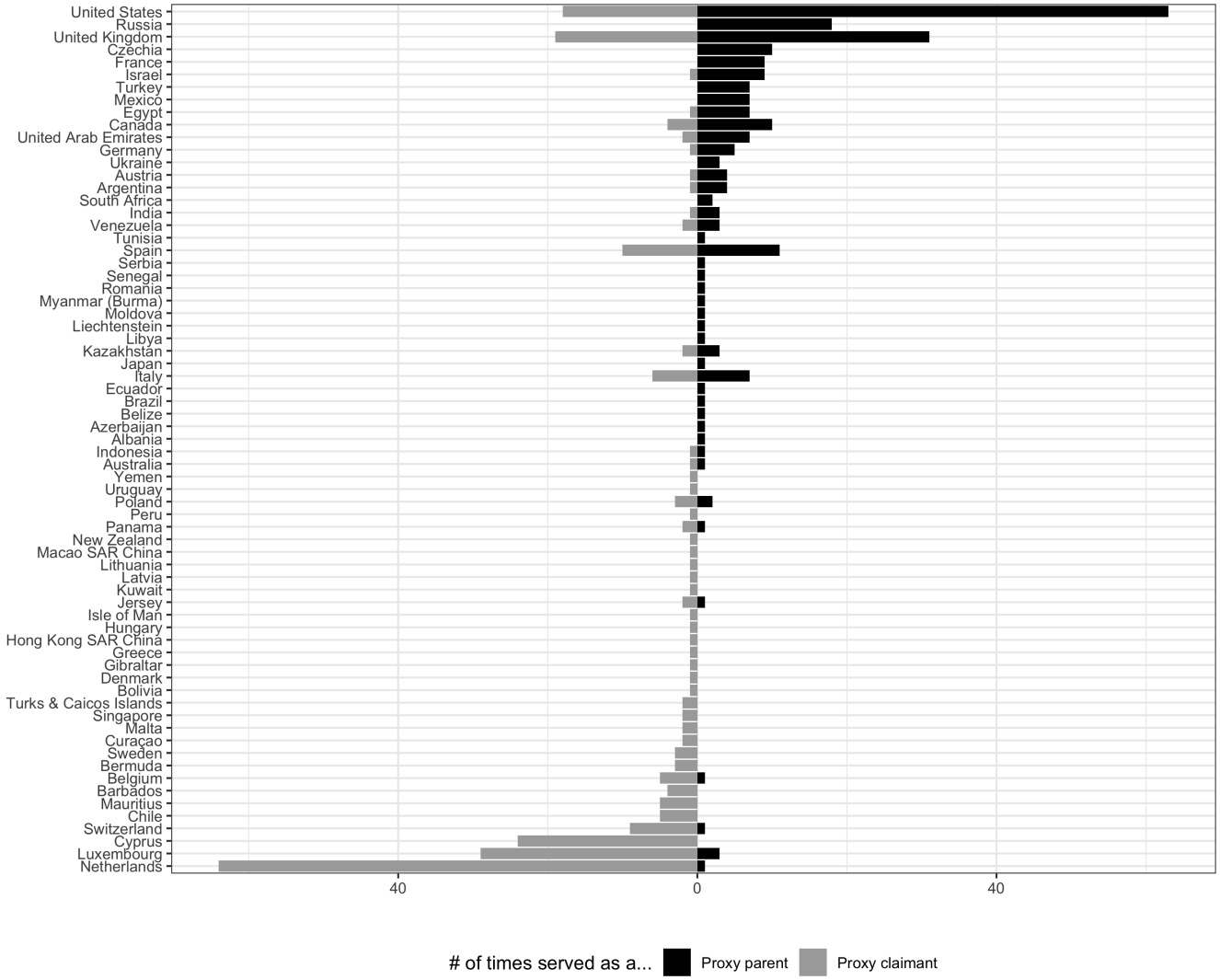


Online, and Dun & Bradstreet; SEC filings and their non-US equivalents (such as SEDAR filings in Canada, or Companies House in the UK); firms' own websites and investor reports; leaked data from offshore service providers;[19] and secondary sources including local news, investigative reports, and specialized media outlets such as *IA Reporter*. With this data, I construct the ownership chain—the full set of ownership relationships and intermediate entities connecting the ultimate owner to the host state assets—for each firm.

By cloaking the true nationality of the parent investor, proxy arbitration biases our understanding of which states' investors are the primary beneficiaries of ISDS. Figure 4 demonstrates this by plotting two quantities for each state: the number of times an investor from that state has engaged in proxy arbitration as a parent firm (in black), and the number of times an investor filed ISDS indirectly using a conduit entity incorporated in that state

[19] Accessed at https://offshoreleaks.icij.org/.

Figure 3: **How does proxy arbitration affect the distribution of claimant nationalities in ISDS?** States are sorted according to whether they are more often home to parent investors (at the top) or to conduit entities (at the bottom).



(in grey). First, note that almost all of the states at the bottom of the graph—the states who are net hosts of conduit subsidiaries—are well-known facilitators of tax planning. While the Netherlands is by far the largest host of conduit entities, other major players include low-CIT jurisdictions (Cyprus, Mauritius, Barbados) and financial centers with large tax treaty portfolios (Switzerland, Luxembourg). Second, while the US and the UK are two of the largest home states for investors who engage in proxy arbitration, they also host substantial numbers of conduit entities. This is not surprising: both the US and the UK are

key faciliators of global tax planning.[20]

3.2 Ownership structures of global MNCs

While data on the ownership structures of ISDS claimants is necessary to study spillover effects, it is not sufficient. As noted in Section 2.3, my claim is that the firms that filed extant proxy arbitration cases were following tax-optimal indirect investment strategies that are commonplace in the business world. For this reason, it is essential that I collect data on the ownership structures of other global firms that have *not* engaged in proxy arbitration as well.

To address this issue, I construct two additional datasets that capture the indirect ownership structures of multinational firms. First, the U.S. Securities and Exchange Commission (SEC) requires public firms to publicly report the names and jurisdictions of their subsidiaries as part of their annual 10-K report in what are known as Exhibit 21 (Ex 21) filings. Importantly for my purposes, many firms report not only the names and jurisdictions of their subsidiaries but also the ownership relationships between them. This allows me to determine whether each foreign subsidiary was owned either directly or indirectly, and in the latter case to determine the location of the conduit entity or entities. Using Ex 21 data collected by CorpWatch,[21] I identify 64 U.S. multinationals that reported hierarchical ownership among their subsidiaries in 2007.[22] I then recover the ownership structures for each of these firms' complete foreign assets, totaling 5,806 distinct indirect ownership chains (as well as 1,941 directly owned foreign subsidiaries).

Second, I draw on Bureau van Dijk's Amadeus dataset to construct an even larger sample of the indirect ownership structures of European subsidiaries. This dataset contains information on the ultimate owners (parent firms) and, if applicable, the direct owners (conduit entities) for nearly 50,000 European subsidiaries. Over 12,000 of these subsidiaries are owned

[20] See e.g. Leslie Wayne, "How Delaware Thrives as a Corporate Tax Haven", *The New York Times*, 30 June 2012.

[21] See http://api.corpwatch.org/.

[22] A full list of firms can be found in Appendix Table A.2.

indirectly, and the data contains over 6,400 parent firms from a wide range of home states (including Germany, Japan, Canada, and many others). Importantly, the Amadeus data also records the date of incorporation for all subsidiaries, allowing me to more accurately model the treaty environment at the time of initial investment; I restrict the sample to firms incorporated between 1980 and 2007.

4 Research design

To test the hypotheses drawn from this argument using the ownership structures data, I conduct two sets of analyses. First, because the SEC and Amadeus samples includes information on firms' indirect *and* direct foreign investments, I use this sample to predict selection into indirect investment. When a firm incorporates a new foreign subsidiary, my theory predicts that their decision of whether or not to hold that investment indirectly through a conduit subsidiary should be motivated by tax concerns.

Second, I use all three samples to predict indirect investors' choice of conduit subsidiary location: conditional on making the choice to invest indirectly, why would an investor decide to locate its conduit subsidiary in one jurisdiction over another?[23] My theory suggests that investors should strategically locate their conduits in the jurisdictions that offer the greatest tax benefits: access to tax treaties, low withholding rates on capital transfers, and low corporate income tax rates. Further, these relationships should hold for indirect investors that filed ISDS cases and for those that did not. To test H3a and H4b, I also examine the conditional effect of host state political risk on indirect investors' choice to seek out conduit locations that offer them investment treaty protection.

Uncovering "smoking gun" evidence of either tax planning or investment treaty shopping is nearly impossible to do. Detailed firm-level tax filings that would allow me to detect firms' country-level profits and withholding tax payments are confidential, and very few managers would likely be willing to admit that they structure their investments in order

[23]This approach has been used in the accounting literature; see Dyreng et al. (2015).

to take advantage of other states' investment treaties. Instead, I view both of the research designs in this study as examples of "forensic" social science (Zitzewitz, 2012): using available data on the structure of firms' foreign investments, I ask whether or not patterns of indirect investment appear to be consistent with what we would expect them to be if firms were (1) engaging in tax planning, and/or (2) engaging in investment treaty shopping. While such an approach is typically the norm for studies of firm behavior in IPE (see e.g. Betz and Pond, 2019; Betz, Pond, and Yin, 2021), the results should be interpreted with this in mind.

4.1 Tax data sources

I use three data sources to assemble my key independent variables. First, as previously mentioned I use panel data on national corporate income tax rates (1980-2018) that was compiled by the Tax Foundation.[24] I use this data to determine the CIT rate that would apply to each potential conduit entity.

Second, I require dyadic data on tax treaties as well as directed-dyadic data on withholding tax rates. For the former I rely on Barthel and Neumayer (2012)'s replication data, which contains dyad-year tax treaty data for the period 1959-2007. For the latter, I draw on accounting/corporate services firm PricewaterhouseCoopers (PwC)'s publicly available territory tax reports.[25] For each territory, PwC records the withholding rates for three types of transfers: interest payments, dividends, and royalties. For each type of transfer, territories maintain both a non-treaty rate (the withholding rate that is applied when a transfer is made to a non-treaty partner state) and a set of (typically lower) treaty-specific rates that vary based on the treaty partner to which the transfer is being sent. For example, New Zealand's non-treaty rates on interest/dividends/royalties are 15%/15%/15%, but its treaty-specific rates for transfers made to Belgium are 15%/10%/10%.

A limitation of the PwC data is that they are not longitudinal: they reflect only the tax

[24]For more information, see: https://taxfoundation.org/publications/corporate-tax-rates-around-the-world/.

[25]For an example, see: https://taxsummaries.pwc.com/japan/corporate/withholding-taxes.

treaties and withholding rates in force as of 2019. To address this issue, I take the following approach. First, I use Barthel and Neumayer (2012)'s tax treaty data to determine whether a given dyad had a tax treaty together in the relevant time period; if they did I use the 2019 treaty rates, and if they did not I use the 2019 non-treaty rates. The validity of this approach draws on the empirical observations that tax treaties are rarely amended (and thus the treaty rates rarely change) and states rarely change their non-treaty rates, so the primary issue with using the 2019 rates is simply that some treaties which were in force as of 2019 were not yet in force during the sample period.

4.2 Variable construction and controls

4.2.1 Tax variables

Using the Tax Foundation data, I create Corporate Income Tax Rate which is equal to the corporate income tax rate in each potential conduit state. In line with Hypotheses 3, I expect the coefficient on this variable to be negative: investors should choose to incorporate conduit subsidiaries in states with low corporate income tax rates to facilitate profit-shifting. Using Barthel and Neumayer (2012)'s tax treaty data, I create variables to indicate whether there exists a tax treaty between the host state and the potential conduit (Tax Treaty with Host) and whether there exists a tax treaty between the conduit and the home state (Tax Treaty with Home). Both of these variables make a given conduit location more favorable, and thus I expect each of them to be positively signed.

Finally, I calculate the effective withholding rate levied on interest and dividend payments were they to be routed from host to conduit and then conduit to the parent's home state (Withholding Tax (Interest) and Withholding Tax (Dividends), respectively). To do so, I follow Arel-Bundock (2017)'s method for both interest and dividend rates. For each home-host-conduit triplet ijk, the effective withholding rate on transfers made from i

to j indirectly through k is equal to:

$$WHT^{E}_{ijk} = 1 - (1 - \tau_{jk})(1 - \tau_{ki}) \tag{1}$$

Where τ_{jk} is the withholding rate on transfers from host to conduit, and τ_{ki} is the rate on transfers from conduit to the parent's home state. I expect a negative sign on the effective rate variables: higher effective withholding rates make a given indirect path less favorable for the parent investor.

I lag all independent variables by 10 years in analyses using the ISDS and SEC data in order to account for the fact that, while I don't observe the year of incorporation for subsidiaries in these samples, I do know that they were likely incorporated several years prior to the time at which they entered the sample.

4.2.2 Other variables

The most important control variable addresses the possibility of investment treaty shopping, or seeking out conduit locations that offer the investor access to an investment treaty. To account for this possibility, I control for the presence of an active BIT between the potential conduit state and the host state. I control for the per capita GDP of the potential conduit state, and I include an indicator variable equal to one when the potential conduit location is the Netherlands to ensure that its outlier status is not driving the results. In the models predicting selection into indirect investment, I control for host state regime type using V-Dem's additive polyarchy index. I also control for host state political risk using V-Dem's v2cltrnslw variable, which measures policy stability and predictability in how policy is enforced; I invert the scale such that higher values equate to greater political risk (e.g., lower stability/predictability). Finally, I include various fixed effects to address unobserved heterogeneity, where appropriate.

Table 1: **Data structure: indirect ownership choice.**

Parent Firm	Subsidiary	Home	Host	Owned Indirectly?
Ford Motor Co.	1	USA	Croatia	1
Ford Motor Co.	2	USA	France	0
⋮	⋮	⋮	⋮	⋮
Newmont Mining	1	USA	United Kingdom	0
Newmont Mining	2	USA	Laos	1
⋮	⋮	⋮	⋮	⋮

5 Results & Discussion

5.1 Which investments are made indirectly?

Hypotheses 1a, 2a, and 4a make predictions about the conditions under which investors should choose an indirect investment strategy in the first place. Specifically, if reducing tax burden is the primary motivation for indirect investment, then firms should be more likely to invest indirectly as the tax burden associated with direct investment grows larger. If firms are investing indirectly with the explicit goal of gaining BIT access, however, indirect investment should be most likely when the firm's home state does not have a BIT with the host state.

I test these predictions using the SEC and Amadeus ownership structures data. These data allow me to determine, for each parent firm, which of their foreign subsidiaries are owned directly and which are owned indirectly. Noting that ownership structure is a choice—any foreign assets could be owned either directly or indirectly—I use tax and nontax variables at the host state and home-host levels to predict whether each foreign subsidiary is owned indirectly. My theory predicts that indirect investment should be more likely when home and host states do not have a tax treaty together, and when the withholding tax rates on direct transfers of capital from host to home states are higher. Control variables include host state regime type, GDP per capita (logged), and political risk. Note that, since I am *not* predicting the state in which a firm will locate its productive assets, it is not necessary for

Table 2: **Tax variables predict selection into indirect investment.** Coefficients for control variables can be seen in Appendix Table B.3.

	DV: Investment made indirectly = 1.					
	SEC firms			Amadeus firms		
	(1)	(2)	(3)	(4)	(5)	(6)
Tax Treaty (home-host)	-0.006	-0.144**	-0.096**	-0.029	-0.032*	0.012
	(0.041)	(0.059)	(0.039)	(0.018)	(0.018)	(0.016)
Withholding tax (Dividends)	0.638***	0.616***	0.466***	0.260***	0.192***	0.350***
	(0.142)	(0.140)	(0.130)	(0.051)	(0.049)	(0.053)
Withholding tax (Interest)	0.427	-0.018	-0.273	-0.186**	-0.201***	-0.404***
	(0.339)	(0.330)	(0.229)	(0.075)	(0.072)	(0.075)
Withholding tax (Royalties)	-1.325***	-1.707***	-1.260***	0.852***	0.643***	0.589***
	(0.330)	(0.417)	(0.315)	(0.101)	(0.103)	(0.097)
BIT (home-host)	0.050	0.100	0.110**	0.063***	0.007	-0.001
	(0.050)	(0.062)	(0.055)	(0.010)	(0.012)	(0.010)
Controls	No	Yes	Yes	No	Yes	Yes
Firm FE	No	No	Yes	No	No	Yes
Year FE		N/A		No	No	Yes
Num.Obs.	7,418	6,868	6,868	45,206	44,660	44,660
R2	0.019	0.040	0.270	0.019	0.026	0.336

* p < 0.1, ** p < 0.05, *** p < 0.01

me to control for the wide range of variables that scholars have identified as being predictive of FDI. Rather, I am taking the location of both headquarters and host state as given; it is therefore only necessary to control for factors that may jointly influence (1) the bilateral tax relationship between two states, and (2) a firm's decision to invest in that state indirectly through an intermediate subsidiary (as opposed to directly).

An important feature of my research design is that it is conducted at the level of the *subsidiary*, not the parent firm. I am predicting investment decisions—both the decision to invest indirectly in the first place, as well as the choice of conduit location—for invididual subsidiaries, but investment decisions are made by executives within the parent firm. Parent firms are likely to have overarching investment strategies, so decisions made by one parent firm for different subsidiaries are unlikely to be fully independent of one another. For this reason, I include firm fixed effects as well as robust standard errors clustered on the parent

firm. However, because parent firms face different sets of institutions when making each investment decision—for example, when the final investment is located in South Africa vs. Indonesia—the subsidiary is the correct level at which to conduct this analysis.[26] Further, investment strategies do vary within parent firms: for example, 39 of the 50 largest (by number of indirectly-owned subsidiaries) firms in the Amadeus data incorporated only some (but not all) of their conduit subsidiaries in states that gave them access to a BTT with the host state.

Table 2 presents the results of six models, estimated via ordinary least squares.[27] The results generally support the tax planning argument. In four of the six models, the presence of a tax treaty between home and host states is associated with a significantly lower probability of investing indirectly. This is consistent with tax treaty shopping, in which investors choose an indirect ownership structure in order to access tax treaty coverage when their own home state does not provide them with it. As expected, higher withholding tax rates on direct dividend payments are associated with a higher probability of indirect investment, and the same is true for royalties in the Amadeus sample. Puzzlingly, withholding taxes on royalties (in the SEC sample) and interest payments (in the Amadeus sample) have the opposite sign.

I find no evidence of BIT shopping, and if anything the results suggest that indirect investment may be *more* likely when the investor's home state already has a BIT with the host state. However, while the lack of BIT access may not be a driver of indirect investment on average, Hypothesis 4a suggests that the relationship may be moderated by the level of political risk in the host state. Firms may be more likely to invest indirectly to gain BIT access when host state political risk is high, as I have argued that BITs provide the greatest returns under these circumstances. To test this possibility, I use Hainmueller, Mummolo, and Xu (2019)'s binning estimator to estimate the marginal effect of home-host BIT protection on the decision to invest indirectly at different levels of host state political risk. The binning

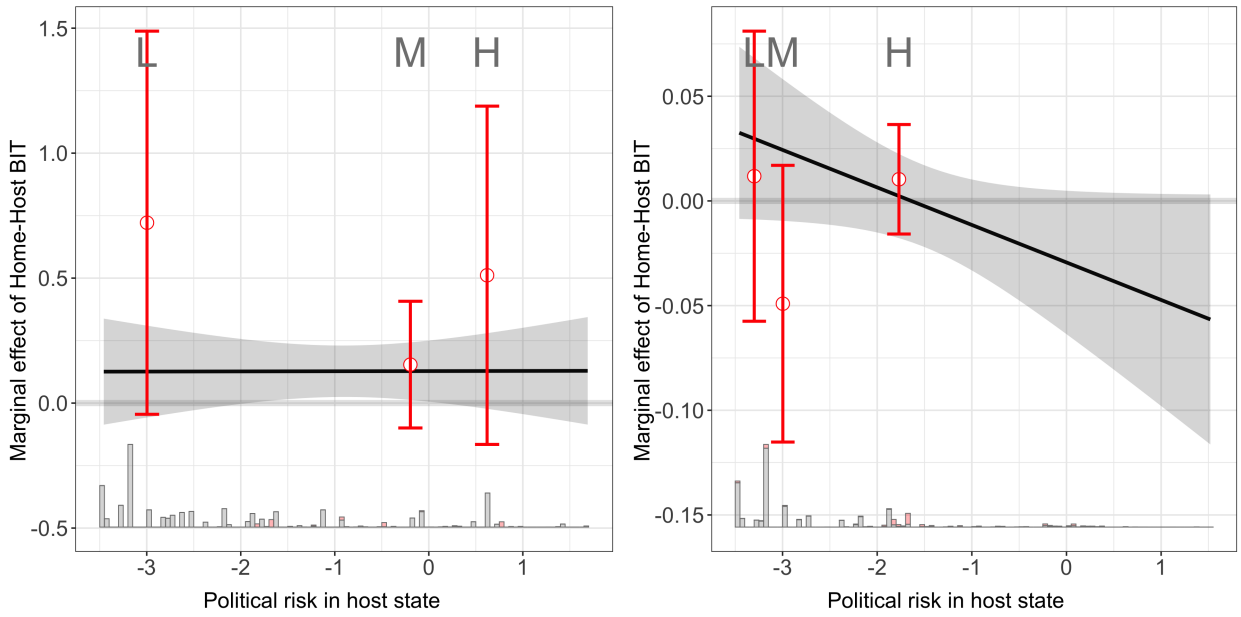
[26] See, for example, Betz, Pond, and Yin (2021).

[27] For the same models estimated via logistic regression, see Table B.6; for specifications that include a BIT×Tax treaty interaction term, see Table B.10.

Figure 4: **Host state political risk does not moderate the relationship between home-host BIT protection and the choice to invest indirectly.** Full regression results can be seen in Appendix Table B.2.

(a) SEC firms

(b) Amadeus firms



estimator divides the sample into three equal-sized bins according to the moderating variable, then estimates marginal effects separately at the median value of each bin; this allows for nonlinearity in the marginal effect of the treatment variable on Y as the moderating variable increases. As Figure 4 shows, however, the level of political risk in the host state does not seem to moderate the relationship between BIT protection and the decision to invest indirectly. Regardless of the political environment in the host state, selection into indirect investment is associated primarily with tax concerns.

5.2 Tax planning and conduit location choice

The results presented in the previous section provide support for my theory of spillover effects: among a sample of large American multinationals, the decision to invest indirectly appears to be driven by tax concerns rather than investment treaty access. I now turn to the paper's primary analysis, which seeks to predict investors' choice of location for their

conduit subsidiary conditional on having chosen to invest indirectly. As a reminder, my theory predicts that investors will choose jurisdictions that maximize tax favorability—those that offer tax treaty access, lower withholding rates, and lower corporate income tax rates. I argue that, even when firms invest indirectly solely for tax planning purposes, the overlap between tax and investment treaty networks means that they will often gain BIT protection as a side benefit.

Table 3: **Data structure: conduit location models.**

ID	Home	Host	Conduit (observed)	Conduit (potential)	Chosen
1	USA	Venezuela	Netherlands	Algeria	0
1	USA	Venezuela	Netherlands	Angola	0
⋮	⋮	⋮	⋮	⋮	⋮
1	USA	Venezuela	Netherlands	Netherlands	1
2	UK	Ukraine	Cyprus	Algeria	0
⋮	⋮	⋮	⋮	⋮	⋮

To predict conduit location choice among indirect investors, I do the following for all three samples. First, for each distinct ownership chain (composed of a home state, conduit state, and host state), I generate a list of 155 potential jurisdictions in which the conduit subsidiary could have been incorporated. The unit of analysis is therefore the home state-potential conduit state-host state (see Table 3). The dependent variable is a binary indicator of whether or not each potential jurisdiction was in fact chosen to host the conduit subsidiary. I then use a combination of tax planning, investment treaty, and control variables to identify the predictors of investors' choice to access certain conduit states' institutions.[28]

Table 4 and Table 5 present the results for the ISDS sample and the SEC/Amadeus samples, respectively.[29] In support of Hypothesis 1b, note that across all model specifications in all three samples, indirect investors are much more likely to locate their conduit subsidiaries in jurisdictions that have a bilateral tax treaty with the host state; in seven of the nine

[28]Descriptive statistics for all samples can be found in Appendix Table A.1.

[29]For the same models estimated via logistic regression, see Tables B.7 and B.8. To see how results vary over time, see Figure B.3.

Table 4: **Tax variables predict conduit subsidiary location among firms who filed ISDS claims.** Estimates presented with robust standard errors clustered on the ISDS case. Coefficients for control variables can be seen in Appendix Table B.3.

	DV: chosen as conduit location			
	(1)	(2)	(3)	(4)
Corporate income tax rate	0.001		-0.002	-0.002
	(0.006)		(0.007)	(0.007)
Tax treaty (w/home)	0.002*		-0.000	-0.001
	(0.001)		(0.001)	(0.001)
Tax treaty (w/host)	0.010***		0.008***	0.010***
	(0.001)		(0.002)	(0.002)
Withholding tax (dividends)	-0.005		-0.009**	-0.010**
	(0.004)		(0.005)	(0.005)
Withholding tax (interest)	-0.011**		0.003	0.004
	(0.006)		(0.006)	(0.006)
BIT (w/host)		0.008***	0.000	0.001
		(0.002)	(0.002)	(0.002)
Mean Y	0.008	0.007	0.008	0.008
Controls	No	No	Yes	Yes
Year FE	No	No	Yes	Yes
Case FE	No	No	No	Yes
Num.Obs.	24,151	32,040	22,388	22,388
R2	0.075	0.066	0.075	0.088

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

models, jurisdictions that have tax treaties with the home state are also significantly more likely to be selected. The magnitude of the relationship is substantively signficant; in Model (4) from Table 5, having a tax treaty with the host state is associated with a 1 percentage point increase in the probability of selection, doubling the unconditional probability of 0.8%. Further, this result does not appear to be driven by collinearity between BIT and BTT variables; Appendix Table B.9 shows that the coefficients on the BTT variables are highly stable when the BIT covariate is omitted. Appendix Figures B.1 and B.2 disaggregate the results by industry, showing that the positive relationship between tax treaties and conduit selection is robust across a wide range of sectors.

In line with Hypothesis 2b, the coefficient on the withholding tax rate for dividend pay-

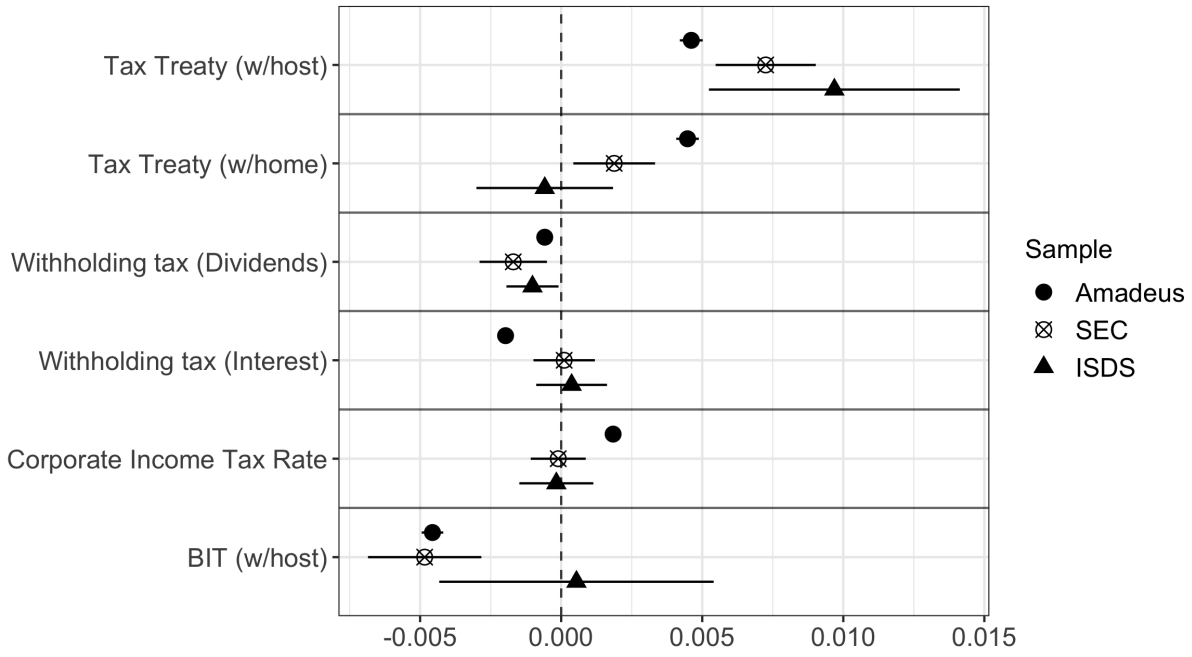
Table 5: **Tax variables predict conduit subsidiary location among two large samples of global firms.** Estimates presented with robust standard errors clustered on the parent firm and subsidiary. Coefficients for control variables can be seen in Appendix Table B.4.

	DV: chosen as conduit location							
		Sample: SEC firms			Sample: Amadeus firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tax treaty (w/home)	0.008*** (0.001)		0.004*** (0.001)	0.002** (0.001)	0.007*** (0.000)		0.004*** (0.000)	0.004*** (0.000)
Tax treaty (w/host)	0.008*** (0.001)		0.008*** (0.001)	0.007*** (0.001)	0.005*** (0.000)		0.005*** (0.000)	0.005*** (0.000)
With. tax (dividends)	-0.015** (0.006)		-0.011* (0.006)	-0.017*** (0.006)	-0.013*** (0.001)		-0.005*** (0.001)	-0.006*** (0.001)
With. tax (interest)	-0.024*** (0.008)		-0.009 (0.008)	0.001 (0.006)	-0.054*** (0.001)		-0.018*** (0.001)	-0.020*** (0.001)
Corp income tax rate	-0.012** (0.006)		0.001 (0.005)	-0.001 (0.005)	0.023*** (0.001)		0.019*** (0.001)	0.018*** (0.001)
BIT (w/host)		0.001 (0.001)	-0.005*** (0.001)	-0.005*** (0.001)		-0.000* (0.000)	-0.004*** (0.000)	-0.005*** (0.000)
Mean Y	0.008	0.006	0.008	0.008	0.009	0.007	0.009	0.009
Controls	No	No	Yes	Yes	No	No	Yes	Yes
Year FE		Not applicable			No	No	Yes	Yes
Firm FE	No	No	No	Yes	No	No	No	Yes
Num.Obs.	650,771	841,547	592,654	592,654	1,375,577	1,912,290	1,279,051	1,279,051
R2	0.009	0.000	0.015	0.069	0.014	0.000	0.090	0.090

* p < 0.1, ** p <0.05, *** p < 0.01

ments is negative and significant in all three samples; as the withholding tax rates decreases, the probability of selection increases. This suggests that firms do seek out conduit locations that offer them access to less costly indirect paths on which to transfer capital between host and home states. A similar relationship holds with the withholding rate on interest payments, though it is only robust in the Amadeus sample. I find little support for H3b: conditional on the other tax variables, investors do not seem to prefer conduit locations with lower headline corporate income tax rates. I do not find any evidence of BIT shopping in

Figure 5: **Results are similar across all samples.** The presented estimates are from Model (4) of Table 4, and from Models (4) and (8) of Table 5. For plotting purposes, tax rate variables have been rescaled so that one unit is equal to 10 percentage points.



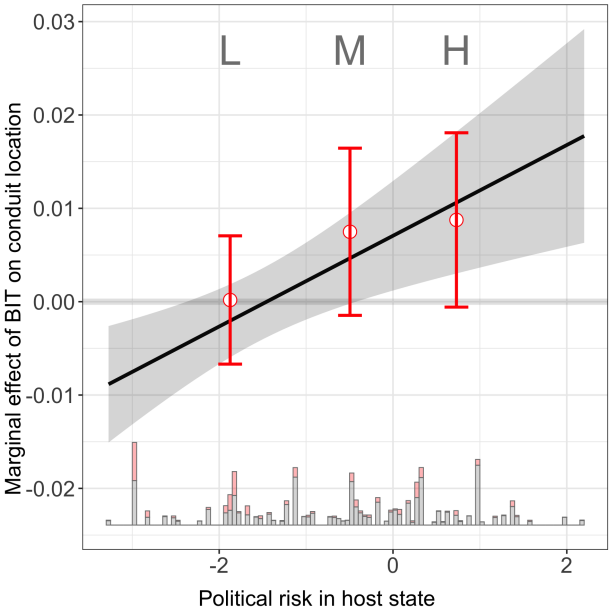
either sample: after controlling for the tax variables, jurisdictions that have a BIT with the host state are no more likely (and may even be *less* likely) to be chosen as conduit subsidiary locations on average.

I find little empirical evidence in support of the alternative hypothesis that investors jointly seek BIT and tax treaty access; results can be seen in Appendix Tables B.11 and B.12. I also use recently-released data from the IIA Mapping Project to test the possibility that some BITs may be more favorable to indirect investors than others, based on the presence or absense of clauses requiring substantial business activity and/or giving host states the right to deny treaty access to indirectly investing firms. The results, presented in Table B.13, are highly similar to those presented in Tables 4 and 5.

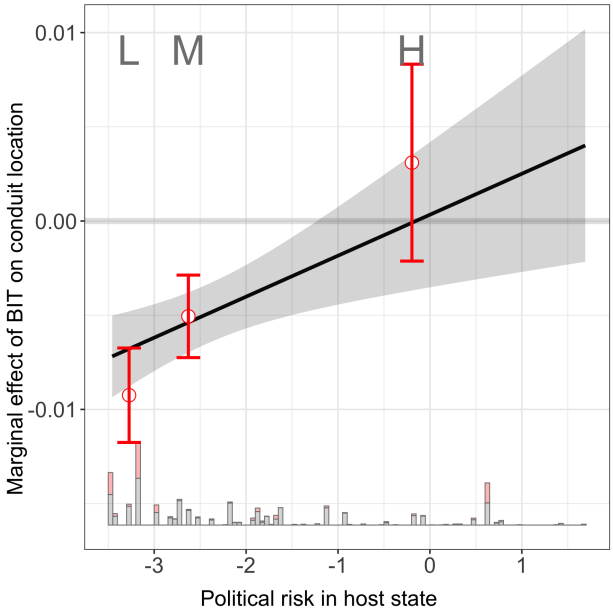
Next, I turn to the moderating effect of host state political risk. As demonstrated in Figure 4, the absence of a BIT between an investor's home and host states does not appear to be driving selection into indirect investment regardless of the level of political risk in the

Figure 6: **When host state political risk is high, indirect investors are more likely to choose conduit locations that offer BIT protection.** Full regression results can be seen in Appendix Table B.5.

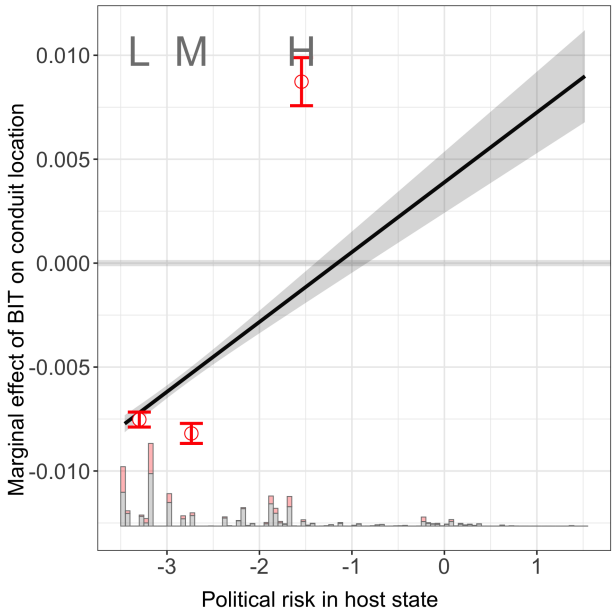
(a) ISDS sample



(b) SEC sample



(c) Amadeus sample



host state. Therefore, risk-motivated BIT shopping cannot explain firms' initial decision to make their investment indirectly through a conduit subsidiary. However, conditional on

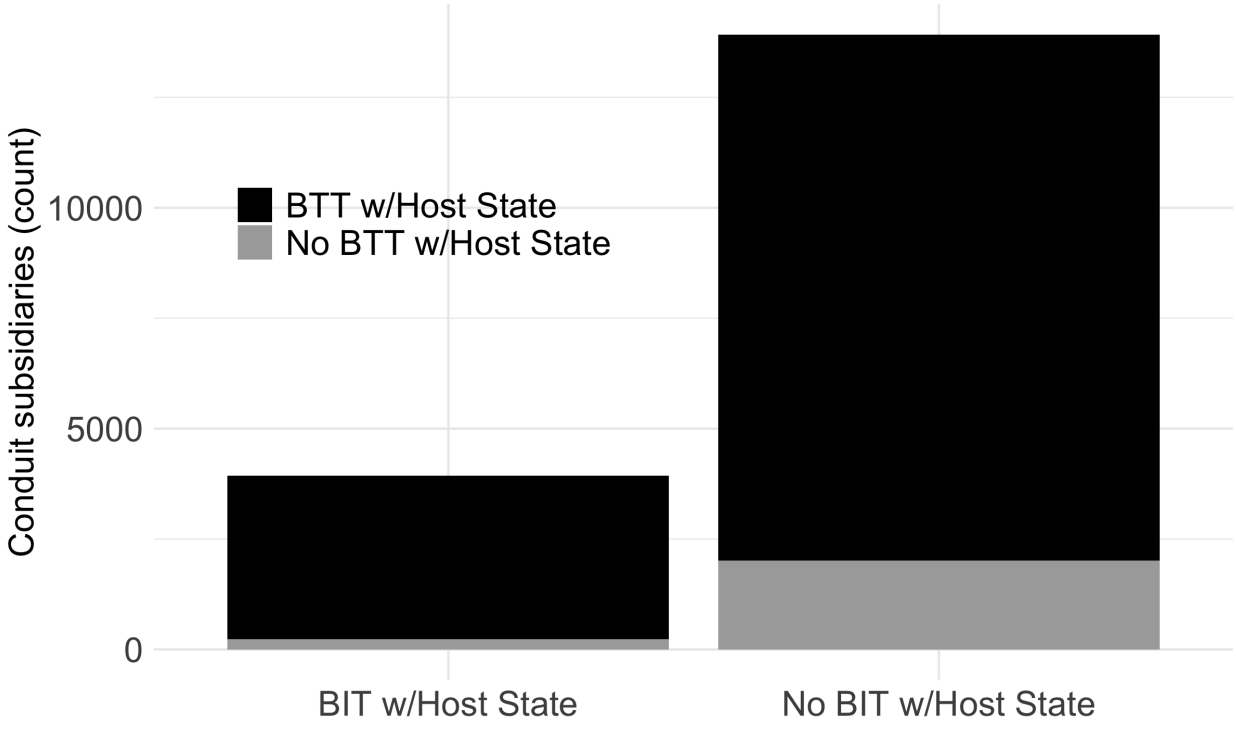
choosing to invest indirectly, H4b predicts that firms should be increasingly likely to seek BIT protection as host state political risk rises. To test this prediction, I again use Hainmueller, Mummolo, and Xu (2019)'s binning estimator to estimate the marginal effect of conduit-host BIT coverage on the probability of selection at different levels of host state political risk for both samples.

Figure 6 presents the results. As predicted, host state political risk does appear to be associated with indirect investors' choice of jurisdiction for their conduit subsidiaries across all three samples. Specifically, for host states with the highest levels of political risk (in the top tercile), indirect investors into these states are more likely to route their investments through conduit subsidiaries that give them access to a BIT with the host state. However, this relationship reverses at medium and low levels of host state risk. This accords with my theoretical expectation that firms should treat BIT protection as a form of political risk insurance, being willing to pay for access when risk is high but not otherwise. This does not contradict the spillover effects theory, however; note that the majority of ISDS cases are actually filed against low or medium-risk host states, for whom BIT access is not a significant predictor of subsidiary location.

On the whole, the results of the conduit location models provide strong support for my theory. I find that indirect investors are strategically routing their ownership chains through intermediate states that offer them access to the tax treaty network, and which lower their withholding tax burden. Further, as Figures 5 and 6 demonstrate, the results are highly similar for three distinct samples: first, the full set of indirect investors that filed ISDS cases, second, every foreign subsidiary indirectly owned by 64 large U.S. multinational firms, and third, a large number of European subsidiaries owned by thousands of global MNCs. Even for the indirect investors who used their conduit subsidiaries to file ISDS cases under other states' BITs, the decision to create those subsidiaries in those states appears to be heavily influenced by the tax treaty network.

My theory of spillover effects rests on the overlap between tax and investment treaty

Figure 7: **Among conduit subsidiaries that give their parent firm BIT access, 94% provide tax treaty access as well.** Sample consists of all conduit subsidiaries in the SEC and Amadeus datasets.



networks; conduit subsidiaries that are created to access the tax treaty network can often be used to file proxy arbitration cases, because pairs of states that have a bilateral tax treaty together are highly likely to have a bilateral investment treaty together as well. An implication is that, while the models in Tables 4 and 5 indicate that indirect investors do not disproportionately select conduit locations with BITs after controlling for the tax variables, the locations that they do select should often still offer them BIT access. Figure 7 shows that this is indeed the case among the SEC and Amadeus samples, plotting each conduit subsidiary in the sample according to whether or not the conduit gave its parent firm access to a BIT and/or a tax treaty with the host state. The results are striking: 22% of all conduit subsidiaries ($n = 3,939$) are incorporated in states that have a BIT with the host state, allowing the parent firm the opportunity to file proxy arbitration in the event of a dispute. Further, among these conduit subsidiaries with BIT access, almost every single

one—94% (3,703/3,939)—is incorporated in a state that has a tax treaty with the host state as well, strongly suggesting that their parent firms gained access to BIT protection as a side benefit of tax treaty shopping.

6 Conclusion

In this paper, I argue that proxy arbitration is a spillover effect that arises from corporate tax planning: firms make their foreign investments indirectly through third state conduit subsidiaries in order to take advantage of the bilateral tax treaty network (Arel-Bundock, 2017; Van 't Riet and Lejour, 2018). Thanks to the overlap between the bilateral tax and investment treaty networks, investors can often *re*purpose these subsidiaries as ISDS claimants in the event of a dispute with the host state. Using three highly detailed datasets on indirect investment, I find evidence in support of the spillover effect theory. First, I find that firms' selection into indirect (as opposed to direct) foreign investment is motivated by tax treaty access rather than investment treaty access. Second, conditional on investing indirectly, I find that firms are much more likely to locate their conduit subsidiaries in the states that give them access to tax treaties and lower tax rates on cross-border capital transfers.[30] I find that firms do seek out conduit states that give them BIT access, but only when investing in high-political risk host states.

These findings carry clear and important policy implications. First, I have shown that the scope of proxy arbitration is larger than previously thought. Using two detailed datasets on indirect investment, I estimate that over 20% of global conduit subsidiaries could be used to file proxy arbitration in the event of a dispute; this is particularly concerning given the fact that firms have used proxy arbitration to, among other things, fight public health[31] and environmental regulations.[32] This finding underscores the importance of investment treaty

[30]This finding may not come as a surprise to investment policy experts, some of whom have conjectured that tax treaties may be more important; see e.g. Poulsen (2010, p. 540).

[31]See *Philip Morris v. Australia*, PCA 2012.

[32]See *Cervin and Rhone v. Costa Rica*, ICSID 2013.

reform efforts, while also suggesting that state-level bilateral renegotiations may be inefficient given the scope of the problem. More effective might be, for example, the use of *pluri*lateral renegotiations to allow groups of states to jointly (re)define the clauses contained in all of their shared treaties.[33] Moreover, I show that corporate tax planning, rather than *ex ante* BIT shopping, is often the ultimate cause of proxy arbitration by motivating firms to adopt indirect ownership structures. To avoid investment treaty abuse, states must therefore strike at the heart of the problem by supporting global efforts to fight tax avoidance; particularly important is the OECD's proposed global minimum tax, which—if fully implemented—would supercede the present bilateral tax treaty system.[34]

The case of tax planning and ISDS is merely one example in a broader universe of spillover effects that can occur as global economic governance regimes grow increasingly complex. Firms have never before faced such a wide range of regulations affecting their global operations: in the form of bilateral/regional treaty networks in the areas of trade, migrant labor, and environmental protection (in addition to tax and investment), via public-private regulatory initiatives such as the UN Global Compact (Thrall, 2021), and through domestic laws with transnational effects such as FATCA in the U.S. or the Duty of Vigilance law in France (Evans, 2020), among others. Each of these regulations seeks to bring about positive political outcomes (such as development, anti-corruption, and climate change mitigation) by changing firm behavior. Counterintuitively, however, layering multiple types of regulations on top of one another may actually reduce their efficacy; as in the case of the tax and investment treaty networks, forum-shopping in one regime may have unexpected consequences for the functioning of another.

[33] See Footnote 5.

[34] See Liz Alderman, Jim Tankersly and Eshe Nelson, "U.S. Proposal for 15% Global Minimum Tax Wins Support From 130 Countries," *The New York Times*, 01 July 2021.

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Appendix

Appendix Table of Contents

A Additional information: ISDS, SEC, and Amadeus data

A.1 Descriptive statistics for all samples

Table A.1: **Summary statistics for all samples.** Columns 2 and 3 present summary statistics for all potential conduit locations, while Columns 4 and 5 present summary statistics for observed conduit locations.

SEC sample	All potential conduits		Observed conduits	
	Mean	SD	Mean	SD
BTT w/host	0.34	0.47	0.74	0.44
BTT w/home	0.39	0.49	0.81	0.39
Withholding tax rate (Dividends)	0.20	0.12	0.13	0.10
Withholding tax rate (Interest)	0.17	0.11	0.09	0.08
Withholding tax rate (Royalties)	0.20	0.12	0.08	0.09
Corporate income tax rate	0.32	0.11	0.31	0.11
BIT w/host	0.20	0.40	0.21	0.41
Political risk	-2.04	1.38	-1.99	1.42
GDPP per cap	12108.79	16215.19	36714.96	15375.45
ISDS sample	All potential conduits		Observed conduits	
	Mean	SD	Mean	SD
BTT w/host	0.25	0.43	0.68	0.47
BTT w/home	0.45	0.50	0.81	0.39
Withholding tax rate (Dividends)	0.20	0.13	0.16	0.12
Withholding tax rate (Interest)	0.20	0.12	0.10	0.11
Withholding tax rate (Royalties)	0.22	0.12	0.11	0.12
Corporate income tax rate	0.30	0.10	0.29	0.12
BIT w/host	0.18	0.38	0.45	0.50
Political risk	-0.61	1.29	-0.66	1.31
GDPP per cap	12859.55	17533.31	40190.10	22577.68
Amadeus sample	All potential conduits		Observed conduits	
	Mean	SD	Mean	SD
BTT w/host	0.42	0.49	0.93	0.25
BTT w/home	0.38	0.48	0.87	0.33
Withholding tax rate (Dividends)	0.22	0.11	0.15	0.08
Withholding tax rate (Interest)	0.19	0.11	0.06	0.07
Withholding tax rate (Royalties)	0.22	0.12	0.05	0.07
Corporate income tax rate	0.30	0.12	0.34	0.10
BIT w/host	0.23	0.42	0.22	0.42
Political risk	-2.42	1.05	-2.42	1.05
GDPP per cap	12775.57	17435.22	43858.01	19835.59

A.2 Parent firms in the SEC sample

Table A.2: **Parent firms in the SEC sample.** These are the firms that filed the Ex 21 documents from which the data was collected.

ALCOA INC	KADANT INC
AMERICAN INTERNATIONAL GROUP INC	LEAR CORP
AMERICAN LIFE INSURANCE	LEHMAN BROTHERS HOLDINGS INC
AMETEK INC	LENNOX INTERNATIONAL INC
ANIXTER INTERNATIONAL INC	LILLY ELI & CO
APACHE CORP	MASCO CORP
BALL CORP	MCGRAW HILL COMPANIES INC
BRINKS CO	MERRILL LYNCH & CO INC
CAMERON INTERNATIONAL CORP	MGM MIRAGE
COCA COLA CO	MILACRON INC
CRANE CO	MIRANT CORP
DELPHI CORP	MORGAN STANLEY
DOW CHEMICAL CO	NEWMONT MINING CORP
EASTMAN KODAK CO	NORTHERN TRUST CORP
EDISON INTERNATIONAL	OSHKOSH TRUCK CORP
EMERSON ELECTRIC CO	OWENS ILLINOIS INC
EXIDE TECHNOLOGIES	PHELPS DODGE CORP
FEDEX CORP	PRUDENTIAL FINANCIAL INC
FLUOR CORP	QUEST DIAGNOSTICS INC
FORD MOTOR CO	RPM INTERNATIONAL INC
FORTUNE BRANDS INC	SUNTRUST BANKS INC
GENERAL DYNAMICS CORP	SYNOVUS FINANCIAL CORP
GENERAL MOTORS CORP	TELLABS INC
GLOBALSANTAFE CORP	TENNECO INC
GOLDMAN SACHS GROUP INC	TEXTRON INC
GOODRICH CORP	THERMO FISHER SCIENTIFIC INC
HARRAHS ENTERTAINMENT INC	TRINITY INDUSTRIES INC
IMS HEALTH INC	UGI CORP
INTERNATIONAL BUSINESS MACHINES CORP	VISHAY INTERTECHNOLOGY INC
J P MORGAN CHASE & CO	WASHINGTON POST CO
JACOBS ENGINEERING GROUP INC	WEYERHAEUSER CO
K2 INC	YRC WORLDWIDE INC

A.3 Industries represented in SEC and Amadeus samples

Table A.3: **Industries represented in SEC sample.**

Industry	Number of parent firms
Manufacturing	36
Finance/Insurance/Real estate	11
Transportation/Utilities	6
Other services	5
Extractive industries	3
Construction	2
Wholesale trade	1

Table A.4: **Industries represented in Amadeus sample.**

Industry	Number of parent firms
Manufacturing	937
Missing	721
Mgmt. of Companies	437
Finance/Insurance	246
Professional/Tech services	126
Wholesale trade	85
Admin/Waste mgmt	80
Information	69
Real estate	62
Transportation	59
Extractive industries	51
Retail trade	44
Construction	24
Accomodation/Food services	23
Utilities	19
Other services	13
Ag., Forestry, Fishing/Hunting	11
Health care	11
Public admin	10
Arts/Entertainment	7
Educational services	1

B Additional analysis

B.1 Table 2, Table 4, Table 5, Figure 4, and Figure 6: full model results

Table B.1: **Tax variables predict selection into indirect investment.**

	DV: Investment made indirectly = 1.					
	SEC firms			Amadeus firms		
	(1)	(2)	(3)	(4)	(5)	(6)
Tax Treaty (home-host)	-0.006	-0.144**	-0.096**	-0.029	-0.032*	0.012
	(0.041)	(0.059)	(0.039)	(0.018)	(0.018)	(0.016)
Withholding tax (Dividends)	0.638***	0.616***	0.466***	0.260***	0.192***	0.350***
	(0.142)	(0.140)	(0.130)	(0.051)	(0.049)	(0.053)
Withholding tax (Interest)	0.427	-0.018	-0.273	-0.186**	-0.201***	-0.404***
	(0.339)	(0.330)	(0.229)	(0.075)	(0.072)	(0.075)
Withholding tax (Royalties)	-1.325***	-1.707***	-1.260***	0.852***	0.643***	0.589***
	(0.330)	(0.417)	(0.315)	(0.101)	(0.103)	(0.097)
BIT (home-host)	0.050	0.100	0.110**	0.063***	0.007	-0.001
	(0.050)	(0.062)	(0.055)	(0.010)	(0.012)	(0.010)
GDP per cap (host, log)		-0.063***	-0.054***		-0.002	-0.062***
		(0.020)	(0.018)		(0.007)	(0.008)
Polyarchy Index (host)		-0.236*	-0.246**		0.391***	0.346***
		(0.127)	(0.123)		(0.061)	(0.052)
Political Risk (host)		-0.065***	-0.059***		0.065***	0.069***
		(0.020)	(0.020)		(0.006)	(0.006)
Controls	No	Yes	Yes	No	Yes	Yes
Firm FE	No	No	Yes	No	No	Yes
Year FE		N/A		No	No	Yes
Num.Obs.	7,418	6,868	6,868	45,206	44,660	44,660
R2	0.019	0.040	0.270	0.019	0.026	0.336

* p < 0.1, ** p < 0.05, *** p < 0.01

Table B.2: **Regression table accompanying Figure 4.**

	DV: Investment made indirectly = 1.					
	ISDS firms			Amadeus firms		
	Coef	SE	p-val	Coef	SE	p-val
Home-Host BIT (low risk)	0.72	0.39	0.06	0.01	0.04	0.74
Home-Host BIT (medium risk)	0.15	0.13	0.23	-0.05	0.03	0.15
Home-Host BIT (high risk)	0.51	0.34	0.14	0.01	0.01	0.44
Host Political Risk	0.04	0.11	0.73	0.20	0.07	0.00
Tax treaty (home-host)	-0.07	0.05	0.19	0.00	0.04	0.98
Withholding tax (Dividends)	0.58	0.26	0.03	0.02	0.18	0.90
Withholding tax (Interest)	-0.72	0.69	0.30	-0.60	0.26	0.02
Withholding tax (Royalties)	-0.82	0.39	0.04	1.24	0.27	0.00
GDP per cap (host, log)	-0.04	0.03	0.09	-0.04	0.01	0.01
Polyarchy (host)	-0.19	0.12	0.11	0.18	0.06	0.00
Tax treaty (home-host) * Risk	0.06	0.03	0.07	-0.01	0.02	0.68
Withholding tax (D) * Risk	-0.01	0.11	0.94	-0.10	0.06	0.10
Withholding tax (I) * Risk	-0.24	0.23	0.29	-0.08	0.09	0.38
Withholding tax (R) * Risk	0.36	0.17	0.03	0.24	0.10	0.01
GDP per cap * Risk	0.00	0.01	0.85	0.01	0.01	0.07
Polyarchy * Risk	-0.18	0.06	0.01	-0.25	0.06	0.00
Binning cutpoints (L, M, H):	$\{-3.0, -0.20, 0.62\}$			$\{-3.3, -3.0, -1.770\}$		

Table B.3: **Tax variables predict conduit subsidiary location among firms who filed ISDS claims.** Estimates presented with robust standard errors clustered on the ISDS case.

	DV: chosen as conduit location			
	(1)	(2)	(3)	(4)
Corporate income tax rate	0.001		-0.002	-0.002
	(0.006)		(0.007)	(0.007)
Tax treaty (w/home)	0.002*		-0.000	-0.001
	(0.001)		(0.001)	(0.001)
Tax treaty (w/host)	0.010***		0.008***	0.010***
	(0.001)		(0.002)	(0.002)
Withholding tax (interest)	-0.011**		0.003	0.004
	(0.006)		(0.006)	(0.006)
Withholding tax (dividends)	-0.005		-0.009**	-0.010**
	(0.004)		(0.005)	(0.005)
BIT (w/host)		0.008***	0.000	0.001
		(0.002)	(0.002)	(0.002)
GDP per cap (conduit, log)			0.004***	0.004***
			(0.000)	(0.000)
NLD dummy	0.240***	0.238***	0.228***	0.228***
	(0.031)	(0.030)	(0.031)	(0.031)
Mean Y	0.008	0.007	0.008	0.008
Controls	No	No	Yes	Yes
Year FE	No	No	Yes	Yes
Case FE	No	No	No	Yes
Num.Obs.	24,151	32,040	22,388	22,388
R2	0.075	0.066	0.075	0.088

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.4: **Tax variables predict conduit subsidiary location among two large samples of global firms.** Estimates presented with robust standard errors clustered on the parent firm and subsidiary.

	DV: chosen as conduit location							
		Sample: SEC firms			Sample: Amadeus firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tax treaty (w/home)	0.008***		0.004***	0.002**	0.007***		0.004***	0.004***
	(0.001)		(0.001)	(0.001)	(0.000)		(0.000)	(0.000)
Tax treaty (w/host)	0.008***		0.008***	0.007***	0.005***		0.005***	0.005***
	(0.001)		(0.001)	(0.001)	(0.000)		(0.000)	(0.000)
With. tax (dividends)	-0.015**		-0.011*	-0.017***	-0.013***		-0.005***	-0.006***
	(0.006)		(0.006)	(0.006)	(0.001)		(0.001)	(0.001)
With. tax (interest)	-0.024***		-0.009	0.001	-0.054***		-0.018***	-0.020***
	(0.008)		(0.008)	(0.006)	(0.001)		(0.001)	(0.001)
Corp income tax rate	-0.012**		0.001	-0.001	0.023***		0.019***	0.018***
	(0.006)		(0.005)	(0.005)	(0.001)		(0.001)	(0.001)
BIT (w/host)		0.001	-0.005***	-0.005***		-0.000*	-0.004***	-0.005***
		(0.001)	(0.001)	(0.001)		(0.000)	(0.000)	(0.000)
GDP per cap (conduit, log)			0.005***	0.004***			0.005***	0.005***
			(0.000)	(0.000)			(0.000)	(0.000)
NLD dummy				0.222***			0.267***	0.267***
				(0.067)			(0.010)	(0.010)
Mean Y	0.008	0.006	0.008	0.008	0.009	0.007	0.009	0.009
Controls	No	No	Yes	Yes	No	No	Yes	Yes
Year FE		Not applicable			No	No	Yes	Yes
Firm FE	No	No	No	Yes	No	No	No	Yes
Num.Obs.	650,771	841,547	592,654	592,654	1,375,577	1,912,290	1,279,051	1,279,051
R2	0.009	0.000	0.015	0.069	0.014	0.000	0.090	0.090

* p < 0.1, ** p <0.05, *** p < 0.01

Table B.5: **Regression table accompanying Figure 6.**

	DV: chosen as conduit location								
	ISDS firms			SEC firms			Amadeus firms		
	Coef	SE	p-val	Coef	SE	p-val	Coef	SE	p-val
BIT w/host (low risk)	0.00	0.00	0.96	-0.01	0.00	0.00	-0.01	0.00	0.00
BIT w/host (medium risk)	0.01	0.00	0.10	-0.01	0.00	0.00	-0.01	0.00	0.00
BIT w/host (high risk)	0.01	0.00	0.07	0.00	0.00	0.24	0.01	0.00	0.00
Host Political Risk	0.01	0.00	0.07	0.00	0.00	0.79	0.01	0.00	0.00
Corporate income tax rate	-0.01	0.01	0.45	-0.02	0.01	0.02	0.02	0.00	0.00
Tax treaty (w/home)	0.00	0.00	0.76	0.01	0.00	0.00	0.00	0.00	0.00
Tax treaty (w/host)	0.01	0.00	0.06	-0.00	0.00	0.09	0.00	0.00	0.90
Withholding tax (interest)	-0.00	0.01	0.78	-0.01	0.01	0.24	0.00	0.00	0.80
Withholding tax (dividends)	-0.01	0.01	0.15	0.21	0.08	0.01	0.30	0.02	0.00
NLD Dummy	0.19	0.03	0.00	-0.01	0.01	0.31	-0.05	0.00	0.00
GDP per cap (conduit, log)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corp. tax rate * Risk	-0.00	0.00	0.42	-0.01	0.00	0.01	0.00	0.00	0.22
Tax treaty (w/home) * Risk	0.00	0.00	0.22	-0.00	0.00	0.66	-0.00	0.00	0.09
Tax treaty (w/host) * Risk	-0.00	0.00	0.19	-0.00	0.00	0.00	-0.00	0.00	0.00
With. tax (I) * Risk	-0.00	0.00	0.30	0.00	0.00	0.56	0.00	0.00	0.02
With. tax (D) * Risk	0.00	0.00	0.52	-0.01	0.02	0.55	0.01	0.01	0.05
NLD * Risk	-0.07	0.02	0.00	-0.00	0.00	0.33	-0.01	0.00	0.00
GDP per cap * Risk	-0.00	0.00	0.07	0.00	0.00	0.04	-0.00	0.00	0.00
Binning cutpoints (L, M, H):	$\{-1.87, -0.50, 0.73\}$			$\{-3.27, -2.63, -0.20\}$			$\{-3.30, -2.74, -1.55\}$		

B.2 All models from Tables 2, 4, and 5, re-estimated with logistic regression

Table B.6: **Tax variables predict selection into indirect investment.** All model specifications are the same as Table 2, but models are estimated via logistic regression rather than ordinary least squares.

	DV: Investment made indirectly = 1.					
	SEC firms			Amadeus firms		
	(1)	(2)	(3)	(4)	(5)	(6)
Tax Treaty (home-host)	-0.044	-0.782**	-0.604**	-0.114	-0.140*	0.155
	(0.214)	(0.357)	(0.280)	(0.086)	(0.080)	(0.105)
Withholding tax (Dividends)	3.296***	3.343***	3.392***	1.408***	1.082***	2.587***
	(0.691)	(0.750)	(0.961)	(0.269)	(0.268)	(0.379)
Withholding tax (Interest)	2.176	-0.411	-2.154	-0.997**	-1.094***	-2.318***
	(1.937)	(1.916)	(1.666)	(0.403)	(0.392)	(0.543)
Withholding tax (Royalties)	-6.666***	-8.839***	-8.381***	4.111***	3.179***	3.437***
	(1.624)	(2.256)	(2.029)	(0.497)	(0.504)	(0.682)
BIT (home-host)	0.249	0.488	0.735*	0.322***	0.045	0.148**
	(0.270)	(0.354)	(0.403)	(0.047)	(0.059)	(0.067)
Controls	No	Yes	Yes	No	Yes	Yes
Firm FE	No	No	Yes	No	No	Yes
Year FE		N/A		No	No	Yes
Num.Obs.	7,418	6,868	6,575	45,206	44,660	31,885
R2 Pseudo	0.016	0.035	0.186	0.016	0.022	0.193

* p < 0.1, ** p < 0.05, *** p < 0.01

Table B.7: **Tax variables predict conduit subsidiary location among firms who filed ISDS claims.** All model specifications are the same as Table 4, but models are estimated via logistic regression rather than ordinary least squares.

	DV: chosen as conduit location			
	(1)	(2)	(3)	(4)
Corporate income tax rate	0.130		-1.597*	-1.662*
	(0.905)		(0.848)	(0.864)
Tax treaty (w/home)	0.443**		0.133	0.153
	(0.210)		(0.206)	(0.283)
Tax treaty (w/host)	1.104***		0.766***	1.125***
	(0.174)		(0.226)	(0.328)
Withholding tax (dividends)	-0.433		-1.582*	-2.429***
	(0.949)		(0.813)	(0.915)
Withholding tax (interest)	-3.436***		0.468	0.822
	(0.978)		(1.053)	(1.140)
BIT (w/host)		0.932***	0.230	0.304
		(0.172)	(0.184)	(0.229)
Controls	No	No	Yes	Yes
Year FE	No	No	Yes	Yes
Case FE	No	No	No	Yes
Num.Obs.	24,151	32,040	22,388	18,295
R2 Pseudo	0.189	0.146	0.243	0.256

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.8: **Tax variables predict conduit subsidiary location among two large samples of global firms.** All model specifications are the same as Table 5, but models are estimated via logistic regression rather than ordinary least squares.

	DV: chosen as conduit location							
	Sample: SEC firms				Sample: Amadeus firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tax treaty (w/home)	1.203***		0.635***	0.483**	0.959***		0.629***	1.394***
	(0.148)		(0.200)	(0.212)	(0.064)		(0.054)	(0.092)
Tax treaty (w/host)	1.007***		0.902***	0.867***	1.278***		1.373***	1.109***
	(0.106)		(0.123)	(0.130)	(0.064)		(0.073)	(0.075)
With. tax (dividends)	-3.902***		-3.846***	-4.606***	-2.126***		-0.957***	-1.713***
	(1.202)		(1.276)	(1.384)	(0.188)		(0.193)	(0.223)
With. tax (interest)	-3.813***		-0.414	0.792	-8.865***		-1.883***	-2.169***
	(1.076)		(1.021)	(0.903)	(0.219)		(0.242)	(0.257)
Corp. income tax rate	-2.278**		-1.087*	-1.222	2.670***		0.978***	0.991***
	(0.891)		(0.615)	(0.758)	(0.127)		(0.209)	(0.219)
BIT (w/host)		0.099	0.028	-0.203		-0.063*	-0.088***	-0.140***
		(0.183)	(0.130)	(0.134)		(0.034)	(0.022)	(0.027)
Controls	No	No	Yes	Yes	No	No	Yes	Yes
Year FE		Not applicable			No	No	Yes	Yes
Firm FE	No	No	No	Yes	No	No	No	Yes
Num.Obs.	650,771	841,547	592,654	592,654	1,375,577	1,912,290	1,279,051	1,267,705
R2 Pseudo	0.107	0.000	0.183	0.253	0.162	0.000	0.308	0.315

* p < 0.1, ** p < 0.05, *** p < 0.01

B.3 Conduit location predictors, disaggregated by industry (SEC and Amadeus samples)

Figure B.1: **Conduit location results are consistent across industries, SEC sample.** Results generated by estimating Model (4) from Table 5 separately for each industry.

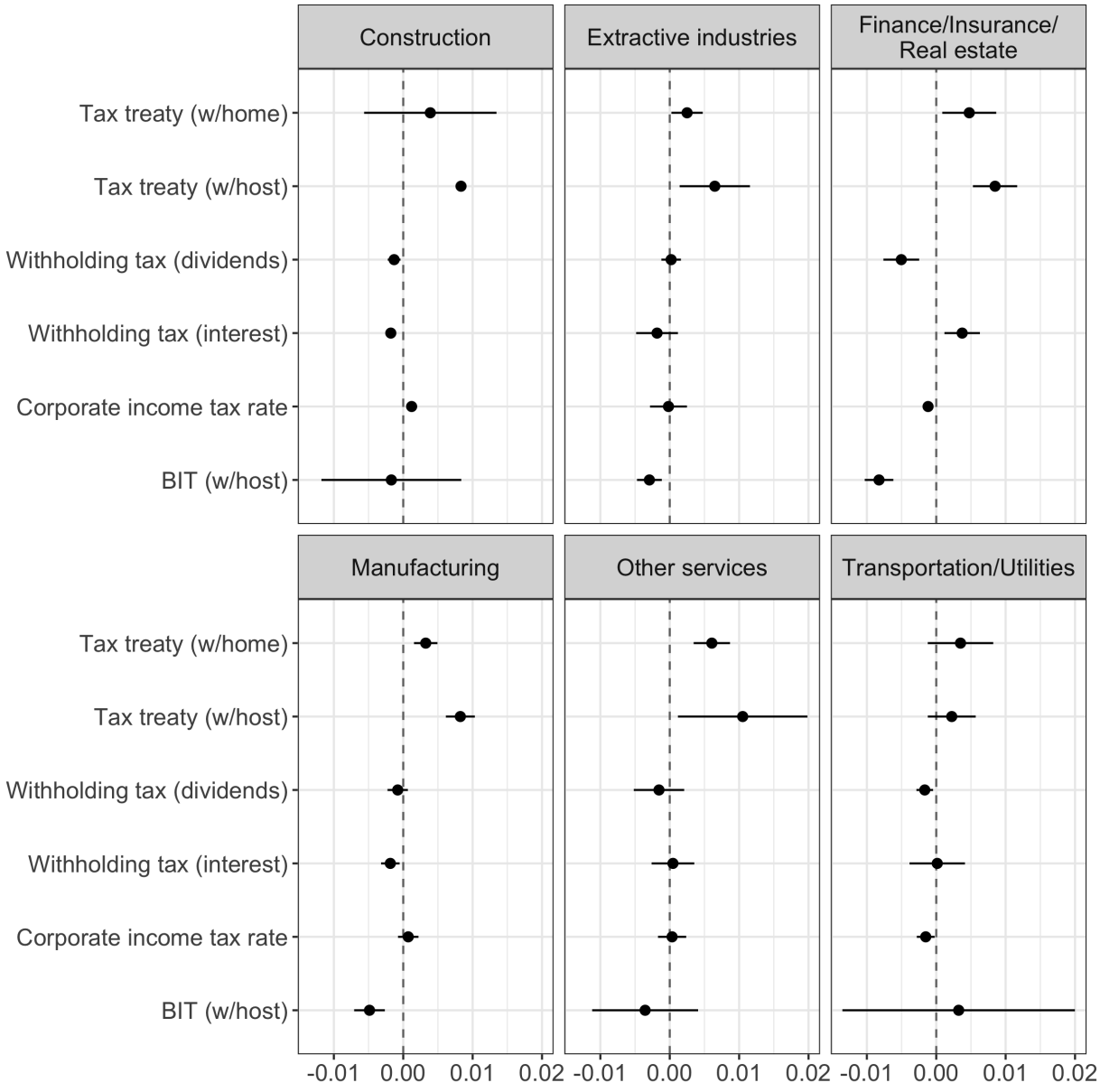
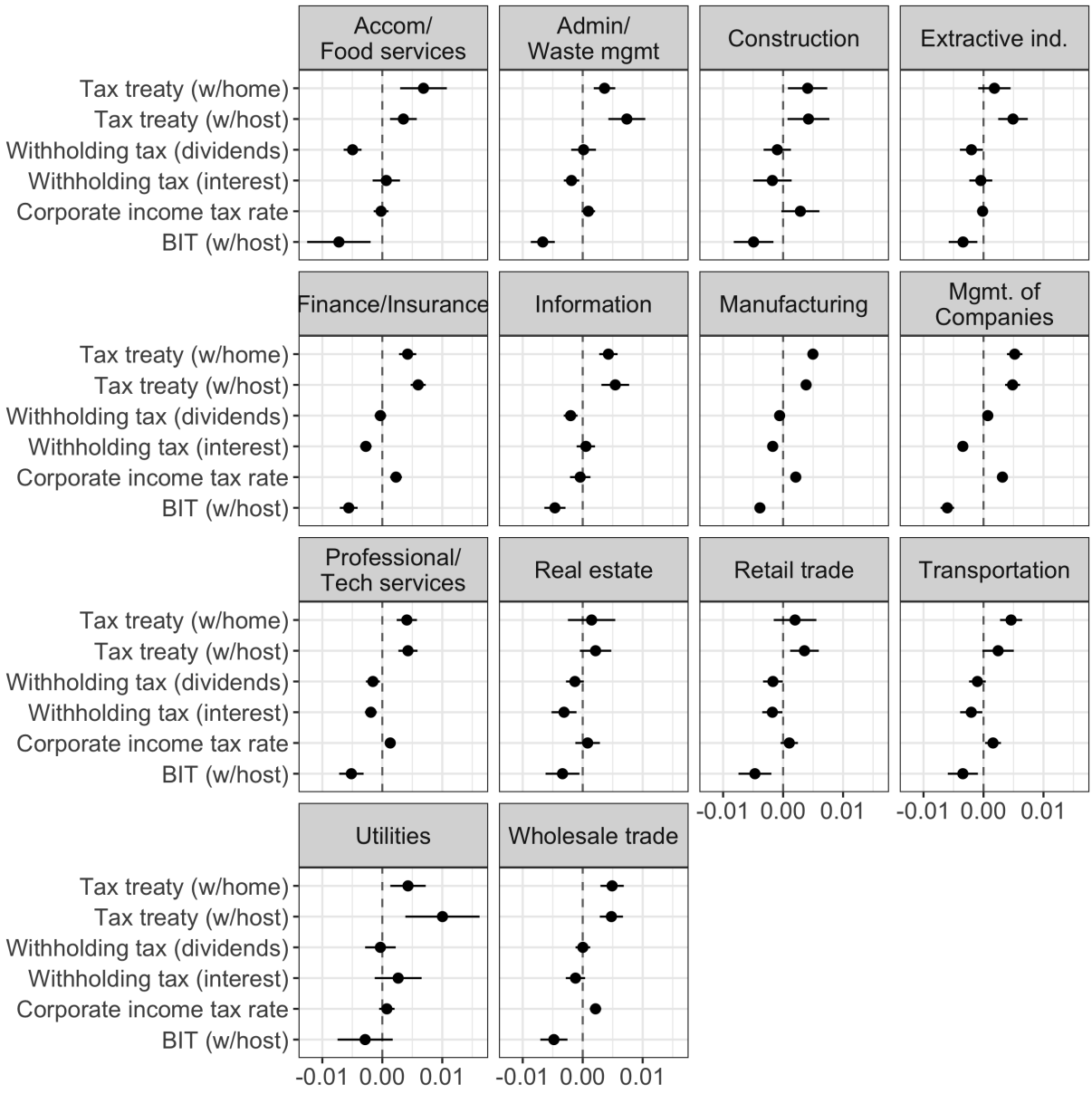


Figure B.2: **Conduit location results are consistent across industries, Amadeus sample.** Results generated by estimating Model (8) from Table 5 separately for each industry.



B.4 Additional models, omitting BIT variable to demonstrate stability of BTT coefficients

Table B.9: **Conduit location results are stable and robust when BIT variable is omitted.** Models (1), (3), and (5) taken from Table 4 Model (4), Table 5 Model (4), and Table 5 Model (8).

	DV: chosen as conduit location					
	ISDS firms		SEC firms		Amadeus firms	
	(1)	(2)	(3)	(4)	(5)	(6)
Corporate income tax rate	-0.002	-0.003	-0.001	-0.001	0.018***	0.019***
	(0.007)	(0.007)	(0.005)	(0.005)	(0.001)	(0.001)
Tax treaty (w/home)	-0.001	0.000	0.002*	0.002*	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Tax treaty (w/host)	0.010***	0.010***	0.007***	0.006***	0.005***	0.003***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.000)	(0.000)
Withholding tax (dividends)	-0.010*	-0.010*	-0.017**	-0.016*	-0.006***	-0.005***
	(0.005)	(0.005)	(0.006)	(0.006)	(0.001)	(0.001)
Withholding tax (interest)	0.004	0.004	0.001	0.002	-0.020***	-0.019***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.001)	(0.001)
BIT (w/host)	0.001		-0.005***		-0.005***	
	(0.002)		(0.001)		(0.000)	
Num.Obs.	22388	22762	592654	592654	1279051	1279051
R2	0.088	0.091	0.069	0.069	0.090	0.090
Firm FE	No	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	N/A	N/A	Yes	Yes
Case FE	Yes	Yes	N/A	N/A	N/A	N/A

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

B.5 Additional models with BIT-tax treaty interaction terms

Table B.10: **Models (3) and (6) from Table 2, re-estimated with a BIT-tax treaty interaction term**. Standard errors are robust and clustered on the parent firm. Controls for host state political risk, regime type, and GDP per capita included but not reported. Discrepancies in sample size between OLS and logit are due to the fact that logit models drop FE groups (e.g., firms/years) with no variation in the DV.

	DV: investment made indirectly = 1.			
	SEC firms		Amadeus firms	
	OLS	Logit	OLS	Logit
Tax Treaty (home-host)	-0.104**	-0.686**	0.016	0.161
	(0.040)	(0.294)	(0.016)	(0.109)
Withholding tax (Dividends)	0.505***	3.904***	0.352***	2.589***
	(0.134)	(1.043)	(0.053)	(0.378)
Withholding tax (Interest)	-0.208	-1.547	-0.406***	-2.321***
	(0.225)	(1.686)	(0.075)	(0.544)
Withholding tax (Royalties)	-1.330***	-9.096***	0.589***	3.439***
	(0.310)	(1.991)	(0.097)	(0.682)
BIT (home-host)	0.047	0.248	0.025	0.188
	(0.069)	(0.537)	(0.040)	(0.265)
Tax Treaty * BIT	0.085	0.649	-0.028	-0.043
	(0.068)	(0.543)	(0.040)	(0.269)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	N/A		Yes	Yes
Num.Obs.	6,868	6,575	44,660	31,885
R2	0.270	–	0.336	–
R2 Pseudo	–	0.186	–	0.193

* p < 0.1, ** p < 0.05, *** p < 0.01

Table B.11: **Model (4) from Table 4 and Models (4) and (8) from Table 5, re-estimated with BIT-tax treaty interaction terms**. Controls for conduit state GDP per cap and NL dummy included but not reported.

	DV: chosen as conduit location					
	ISDS claimants		SEC firms		Amadeus firms	
	OLS	Logit	OLS	Logit	OLS	Logit
Corporate income tax rate	-0.002	-1.723**	-0.001	-1.129	0.017***	0.972***
	(0.007)	(0.872)	(0.005)	(0.779)	(0.001)	(0.222)
Tax treaty (w/home)	-0.002	0.057	0.001*	0.360	0.005***	1.327***
	(0.001)	(0.318)	(0.001)	(0.233)	(0.000)	(0.095)
Tax treaty (w/host)	0.013***	1.636***	0.009***	0.923***	0.007***	1.311***
	(0.003)	(0.352)	(0.001)	(0.147)	(0.000)	(0.081)
Withholding tax (dividends)	-0.011**	-2.846***	-0.018***	-4.654***	-0.006***	-1.742***
	(0.005)	(0.918)	(0.006)	(1.407)	(0.001)	(0.223)
Withholding tax (interest)	0.003	0.747	0.001	0.757	-0.019***	-2.188***
	(0.006)	(1.160)	(0.006)	(0.925)	(0.001)	(0.257)
BIT (w/host)	0.003	1.216**	-0.001*	-0.347	0.002***	0.889***
	(0.003)	(0.477)	(0.001)	(0.360)	(0.000)	(0.136)
Tax treaty (w/home) * BIT	0.009**	0.214	0.002	0.448	-0.001***	0.132
	(0.004)	(0.545)	(0.002)	(0.523)	(0.000)	(0.084)
Tax treaty (w/host) * BIT	-0.013**	-1.496***	-0.008***	-0.270	-0.008***	-1.197***
	(0.005)	(0.498)	(0.002)	(0.292)	(0.000)	(0.129)
Num.Obs.	22,388	18,295	592,654	592,654	1,279,051	1,267,705
R2	0.088	–	0.069	–	0.091	–
R2 Pseudo	–	0.262	–	0.254	–	0.316

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

B.6 Additional models with home-host BIT control & interactions

Table B.12: **Models (4) and (8) from Table 5, re-estimated with a control for the presence of a BIT between the home and host states (as well as interactions with tax variables)**.

	DV: selected as conduit location			
	SEC firms		Amadeus firms	
	OLS	Logit	OLS	Logit
Tax treaty (w/home)	0.002**	0.417*	0.005***	1.439***
	(0.001)	(0.214)	(0.000)	(0.099)
Tax treaty (w/host)	0.007***	0.878***	0.004***	1.098***
	(0.001)	(0.127)	(0.000)	(0.078)
Withholding tax (dividends)	-0.017***	-4.711***	-0.006***	-1.714***
	(0.006)	(1.401)	(0.001)	(0.224)
Withholding tax (interest)	0.001	0.846	-0.020***	-2.174***
	(0.006)	(0.899)	(0.001)	(0.257)
Corporate income tax rate	-0.002	-1.265*	0.017***	0.855***
	(0.005)	(0.728)	(0.001)	(0.226)
BIT (conduit-host)	-0.005***	-0.259*	-0.005***	-0.150***
	(0.001)	(0.149)	(0.000)	(0.032)
BIT (home-host)	-0.005*	-2.365***	-0.000	-0.012
	(0.003)	(0.785)	(0.001)	(0.236)
Tax treaty (home-conduit) * BIT (home-host)	0.006***	2.264***	-0.003***	-0.242
	(0.001)	(0.576)	(0.000)	(0.180)
Tax treaty (conduit-host) * BIT (home-host)	0.002	0.066	0.001***	0.071
	(0.002)	(0.341)	(0.000)	(0.137)
Corp tax rate * BIT (home-host)	0.010	1.391	0.005**	0.650*
	(0.010)	(1.721)	(0.002)	(0.393)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	N/A		Yes	Yes
Num.Obs.	592,654	592,654	1,279,051	1,267,705
R2	0.069	–	0.090	–
R2 Pseudo	–	0.255	–	0.315

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

B.7 Conduit location predictors, disaggregating BITs by two key clauses

Table B.13: **Model (4) from Table 4 and Models (4) and (8) from Table 5, disaggregating BIT variable by presence of two key clauses.**

	DV: chosen as conduit location								
	ISDS claimants			SEC firms			Amadeus firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Corporate income tax rate	-0.002	-0.003	-0.001	-0.000	-0.001	-0.001	0.018***	0.018***	0.018***
	(0.007)	(0.007)	(0.007)	(0.005)	(0.005)	(0.005)	(0.001)	(0.001)	(0.001)
Tax treaty (w/home)	-0.001	-0.001	-0.001	0.002**	0.002**	0.002**	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Tax treaty (w/host)	0.010***	0.010***	0.010***	0.007***	0.007***	0.007***	0.005***	0.005***	0.005***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Withholding tax (dividends)	-0.010**	-0.011**	-0.011**	-0.017***	-0.017***	-0.018***	-0.006***	-0.006***	-0.006***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.001)	(0.001)	(0.001)
Withholding tax (interest)	0.004	0.003	0.003	0.000	0.001	0.000	-0.020***	-0.020***	-0.020***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.001)	(0.001)	(0.001)
BIT (w/sub. biz. req)	-0.006**			0.011			-0.003***		
	(0.003)			(0.014)			(0.001)		
BIT (w/o sub. biz. req)	0.001			-0.006***			-0.005***		
	(0.003)			(0.001)			(0.000)		
BIT (w/DOB clause)		0.045**			-0.010***			-0.012***	
		(0.022)			(0.003)			(0.001)	
BIT (w/o DOB clause)		-0.001			-0.005***			-0.004***	
		(0.002)			(0.001)			(0.000)	
BIT (either clause)			0.007			0.008			-0.004***
			(0.006)			(0.012)			(0.001)
BIT (neither clause)			-0.000			-0.006***			-0.005***
			(0.003)			(0.001)			(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes	Yes
Case FE	Yes	Yes	Yes	No	No	No	No	No	No
Firm FE	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes	Yes
Num.Obs.	22387	22376	22375	592549	592368	592263	1278730	1278316	1277995
R2	0.088	0.089	0.088	0.070	0.069	0.069	0.090	0.090	0.090

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

To ensure that the main results are not driven by heterogeneity across different BITs, I re-estimate the main conduit location results for each sample after disaggregating the BIT variable in two different ways. Using data from the IIA Mapping Project, I first disaggregate BITs according to whether or not they include a requirement that investors maintain "substantial business activity" in the *home* state in order to be covered by the BIT. It is plausible that, since firms engaging in indirect investment rarely have substantial business activity in the conduit state, a BIT-shopping firm might seek out a BIT that does not contain this provision (approximately 19% of currently existing BITs contain this provision).

Second, I disaggregate BITs according to whether or not they contain a denial of benefits (DOB) clause. DOB clauses allow the host state (or both host and home states) to deny treaty access to an investor who does not maintain substantial business activity in the home state, or if the investment is linked to owners who are from states that the host state has sanctioned or with which the host state does not maintain diplomatic relations. Again, BIT shopping firms may want to avoid BITs that contain a DOB clause, as proxy arbitrations filed under these BITs are more likely to be thrown out on jurisdiction. However, only 7% of BITs contain a DOB clause. Third, because either clause may have the same effect on BIT shopping, I also disaggregate BITs according to whether or not they have *either* a DOB clause or a substantial business requirment.

Table B.13 presents the results for all three samples. First, note that the main tax results remain nearly identical after the BIT variable is disaggregated. Second, in most cases, the disaggregated BIT variables are null or negative regardless of whether they contain substantial business requirements or DOB clauses. The exception is the positive and significant coefficient on the BIT (w/DOB clause) variable in Model 2, which is puzzling as DOB clauses should in theory make BITs *less* favorable for indirect investors. However, this result is likely driven by the extremely low number of BITs that contain DOB clauses in the ISDS sample: only 166 potential locations have a BIT with a DOB clause (.004% of all observations), compmared to 5,541 locations that have a non-DOB BIT (15%). The positive result is not replicated, and indeed is reversed, in the two larger samples. On the whole, the results of this exercise provide reassurance that the main conduit location results are not driven by variation across different BITs.

B.8 Conduit location predictors, disaggregated by time period (Amadeus sample)

Figure B.3: **Key conduit location predictors over time.** Results are generated by estimating Model (8) from Table 5 separately for firms incorporated during each four-year time period between 1980 and 2007. Note that large sample sizes in later time periods result in confidence intervals that are small enough that they are covered by the plotted point estimate.