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JEL Codes: F23, F14, F15, F53.
Keywords: Multinational Enterprises, Bilateral Investment Agreements, Double Taxation Treaties.

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International Investment Agreements, Double-Taxation Treaties and Multinational Activity: The (Heterogeneous) Effects of Binding*

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PRELIMINARY AND INCOMPLETE

Abstract

There are close to 3,000 international investment agreements (IIAs) that aim to protect and promote cross-border investment. Do they achieve their main purpose? This paper provides novel firm-level evidence on the effects of IIAs on location decisions of multinational enterprises (MNEs) in a multi-country context. It uses unique micro-level data on the location of MNEs' affiliates globally and country-pair data on the coverage and content of treaties over a twenty-year period (1990-2010). It finds that IIAs, in particular those with the investor state dispute settlement (ISDS), increase the probability of MNEs' first foreign entry when they are accompanied by a double-taxation treaty. This interaction between investment and tax treaties can have important policy implications.

Keywords: Multinational Enterprises, Bilateral Investment Agreements, Double Taxation Treaties
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1. Introduction

> Because these [investment] agreements have taken on a central role [...], it is important to understand better both the politics and economics of these agreements.
>
> *Joseph Stiglitz, Towards a Twenty-first Century Investment Agreements*

> You are to tie me hand and foot and stand me upright in the mast housing, and fasten the rope ends round the mast itself, and if I beg you to free me, bind me yet more tightly.
>
> *Homer, The Odyssey*

When Vodafone, a British multinational telecommunications company, successfully won an arbitration case against India over $2 billion tax claim under one of the country's investment integration agreements (IIAs), the news has captured the media attention.[1] That was also the case when an arbitration tribunal ruled that a tax audit by Russian authorities of Yukos, a former oil and gas giant, amounted to expropriation by leading the firm to lose its main oil producing subsidiary, and resulted in one of the highest awards in IIA history.[2] These examples underscore a potential interplay between international rules on tax treatment- and investment protection of multinational enterprises (MNEs) enshrined in investment agreements and double-taxation treaties (DTTs).

A dense net of different economic integration agreements (EIA), including IIAs, has spread rapidly over space and time. The number of country pairs covered by a least one EIA increased twelvefold between early 1970s and 2010s. This process has been particularly intense for IIAs, with several agreements being signed annually in the 1990s and early 2000s, resulting in a network of over 3,000 such treaties in place today. As such, the proliferation of EIAs, and in particular IIAs, can be considered as one of the most notable economic developments since World War II (Bergstrand and Egger, 2013). Yet, despite the pervasiveness of these agreements and simultaneous spread of MNEs' networks of affiliates, micro-level evidence on the effect of IIAs on MNE behaviour remains scarce. This paper provides micro-economic evidence on the effect of IIAs, in combination with others treaties, on MNE activity in a multi-country context, and sheds light on potential mechanisms by exploring possible heterogeneous effects.

[1] Reuters (2020); Vodafone International Holdings BV v. India, PCA Case No. 2016-35, 2020.
[2] Yukos Universal Limited (Isle of Man) v. The Russian Federation, PCA Case No. AA 227, 2014.

The overall goal of IIAs is protection of cross-border investment and encouraging MNE activity. Anecdotal evidence suggests that the protection provided by IIAs is taken into account during the investment decisions-making process by MNEs. In one survey of senior executives of MNEs, 83% of respondents confirmed that the absence of treaty protection affected their investment decisions; and most have specifically searched for access to international arbitration before making the decision (EIU, 2014). Another investor survey confirms that the presence of both IIAs and DTTs is considered by investors;[3] while a survey of investment promotion agencies in different countries shows that access to international arbitration and the network of EIAs is considered by these agencies in developing countries as one of the top 15 most important investment factors (OECD-IDB, 2017). The use of arbitration by MNEs in practice, once a relevant IIA is in place, also serves as a testimony to firms' awareness of the tool: the number of known disputes between investors and states under IIAs has increased from the first registered case in 1987 to over 400 in 2010 and about 1,000 in 2020. The number of firms per case also increased, resulting in an ever larger pool of investors (Blanchard and Sztajerowska, forthcoming).

The primary goal of IIAs, often explicitly mentioned in the preambles, is the protection and promotion of bilateral foreign direct investment (FDI).[4] IIAs aim to achieve these goals by providing investors with assurances of protection from a discriminatory, unfair, arbitrary or otherwise unlawful treatment by the state (OECD, 2006). These guarantees are available only to foreign investors in the territory of the host contracting party that have a link of nationality with the home contracting party. They are enforced through the investor-state dispute settlement (ISDS) that allows eligible investors to sue states.

The basic mechanism through which IIAs can influence firm investment decisions is, hence, by attenuating the "hold-up", or "dynamic inconsistency problem" (see e.g. Williamson, 1975), i.e. reducing the state's incentive to expropriate or otherwise extract rents from a firm once the irreversible investment took place (i.e. it is sunk). The rich burgeoning theoretical literature explains how IIAs would affect firm activity and incentivise firm entry.[5] In the presence of ISDS, the hold-up problem is reduced by providing a binding enforcement mechanism that imposes punishment for state's non-compliance. This punishment takes a form of compensation paid out by the government to a firm, and helps the state internalise the effect of regulatory action on foreign investors' profits. Thus, the theoretical literature suggests that IIAs should incentivise

[3] According to a survey of CEOs, IIAs and DTTs obtained an average score close to 4 on a scale from 1 (not at all important) to 5 (extremely important) among all location factors (UNCTAD-WAIPA, 2007).

[4] The first modern IIA mentions the intention to "create favourable conditions for investments" and "promote investment", among others (DE-PK BIT, 1956). Other treaties contain similar objectives (OECD, 2006).

[5] e.g. Aibsett et al. (2010a) and Aisbett (2010b) and more recently Konrad (2017), Janeba (2019), Kohler and Stähler (2019), Ossa, Sykes and Staiger (2020), Schjelderup and Stähler (2021).

firm entry, and IIAs with ISDS be more effective than those without.

MNE activity has also increased over time (Antrás and Yeaple, 2014; Ramondo, Rodríguez-Clare, Tintelnot, 2015). According to the data used in this study, the number of affiliates of MNEs grew over fiftyfold between 1990 and 2010, and the average number of countries in which those MNEs are present more than quadrupled. Given this rise in MNE activity and the rapid spread of treaties over space and time, the question is: do IIAs achieve their purpose and influence MNE investment decisions, and – if so, how?

The prior empirical literature on the effects of IIAs on FDI has been dominated by macro-economic studies, which use aggregate FDI flows or stocks to establish the effect of IIAs on cross-border investment. Macro papers are not able to explore potentially important heterogeneous effects of treaties across different margins of MNE activity (extensive and intensive) and types of firms. This may explain the inconclusive findings. While Hallward-Driemeyer (2003) and Tobin and Rose-Ackerman (2005) find no or negative results, Egger and Pfaffermayr (2004), Neumayer and Spess (2005), Egger and Merlo (2007) and Busse, Königer and Nunnenkamp (2010) find positive effects.[6] Meanwhile, recent studies suggest that MNEs' expansion happens mainly at the extensive margin, i.e. through opening of new affiliates (e.g. Ramondo, Rodríguez-Clare and Tintelnot, 2015; Garetto, Oldenski and Ramondo, 2019). Not distinguishing the effect of IIAs on different margins of MNE activity may conflate different forces at play and lead to an average zero effect.[7]

To the best of our knowledge, Merlo and Egger (2012) is the only prior study using micro-level data to examine the effect of IIAs on MNE location decisions.[8] Using confidential data on German MNEs, they find that bilateral investment agreements between Germany and other host economies have a positive effect on the extensive margin (i.e. number of MNE firms per host country) and some dimensions of the intensive margin (e.g. number of employees). Since then, a rich theoretical literature has emerged, fuelled by the public debate, and has elucidated the mechanism through which treaties can affect firm investment decisions and welfare, including through its key specific provisions, such as ISDS (e.g. Konrad, 2017; Janeba, 2019; Kohler and Stähler, 2019; Ossa, Sykes and Staiger, 2020; Schjelderup and Stähler, 2021).[9]

There is also a parallel literature on the effects of double-taxation treaties (DTTs) and preferential trade agreements (PTAs) on MNE activity. Many studies explore the effect

[6] See Table A3.1 in Appendix 3 for an overview of selected studies and a meta-study by Bellak (2015). Some studies also explored the effect of specific IIA clauses: e.g. Berger et al. (2011) examine the effect of IIAs with and without ISDS; and Berger et al. (2013) also study the effect of national treatment provision.

[7] As explained by Blonigen, Oldenski and Sly (2014), failing to account for the differential effects of treaties may lead standard empirical models used to be incorrectly specified, with a bias toward finding no effect.

[8] There is also ongoing work by Egger et al. (forthcoming) exploring the effect of IIAs on global value chains.

[9] Aisbett et al. (2010a) and Aisbett et al. (2010b) have provided important early work.

of DTTs on aggregate FDI.[10] Yet, there are only two micro-level studies to-date on the effect of DTTs on MNE activity. Davies, Norbäck and Tekin-Koru (2009), using data for Swedish MNEs, find that DTTs affect the extensive margin only. Blonigen, Oldenski and Sly (2014), using micro-data for the United States, find evidence of positive effects on both the extensive (firm entry) and intensive margin (sales of existing affiliates). Similarly, micro-level studies on the effects of PTAs have been rare. Notable exceptions (e.g. Chen, 2009; Blyde, Graziano and Volpe Martincus, 2015) use firm-level data to construct country-level metrics of MNE activity, and explore possible heterogeneous effects of PTAs on FDI. There is also an important literature on drivers of treaty formation.[11]

There can be important interactions between different kinds of treaties. For example, DTTs clarify and harmonize the applicable cross-border rules on taxation, minimising the risk of double taxation. Meanwhile, IIAs protect investors from unfair and discriminatory treatment and state actions that can amount to expropriation, which may also apply to tax matters. Therefore, there may be clear complementarities and reinforcing effects between IIAs and DTTs in the way they affect MNEs' costs of operating in a foreign market.[12] These interactions are precisely the focus of this paper.

In this paper, I aim to contribute to the literature by: (i) providing empirical micro-level evidence on the effect of IIAs on the extensive margin of MNE activity for a wide range of host and home countries; (ii) study the interaction between different treaty types, and in particular IIAs and DTTs, helping to bridge parallel streams of literature; (iii) exploring the role of a key provision in IIAs that may affect firm entry according to theory, notably investor-state dispute settlement mechanism (ISDS); and (iv) examining potential heterogeneous effects along the relevant country-, sector- and firm- dimensions.

To do so, I combine two main databases. First, I make use of newly available information on the coverage and content of IIAs by UNCTAD, the World Bank and the WTI. Second, I construct a unique firm-level dataset with information on MNEs from 36 OECD countries and their affiliates located in 131 host countries for years 1990-2010 – the period when most IIAs were signed. I focus on the extensive margin of MNE activity (i.e. the first MNE entry into a given market), in recognition that MNE expansion happens mainly at the extensive margin (Ramondo et al., 2015; Garetto et al., 2019).[13] I also use the data on ISDS cases and firm-, sector- and country characteristics to explore the nature of the mechanism through which IIAs affect firms' investment decisions.

[10] e.g., Blonigen and Davies (2004), Davies (2004), Egger, Larch, Pfaffermayr and Winner (2006), Davies et al. (2009), and Blonigen et al. (2014). See Davies (2004) for a review.

[11] e.g. Bergstrand and Egger (2013) and Aisbett (2009) for IIAs; Egger et al. (2006) for DTTs and Baier and Bergstrand (2007) and Egger and Larch (2008) for PTAs.

[12] See Appendix 1 for more detail.

[13] As treaties aim to address the time-inconsistency problem (Markusen, 2001; Antràs, 2003; Aibsett et al., 2010a/b; Kohler and Stähler, 2019), it may also be most pronounced for the first market entry.

To identify the effect of IIAs, and their combination with other EIAs, on MNE first entry, I implement a difference-difference empirical strategy that exploits differences in: (i) treaty status across countries, (ii) over time, and (iii) across treaty-, country-, sector- and firm characteristics. I use bilateral controls and multiple sets of fixed effects that account for various sources of unobserved heterogeneity at the firm-, sector-, host- and home-country level,[14] including those recommended to account for endogenous treaty formation (Baier and Bergstrand, 2007). This approach aims to attenuate potential endogeneity concerns encountered in the earlier literature, which pose the main threat to my identification strategy (e.g. Baier and Bergstrand, 2007; Aisbett, 2009; Bergstrand and Egger 2013). In addition, and importantly in the firm-level setting, I also check the robustness of the baseline findings to the inclusion of the host-home country time-trend, test for the lack of pre-trends via an event study, conduct relevant placebo tests and estimate results on relevant sub-samples to reduce concerns about reverse causality.

I find a positive and statistically significant effect of the presence of an IIA, when combined with a DTT, on the first MNE entry. Specifically, an IIA with a DTT increases the probability of an MNE's first entry in the host economy by 20.8% in the preferred specification. This confirms the prediction from the theoretical literature that IIAs can reduce the hold-up problem and incentivise firm entry (e.g. Ossa et al., 2020). It also highlights the possible interplay between different treaties, specifically as tax treatment issues governed by DTTs can benefit from IIA ISDS protection (see Appendix 1).

There are important heterogeneous effects, along the treaty-, country-, sector, and firm dimensions, which influence the effectiveness of IIAs in encouraging MNE entry. The effects are statistically significant only for treaties that contain ISDS provisions. They are observed only when the treaty has been ratified, i.e. the enforcement mechanism is binding, and as long as the host state has not experienced an ISDS case launched by the home state of the MNE. They also only affect entry of larger and already well-established MNEs (e.g. internationalised for a number of years) operating in differentiated sectors. When some fixed effects are relaxed in the last section, I also find some evidence of indirect effects of the wider network of host countries' treaties. These findings support the idea that MNEs can gain access to investment protection through third countries.

The rest of the paper is structured as follows: Section 2 introduces the data on the coverage and content of IIAs and firm-level data constructed for this study. Section 3 explains the empirical strategy. Section 4 presents and discusses the estimation results, Section 5 shows results on indirect effects of treaties and the last section concludes.

[14] Specifically, I include firm(-home)-host, firm(-sector-home)-year and host(-sector)-year fixed effects.

2. Data

I combine a large firm-level database on the location and timing of opening of MNE affiliates and bilateral information on the coverage and content of treaties. This permits, for the first time, a firm-level analysis of the effect of different types of treaties on MNE entry on a large sample of home and host countries, and possible heterogeneous effects along firm-, sector-, country- and treaty content dimensions.

2.1 MNE Data

The first key source of data exploited here is the micro-level data on characteristics and location decisions of MNEs, constructed using the ORBIS database of Bureau van Dijk (BvD). The ORBIS database offers one of the richest sources of firm-level data with ownership and financial information available for a number of countries over time. It has been used in several recent economic studies on FDI and MNE activity (e.g. Alfaro and Chen, 2018; Chen and Bao, 2018; Burchardi, Chaney and Hassan, 2019), and shown to have good representativeness for OECD countries, compared to the official national statistics (Alfaro and Chen, 2018). Considering its wide coverage of MNEs' operating in multiple home and host countries, this data is particularly well-suited to the study of global location decisions of OECD MNEs and factors that influence them, including EIAs. Another important benefit of ORBIS is that it includes data on direct and indirect ownership links, allowing for the analysis of the full extent of treaty protection of MNEs.

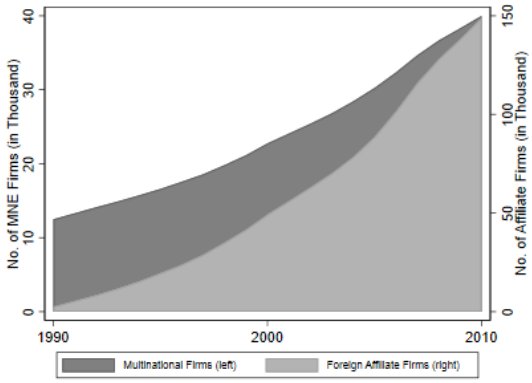
In order to render the data comparable across countries, I follow earlier studies, in particular Kalemli-Özcan et al. (2015), and undertake a number of cleaning and data harmonisation steps (see Appendix 2 for further information).[15] This allows an analysis of comparable firms and ownership links where the nationality of an MNE can be clearly established, and, accordingly, the extent of treaty protection. By combining ownership and other firm-level data from ORBIS (e.g. location, legal status, 4-digit NAICS sector of affiliate and MNE), the dependent variable (i.e. first MNE entry) and relevant firm-level controls (e.g. number of affiliates, sectors and countries in which the MNE operates) can be created. It also permits the creation of a metric of a bilateral stock of MNEs from the home country in the host economy, which captures potential nationality-specific MNE agglomeration effects (e.g. Crozet, Mayer and Mucchielli, 2004). The database includes MNEs that have at least one foreign affiliate during the 1990-2010 period.

[15] e.g. The database includes firms for which the year of establishment of an affiliate and its host country are known. Branches, which (unlike subsidiaries) do not constitute a separate legal entity from the parent company, are removed. Only firms linked with one another via majority-ownership structure are included.

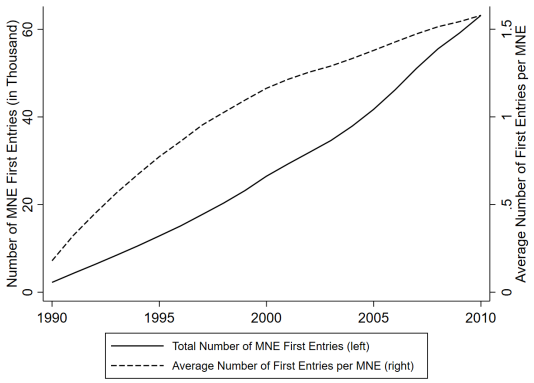
A final sample contains over 40,000 MNEs from 36 OECD countries and their more than 129,000 affiliates located in 131 host countries for years 1990-2010. An average MNE in our sample has 14 foreign affiliates outside of the host country, is present in nearly 7 different countries globally, operates in 5 different 4-digit NAICS sectors, and has 1 affiliate in the host economy (see Table A3.2 in Appendix 3).[16] The data also shows a rapid expansion of the number of MNEs and the network of their affiliates over time (Figure 1).[17] Looking specifically at MNE first entry, i.e., the focus of analysis here, 63,189 such events are observed in the sample, which translates into an unconditional mean probability of 4.8%. The trends in first MNE entries in different countries have followed the upward trend in the overall MNE activity, reflecting the growth in breadth and spatial coverage of MNE networks.

Figure 1: Number of MNEs from OECD countries and their foreign affiliates worldwide, 1990-2010

(a) Number of Firms



(b) Number of First Entries



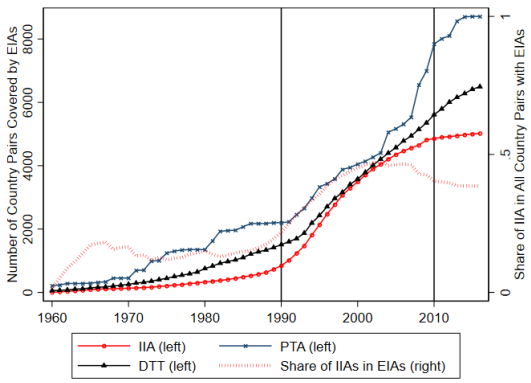
2.2 *Treaties Data*

I also employ a unique database of different types of EIAs combining various public sources. First, I construct a database on the coverage and content of IIAs using the UNCTAD's IIA database (UNCTAD, 2019a), the World Bank's database on FTAs with investment provisions (World Bank, 2018), and the World Trade Institute's database (WTI, 2020) to ensure the widest possible coverage of treaties. The final dataset contains over 3,000 IIAs of different type.[18] Second, I combine this with several different sources

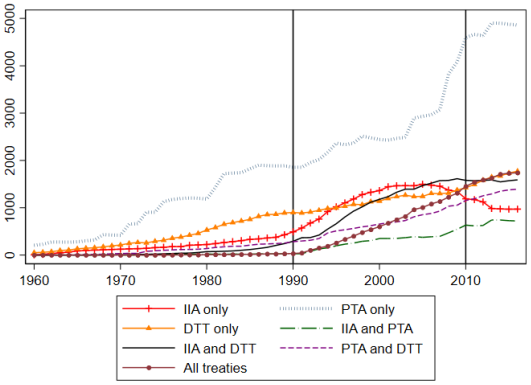
[16] Our sample comprises MNEs with at least one foreign affiliate in any host state during the sample period.
[17] This corresponds to the trends encountered in studies using alternative firm-level cross-country data sources, such as Dun & Bradstreet (e.g. Blyde, Graziano and Volpe Martincus, 2015).
[18] IIAs include bilateral investment agreements (BITs), multilateral investment agreements (e.g. the Energy Charter, ETC) and investment chapters in PTAs (e.g. Ch. 11 in NAFTA/Ch. 14 in USMCA).

Figure 2: Number of Country-Pairs Covered by EIAs, by type, World, 1960-2015

(a) General Types of Agreements



(b) Mutually Exclusive Combination of Agreements



of data for PTAs: Baier et al. (2014), Kohl et al. (2016) and the World Bank (2018) to ensure the fullest possible coverage. Third, I add data on DTTs from the OECD and Global Forum on Transparency and Exchange of Information.

As can be seen in Figure 2, the number of country pairs covered by IIAs rose rapidly over time. During our period of interest (1990-2010), the share of country-pairs covered by at least one EIA rose from 14% to 33%.[19] An ever larger share of countries were covered by more than one agreement. While in 1990 over 85% of countries with an EIA were covered by one type of agreement only, by 2010 this share dropped to 61%. Therefore, in the empirical strategy, I adopt a mutually exclusive version of the coverage of different agreements (i.e. IIA only, RTA only, DTT only, and their different combinations) to precisely capture the effect of each type, and their interactions, on firm behaviour.

To-date, a precise analysis of the relative importance of different combinations of agreements has been rare. Few studies control for the presence of both PTAs and DTTs when evaluating the effect of IIAs on FDI (e.g. Busse et al., 2010; Egger and Merlo, 2012; Aisbett et al., 2018) and only Egger and Wamser (2013) take into account the different combinations of EIAs to evaluate their effect on FDI stock. Also, most likely due to data availability, BITs have been by far the main focus of the empirical analysis on the effects of IIAs on FDI and MNE activity thus-far. I adopt a broad definition of IIAs, including BITs, bilateral and multilateral FTAs with investment chapters and multilateral investment agreements, to adequately reflect the extent of investment protection available to firms. In 1990, 52% of country pairs covered by an EIA had an IIA in place and 62% by 2010. The share of EIAs that involved combinations of IIAs with other agreements

[19] Figure A3.1 in Appendix 3 also illustrates the geographic spread of IIAs and other EIAs over time.

also increased: IIAs with DTTs from 6% to 13%, IIAs with RTAs from 3% to 8% and all three treaties from 1% to 14%.[20]

I also exploit the information on whether or not an IIA contains an ISDS provision (i.e. a binary variable that takes a value of 1 when a treaty has an ISDS provision, and 0 otherwise) to explore the specific mechanism through which IIAs can affect firm decisions. During the period of analysis, the share of country pairs covered by an IIA with ISDS increased from 93% to 98%. The share of countries with IIA-DTT covered by ISDS from 80% in 1990 to 98% in 2010. I combine this information with the data on incidence of ISDS disputes launched by investors using ISDS, sourced from the UNCTAD's Investment Dispute Settlement Navigator (UNCTAD, 2019b). The database included 983 known ISDS cases as of 2019, 407 of which took place until 2010 and involved 85 different host- and 58 home states.

2.3 Other Data

I also use several other sources of data as relevant controls and to explore heterogeneous effects along the relevant country- and sector dimensions. First, I control for bilateral trade (along the bilateral stock of MNEs) using data on exports and imports from World Integrated Trade Solution (WITS). Second, I also use Rauch (1999) sector classification to identify homogeneous and differentiated sectors, in which MNEs operate. Third, I use the information on the rule of law from the World Bank's World Governance Indicators -and also test other similar indicators from that dataset as part of robustness checks - to classify countries into those with higher and lower quality of domestic institutions. Finally, I use the data on countries' GDP from the World Bank's World Development Indicators database and the information on educational attainment from Barro and Lee (2010) to include controls from the knowledge-capital model (Carr, Markusen, and Maskus, 2001).

The combined dataset includes firm-, sector-, country- and bilateral country-pair level data for 36 OECD home countries and 131 host countries worldwide for years 1990-2010 (see Appendix 2 for more information).

3. Empirical Strategy

In order to assess formally the relationship between the presence of a given treaty combination and MNE activity, I follow the empirical strategy outlined in this section.

[20] See Table A3.3 for the average share of countries covered by different combinations of EIAs in the sample.

3.1 Baseline Specification

To establish the effect of IIAs, and their combination with other agreements, on the extensive margin of MNE activity and specifically their first entry into the host economy, I adopt a linear probability model (LPM) and the following baseline specification:

$$E^{MNE}_{fsijt} = \beta_1 IIA_{ijt-1} + \sum_k \beta_k OEIA^k_{ijt-1} + \sum_l \beta_l CIIA^l_{ijt-1} + \beta_2 COEIA_{ijt-1} + \beta_3 MNE_{f(i)jt-1} + \beta_4 BILAT_{ijt-1} + \theta_{f(si)j} + \gamma_{f(si)t} + \delta_{jst} + \varepsilon_{fsijt} \quad (1)$$

Where E^{MNE}_{fsijt} is a binary variable that takes a value of 1 when an MNE f from a sector s and a home country i establishes its first foreign affiliate in the host country j in time t (and 0 otherwise). IIA_{ijt} is a binary variable that takes a value of 1 when there is a IIA in place between a country-pair ij in time $t-1$ (and 0 otherwise); $OEIA^k_{ijt}$ is a binary variable that takes a value of 1 when there is another EIA (e.g. PTA or DTT), in place between a country-pair ij in time $t-1$ (and 0 otherwise); where k stands for different types of agreements, notably PTAs and DTTs; $CIIA^l_{ijt-1}$ is a binary variable that takes a value of 1 when there is a particular combination of an IIA with another economic integration agreement in place between a country pair ij in time $t-1$ (and 0 otherwise); where l stands for different combinations of agreements (e.g. IIA and PTA, IIA and DTT, or all three types of treaties); and $COEIA_{ijt-1}$ is a binary variable that takes a value of 1 when there is a combination of other remaining agreements in place (i.e. PTA and DTT) between a country pair ij in time $t-1$ (and 0 otherwise). The remaining terms of Equation (1) correspond to relevant controls and fixed effects. In particular, $MNE_{f(i)jt-1}$ is a vector of (time-variant) MNE-host country specific controls, notably the total number of foreign affiliates outside of the host country, lagged by one period, which captures the effect of the overall network of affiliates of an MNE abroad. It also allows me to partially account for a gradual and sequential nature of firms' expansion abroad, whereby firms learn from their experience in other markets and adjust their internalisation strategies (Egger, Fahn, Merlo and Wamser, 2014). A vector of additional (time-variant) bilateral country pair controls beyond the presence of agreements, $BILAT_{ijt-1}$, is also included, which covers notably bilateral trade and stock of MNEs from the home in the host country (lagged by one period). Both of these controls capture the extent of bilateral commercial relations between the two countries. Bilateral trade can also serve as a proxy for accumulated export experience of the home country in a given destination, recognising the possible interchangeable or sequential nature of trade and investment

activity (Conconi, Sapir and Zanardi, 2016).[21] The stock of MNEs from the MNE's home country in the host economy of the affiliate can, in turn, account for possible network effects associated with a presence of other MNEs of the same nationality (e.g. Head, Ries and Swenson, 1999; Crozet, Mayer and Mucchielli, 2004). Finally, $\theta_{f(si)j}$ are firm(-sector-home)-host country fixed effects; $\gamma_{f(si)t}$ are firm(-sector-home country)-year fixed effects; δ_{jst} are host-sector-year fixed effects,[22] and ϵ_{fsijt} is the error term.

This set of fixed effects allows me to control for various sources of observed and unobserved heterogeneity. In particular, the firm(-sector-home)-host country fixed effect, $\theta_{f(si)j}$, subsumes the host-home fixed effects, capturing any (time-invariant) country-pair characteristics that may also influence MNE activity and treaty formation (e.g. distance, shared border, or a common history). It also accounts for more granular sources of heterogeneity related to systematic differences across firms, including their propensities to establish affiliates across countries depending on those countries' comparative advantage.[23] In turn, host country-sector-year fixed effect, δ_{jst}, and firm-(home-sector)-year fixed effect, $\gamma_{f(si)t}$, account for any (time-variant) host- and home-country characteristics and sectoral dynamics that need to be controlled for. These can include any national (or sectoral) investment promotion- or guarantee schemes, the levels of development, respective networks of agreements or business cycle fluctuations in the host- and home states, and the level of competition or growth dynamics in a given sector. Together they help control for the so-called 'multilateral resistance' terms (Anderson and Wincoop, 2003). This approach, and specifically, the use of host-home, host-year and home-year fixed effects, has been recommended in the literature as means of accounting for endogenous formation of treaties (Baier and Bergstrand, 2007; Bergstrand and Egger, 2013).

Firm-(home-sector)-year fixed effects, δ_{jst}, additionally account for any (time-variant) MNE characteristics that could influence firm entry probability, such as financial performance, global expansion- or business strategies, the level of productivity, innovation or export activity, or any firm-specific assistance provided by either country. Their inclusion also builds on a large literature on the effect of firm productivity and size on firm internationalisation patters (e.g. Bernard and Jensen, 1999; Nocke and Yeaple, 2008; Yeaple, 2009).

Robust standards errors are clustered by host-home country pair, following Moulton (1990), and I also test the sensitivity of results to the clustering method.

[21] As establishing an affiliate or exporting to a destination can be substitutes or complements, and can take place in consecutive steps (Conconi et al., 2016), not including a control for MNE export sales when explaining firm FDI decisions could lead to potential omitted variable bias. As I do not have readily available data on firm-level destination-specific export sales, I use bilateral trade flows as a proxy.

[22] Sector refers 2-digit NAICS sector of the parent MNE firm.

[23] For example, companies in certain input-intensive industries are more likely to seek destinations with that factor of production being abundant (oil company seeking resource-rich countries).

3.2 *Alternative Specification*

The baseline equation assumes that the effect of investment agreements on the extensive margin of MNE activity is symmetric across types of treaties, sectors, countries or firms. Yet, there are reasons to believe that these effects may differ among different groups. For example, the effects of treaties are likely to depend on their design and inclusion of certain clauses, notably of ISDS (Berger et al., 2011), and the subsequent incidence of ISDS cases (Aibsett et al, 2018; Allee and Peinhardt, 2011). As firms differ in their expansion strategies depending on size and productivity (e.g. Yeaple, 2009; Bernard and Jensen, 1999), firms of different size are also likely to react differently to treaty presence.[24] As demonstrated in Blonigen et al. (2014) in the case of DTTs, treaties can also have differential effect depending on whether they concern firms in differentiated or homogeneous sectors. Finally, the effects of treaties - especially those with ISDS - are likely to be heterogeneous across different types of countries, notably depending on the quality of the domestic legal and judicial systems (e.g. Hallward-Driemeyer, 2003; Tobin and Rose-Ackerman, 2005; Busse et al., 2010; Berger et al. 2011; Egger and Merlo, 2012).

In order to be able to explore the existence of possible heterogeneous effects of IIAs across different groups, I generalize the earlier equation as follows:

$$E^{MNE}_{fsijt} = \sum_z \beta_{1,z}\theta_z IIA_{ijt-1} + \sum_z \sum_k \beta_{k,z}\theta_z OEIA^k_{ijt-1} + \sum_z \sum_l \beta_{l,z}\theta_z CIIA^l_{ijt-1}$$
$$+ \sum_z \beta_{2,z}\theta_z COEIA_{ijt-1} + \beta_3 MNE_{f(i)jt-1} + \beta_4 BILAT_{ijt-1} + \theta_{f(si)j} + \gamma_{f(si)t} + \delta_{jst} + \varepsilon_{fsijt} \quad (2)$$

where z identifies different groups, including types of treaties (e.g. with ISDS and without), types of countries (e.g. those with higher or lower quality of domestic institutions) and types of firms (e.g. small and large, old and young). Hence, Equation (2) permits the exploration of potential heterogeneous effects of IIAs, depending on the treaty content-, country- and firm characteristics, and combinations thereof.

I additionally relax some fixed effects presented in Equation (1) and (2), notably δ_{jst} (host-sector-year fixed effects), to explore possible spillover effects.

[24] Firm size is also likely a relevant dimension determining access to the ISDS mechanism in practice, given high costs of litigation under ISDS (e.g. OECD, 2012).

4. Results

4.1 Baseline Results: Average Effect of Treaties

Column 1 in Table 1 reports LPM estimates of the baseline Equation (1).[25] I find that the presence of the combination of IIAs with DTTs between a home country of the MNE and the host country of its affiliate has a positive and significant effect on the probability of a first MNE entry into the host economy (E^{MNE}_{fsijt}). Specifically, the presence of an IIA and DTT between home country of the MNE and the host economy of its affiliate is associated with an increase of 10 percentage points in the probability that the MNE establishes its first affiliate in the host economy. Since the mean probability of host country entry in the sample is 4.8 percent, a new IIA and a DTT increases the probability of an MNE entry into the host market by 20.8 percent. Therefore, I find a confirmation of the hypothesis that IIAs, in combination with DTTs, influence the extensive margin of MNE activity. These results are in line with the findings by Egger and Merlo (2012), who show that BITs have a statistically significant effect on the number of MNEs active in a particular host country.

In Column 1, I exploit the within-destination-firm variation and the timing of treaties to identify if the change in a treaty coverage of a country-pair is associated with higher entry probability of a given MNE into a given host country. This permits accounting for more granular sources of firm-specific heterogeneity that may be simultaneously impacting firm entry, such as (firm-specific) investment subsidies. Columns 2-4 report the results for this model with and without additional bilateral controls reported in Equation (1), notably the bilateral stock of MNEs and bilateral trade. Column 5 also reports results removing the firm-year fixed effects, which account for all time-variant MNE characteristics and retain only the controls for the number of foreign affiliates abroad outside of the host state.[26] As my preferred model subsumes a more general model, where the variation comes from across firms within host-home country pair over time, I also report results of this model in Column 6. There the firm-host fixed effects are replaced with host-home fixed effects, which account for time-invariant differences across countries but not firms. As our level of observation are firm-level decisions, the inclusion of firm-year and firm-host fixed effects further reduces the risk of omitted variable bias. In addition, Table A3.5 reports results when no fixed effects are initially

[25] Additional results throughout this section are reported in Appendix 3.

[26] I also test the sensitivity of results for the inclusion of different MNE controls (see Table A3.4). I include two- and three- year lags on our MNE control to account for any possible trends in MNE behaviour a few years prior to the first entry (Column 2). I also include extra controls for the number of sectors and countries in which the MNE operates (Column 3). The specification using firm-year fixed effects yields results that correspond to the average of options in Table A3.4.

Table 1: Baseline Results: Effect of Treaties on the Probability of First MNE Entry.

Baseline Estimation						
Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	(1)	(2)	(3)	(4)	(5)	(6)
IIA only (t-1)	0.000	0.000	0.000	0.000	0.000	0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.005	0.005	0.004	0.004	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
DTT only (t-1)	0.004**	0.004*	0.003	0.003	0.003	0.004*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.002	-0.002	-0.002	-0.002	0.001	0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)
IIA and DTT (t-1)	0.010***	0.009***	0.010***	0.009***	0.008***	0.008***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.005	0.005	0.004	0.004	-0.000	0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
All treaties (t-1)	-0.000	-0.000	-0.001	-0.001	-0.001	0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Host-Home Fixed Effects	NO	NO	NO	NO	NO	YES
Home-Sector-Year Fixed Effects	NO	NO	NO	NO	YES	YES
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	NO
Firm-Year Fixed Effects	YES	YES	YES	YES	NO	NO
Bilateral Country-Pair Trade Controls (t-1)	YES	NO	YES	NO	NO	NO
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	NO	NO	NO	NO
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	902,398	905,493	902,398	905,493	1,212,170	1,214,302

Note: IIA refers to International Investment Agreement; PTA refers to Preferential Trade Agreement; DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host-home country pair. Firm-host fixed effects also subsume home-country-sector fixed effects and firm-year fixed effects subsume home-sector-year fixed effects. (Time-variant) MNE-host country affiliate controls refer to the log of the number of foreign affiliates of the MNE globally outside of the host country (lagged by one period). Bilateral country-pair trade controls refer to the log of the sum of bilateral exports and imports between the host and home country (lagged by one period) and bilateral country-pair MNE controls refer to the stock of MNEs from the home country in the host country (lagged by one period). Statistically significant at *** 1% level, ** 5% level, * 10% level.

used and different combinations of country-level controls are progressively added to be later replaced by fixed effects.[27] The combination of IIA and DTT is statistically significant throughout while DTT only becomes statistically significant once host-sector-year and home-sector-year fixed effects are included. As different specifications in Table 1 yield similar results, I retain the model in Column 1 as my preferred specification.

4.2 Robustness of Baseline Results

The combination of fixed effects and the firm-level analysis used in this study helps reduce potentially endogeneity concerns.[28] I also use lagged treaty variables in order to reduce the concerns of simultaneity (Blanchard, Bown and Johnson, 2016). Yet, there could be some remaining endogeneity and questions about the robustness of my preferred specification, which I aim to address next.

4.2.1. Endogeneity

First, if treaties have a causal effect on MNE entry, one should not see any effect of treaties prior to their signature. I test for pre-trends via an event study to reduce concerns about reverse causality, controlling for the effect in one, two, three, and all previous years prior to treaty signature (Figure A3.4). Reassuringly, the estimated coefficients are not statistically significant in years prior to the treaty becoming available. Meanwhile, they start becoming statistically different from zero after the agreement is in place and afterwards. When joint significance of treaty dummies is tested, they are statistically significantly different from zero only in the post-event period.

In addition, I undertake a placebo test (Columns 2-3 in Table A3.6). If treaties have a causal effect on MNE entry, one should not see any effect of treaties prior to their signature. To test this, I identify the instance when the first combination of an IIA and DTT was signed for each country-pair and retain only observations until that treaty switch. Using this new sample, I estimate the effect of that first treaty signature and find statistically significant effect in line with the baseline. When a lead of that first treaty pair is taken, reassuringly, no statistically significant results are found.

[27] I include controls for the host-country's (time-variant) networks of treaties (e.g. Egger and Larch, 2008; Chen and Joshi, 2010; Bergstrand and Egger, 2013; Baldwin and Jaimovich, 2012), standard capital knowledge model controls (Carr et al., 2001), i.e. the sum and squared differences in real GDP (in logs) and an absolute difference in human capital (in logs); and other theory-motivated country controls, such as trade and investment costs (Blonigen et al., 2014; Bergstrand and Egger, 2013; Carr et al., 2001).

[28] The endogeneity of treaty formation with respect to MNE activity is less of an issue when using firm-level data as the signing of a treaty is plausibly an exogenous shock to any single firm within a country (Blonigen et al., 2014). As it may be possible for the largest MNEs, I undertake additional tests here.

A host-home country-pair time trend is also included in the baseline (Column 4 in Table A3.6). If there was a tendency between the two countries that is not captured by our controls, the time trend may mostly account for it. The results remain consistent and the combined effect of having a new IIA and DTT is strongly statistically significant.

The control group in the baseline includes country pairs with no EIA in place during the 1990-2010 period as well as those that do not currently have a given EIA but do enter at least one type of agreement during the sample period. Hence, the estimation is done using never-treated and not-yet-treated as a counterfactual outcome. By excluding countries with no bilateral EIA in place during the sample period, selection concerns can be reduced by defining the unit-level treatment effect to be relative to the not-yet-treated counterfactual outcome (Sianesi, 2004). The results are re-estimated excluding countries with no EIA during the sample period (Column 5 in Table A3.6), and remain in line with the baseline results. For the rest of the paper, the results are presented for the full sample of countries and excluding countries without an EIA during the sample period.

To further account for endogenous treaty formation and the ability of firms to influence treaty signature (e.g. Blanchard and Matschke, 2015), the effect of removing the largest firms from the sample is tested. If individual firms can influence the signature of IIAs between countries, these are likely to be the largest MNEs that have the necessary economic and political clout. Removing those firms from the sample does not change results (Column 6-7 in Table A3.6).[29] To address a further possible concern that the largest home countries may influence treaty formation, e.g. in response to lobbying by domestic MNEs, the largest countries in terms of real GDP are also removed (Column 8 in Table A3.6). The results are the same.

The fixed effects in the baseline should account for the relevant host- and home-country characteristics, including size of their markets and relative endowments. It has been shown earlier that results do not change when theory-motivated country-level controls are replaced by relevant fixed effects. Yet, in case there is remaining (time-variant) host-home country variation that is not accounted for, Table 1 is reproduced in Table A3.7 adding a set of bilateral (time-variant) capital knowledge model country controls (Carr et al. 2001) found to explain endogenous treaty formation (Baier and Bergstrand, 2004; Bergstrand and Egger, 2013; Chen and Joshi, 2010). Results are robust.

4.2.2. Timing and Other Competing Explanations

There may be other concerns related to the specification or compositional effects.

[29] I run separate regressions removing the top 99^{th} percentile of firms in terms of the total number of foreign affiliates and, more conservatively, retaining firms between 25^{th} and 75^{th} percentile only.

First, to test for possible dynamic effects of agreements, one-, two- and three-year lags on agreements dummies are added on top of other controls in the baseline (Column 2 in Table A3.8). The results remain robust, while no coefficient on the agreements dummies with further lags is statistically significant.

Second, the robustness to alternative clustering of robust standard errors is checked. Host-home country clustering of robust standard errors is replaced with two-way host country- and home country cluster, i.e. at highest level of aggregation (see Table A3.9). The results are very similar and remain statistically significant in all the specifications.

Third, the sensitivity of results to sample selection is tested (Table A3.10). For example, results may potentially be influenced by corporate restructuring decisions of MNEs for tax planning purposes. Hence, affiliates located in jurisdictions identified as tax havens are excluded from the sample, using three different classifications (Columns 1-3).[30] Again, I obtain very similar results.

In the main sample, MNEs can be created at different points of time and can enter a given host country at any stage following their creation. Yet, global patterns in MNE creation could potentially be correlated - positively or negatively - with signature of treaties. In order to ensure that the date of creation of MNEs, does not influence results, regressions are re-run on a sample of MNEs that were created prior to 1990 and have been present throughout the sample (Column 4). The results remain robust.

The remaining columns in Table A3.10 show results excluding specific countries from the sample. Column 5 presents results removing affiliates located in China whose prominent rise onto the global marketplace coincides with the dynamic increase in the number of agreements. Column 6 also presents results excluding affiliates located in the Central and Eastern European countries (CEE) as several papers show sensitivity of results to inclusion of CEE (e.g. Berger et al., 2011; Aisbett et al., 2018). MNEs and ;affiliates operating in the EU are also removed (Column 7) to reduce concerns about possible wider regional integration effects. Results remain valid.

Finally, as countries may be potentially subject to multiple treatments throughout the sample period (switching into a different combination of treaties), the sample is limited to country pairs until the first treaty switch, i.e. first treatment (Column 2 in Table A3.11). The sample of countries experiencing one treaty switch is further restricted to a more homogeneous group of countries with at least one EIA during the sample period (Column 3), as done earlier to reduce endogeneity. Results remain robust.

The robustness of construction of treaty variables is also tested. In the baseline, unless individual EU members are covered by a specific bilateral or other relevant agreement (e.g. Netherlands - Romania BIT 1994), the EU itself is not treated as an IIA. However,

[30] i.e. OECD (2000), Hines (2010) and Tørsløv, Wier and Zucman (2018) - from the narrowest to the broadest.

given that elements of the common EU law contain relevant investment measures, it is tested if results change, if the EU is treated as an IIA. Table A3.12 reproduces Table 1 with baseline results. The country pairs that either terminated, did not ratify, or replaced their IIAs during the sample period are also removed (see Table A3.13).[31] The effect of a combination of IIA with PTA is also differentiated, depending on whether the IIA is a standalone agreement or an investment chapter in a PTA.[32] The results remain unchanged, and both combinations of PTAs with IIAs are not statistically significant.

To sum up, the additional checks presented here show that the encountered effect is robust to the choice of specification and sample composition. The average effect of a combination of IIA and DTT varies between 0.7 and 13 percentage points, which translates into a 14.6-27.1% higher probability of MNE first entry into the host economy.

4.3 Heterogeneous Effects

As shown in the previous section, IIAs accompanied by DTTs have, on average, a statistically significant effect on the probability of MNE first entry into a market. To shed more light on the mechanism through which they do so, I now explore possible heterogeneous effects along the relevant firm-, sector and country- dimensions.

4.3.1. Treaty Characteristics

Table 2 reports results of a regression where the effect is allowed to vary depending on the inclusion of the ISDS mechanism in the treaty (Column 2). For brevity, only the coefficients on the combination of IIA and DTT are shown and Table A3.14 reports full results.[33] In Columns 5-8, the same results are reported for a sample of countries that have at least one EIA in place at some point during the sample period.

In the sample, 11% of observations are covered by a combination of IIA with DTT with ISDS provisions. In line with the theoretical prediction that IIAs with ISDS are likely to have a stronger capacity to credibly resolve the hold-up problem, I find that only IIAs with ISDS in combination with DTTs have a statistically significant effect on MNE entry (Columns 3 and 7). This may explain why some papers that do not distinguish between treaties along this dimension find insignificant results (if the combined effect of these two

[31] The effect of the only sectoral investment treaty, the Energy Charter Treaty, on MNE entry is also tested separately and the coefficients on this and other treaties are not statistically different from one another.

[32] The mutually exclusive combination of agreements means that the coefficient on IIA and DTT already captures the effect of a standalone IIA with DTT. If the IIA took a form of a PTA with investment chapter, the coefficient on the presence of all three treaties would capture this effect.

[33] The results of the baseline regression for the sample of treaties that have been scored on their content in the database (97% of the total) are reported in Column 1.

Table 2: Heterogeneous Effects: Treaty Characteristics –ISDS Provisions and ISDS Cases.

Dependent variable	**Probability of First Foreign Entry (E^{MNE}_{fijt})**							
	LPM							
	Full Sample of Countries				**Countries with EIA Only**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. The Inclusion of ISDS								
IIA and DTT (t-1)	0.008**				0.012***			
	(0.003)				(0.003)			
IIA and DTT (t-1) with ISDS		0.008**				0.012***		
		(0.003)				(0.003)		
IIA and DTT (t-1) without ISDS		0.005				0.007		
		(0.011)				(0.011)		
Panel B. The Binding Enforcement of ISDS								
IIA and DTT (t-1) with ISDS - Binding			0.008**				0.012***	
			(0.003)				(0.003)	
IIA and DTT (t-1) with ISDS - Signalling Only			0.005				0.008	
			(0.006)				(0.007)	
IIA and DTT (t-1) without ISDS			0.004				0.006	
			(0.011)				(0.012)	
Panel C. The Use of the Binding Enforcement of ISDS by Firms - Incidence of ISDS Cases								
IIA and DTT (t-1) with ISDS - Binding - Before or No ISDS Case				0.009***				0.012***
				(0.003)				(0.003)
IIA and DTT (t-1) with ISDS - Binding - After ISDS Case				-0.002				0.002
				(0.005)				(0.005)
IIA and DTT (t-1) with ISDS - Signalling Only				0.005				0.008
				(0.006)				(0.007)
IIA and DTT (t-1) without ISDS				0.004				0.006
				(0.011)				(0.012)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
Observations	877,046	877,046	877,046	877,046	833,079	833,079	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism, and ISDS cases to disputes launched in the ISDS system. "Binding" refers to ratified agreements while "Signalling Only" refers to agreements that were signed but not ratified, i.e. the ISDS mechanism is not enforceable. "Before or no ISDS case" is a binary variable (interacted with the treaty variables) that takes a value of 1 in the periods before a case was started between the home country of the investor and the host state of the affiliate or when no such case has ever been started. "After ISDS case" is a binary variable (interacted with the treaty variables) that takes a value of 1 in the period when a case was started between the home country of the investor and the host country of the affiliate and all the following periods, and 0 otherwise. For the description of the specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level. For brevity, only the coefficients on the combination of IIA and DTT are shown; see Table A3.14 for further results.

types of agreements is zero, on average). These results are similar to those in Berger et al. (2011), who, using aggregate FDI data, find a statistically significant effect of BITs with ISDS on FDI flows but none for those without it. While Berger et al. (2011) results hold only as long as affiliates located in Central Eastern Europe are retained in the sample, the results presented here remain robust when performing the same exercise.[34]

In line with the credible commitment mechanism of ISDS posited by theory (Ossa et al., 2020), I find that the result is statistically significant only when ISDS has a binding effect on the host state, i.e. the treaty with ISDS has been ratified (Panel B in Table 2). I also find that IIAs have a positive effect on MNE foreign entry so long as the host state of the affiliate is not subject to a dispute by a home state of the MNE, and none otherwise (Columns 4 and 8 in Table 2). This is in line with the findings from Aisbett et al. (2018) who finds, using aggregate FDI data, a positive effect of ratified BITs only as long as the host case does not experience an ISDS case. (The effect of treaties with ISDS for countries with no ISDS dispute gains in statistical significance, from 5% to 1%, relative to the average effect for all country pairs.) These results suggest that ISDS serves as an important enforcement mechanism through which treaties influence MNE location decisions. Yet, the incidence of ISDS cases can play a mitigating role, for example by undermining the credibility of the host country's commitment for an average firm.

4.3.2. Firm Characteristics

An important benefit of the micro-level approach is that one can test which types of firms - e.g. depending on their overall size, age or international experience - react to the presence of the credibility enforcement mechanism in the form of ISDS. Table 3 presents the results using the number of countries in which MNE operates as a preferred metric of size that has been used as a proxy for firm size and productivity (e.g. Yeaple, 2009).[35] The data on the timing of opening of MNEs affiliates globally is also used to classify firms as newly internationalised (i.e., those that opened the first foreign affiliate in the last three years) or well-established; as is the information on the date of firm's creation to classify MNEs as newer (i.e., those that were created in the last three years) or older.[36]

As shown in Table 3, the presence of a combination of an IIA and DTT with ISDS provisions has a statistically significant effect only on first entry by larger, older and well-established MNEs and none on smaller, younger or recently internationalised firms.

[34] In addition, the sensitivity of results in Table 2 is tested for all the sample variations presented in the robustness checks for the baseline in Table A3.10 and results remain robust.

[35] Alternatively, the data on the total number of affiliates that the MNE has globally and the total number of sectors in which it operates is also tested, see Table A3.15 for full results. Results are robust. In all cases, the median MNE size for the entire period is taken to divide firms into larger and smaller firms.

[36] Alternative time thresholds, e.g. 5 years, are also tested and reported in Appendix 3. Results are robust.

Table 3: Heterogeneous Effects by Treaty and MNE Characteristics – The Role of Size, Age and Experience.

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	Full Sample of Countries			**Countries with EIA Only**		
	Size	**Age**	**Experience**	**Size**	**Age**	**Experience**
	(1)	(2)	(3)	(4)	(5)	(6)
IIA and DTT (t-1) with ISDS - Larger Firms	0.010***	0.008***	0.009***	0.015***	0.013***	0.016***
	(0.004)	(0.003)	(0.003)	(0.004)	(0.003)	(0.004)
IIA and DTT (t-1) with ISDS - Smaller Firms	-0.017	0.014	-0.000	-0.024	0.010	-0.006
	(0.016)	(0.021)	(0.017)	(0.017)	(0.021)	(0.018)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	877,046	877,046	877,046	833,079	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism. Size refers to the number of countries in which the MNE operates through its foreign affiliates. Firms are classified as larger if their size is above the median observed for the sample period. Age refers to the number of years since the firm has been established. Firms are classified as newer if they were created in the last three years, and as older otherwise. Experience refers to the number of years since a firm has opened its first foreign affiliate globally. Firms are classified as newly internationalised if they opened their first foreign affiliate in the last three years, and as well-established otherwise. Columns 1-3 report the results for the full sample and columns 4-6 for the sample of countries with EIA only. For the description of the specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level. For brevity, only the coefficients on the combination of IIA and DTT are shown; see Table A3.15 for further results, including alternative metrics and thresholds.

In addition, only large firms react to the presence of a DTT only[37]; and IIAs only starts having a statistically significant effect on large firms in some regressions (see Panel B in Table A2.14).[38] This confirms that IIAs and DTTs are effective in influencing entry decisions of firms that are the closest to the productivity cut-off required to enter a given host market and can benefit from reduced fixed costs of entry offered by an inception of a treaty. These results offer important insights on the type of firms that are beneficiaries of treaties once various relevant factors are controlled for.

4.3.3. Sector Characteristics

Using Rauch (1999) sector classification and the information on the sector of the MNE and its affiliates, it can be tested if MNEs operating in sectors subject to greater differentiation react differently to the presence of different types of treaties. According to the literature, business transactions in differentiated sectors may expose firms to higher risk of double taxation (Blonigen et al., 2014) and greater contractual risk due to their relationship-specificity (Nunn, 2007). One could, thus, expect that IIA and DTT significantly affect MNE location decisions in differentiated sectors. This is particularly the case when the two types of treaties are combined because both risks mentioned above would be addressed, specifically if IIA with ISDS provides additional enforcement mechanism for DTT.

Results are reported in Table 4. The presence of a combination of IIAs and DTTs is found to only affect location decisions of firms operating in differentiated sectors (Column 1 and 3 in Table 4). I also find a strong confirmation of findings from Blonigen et al. (2014) as the presence of DTT only is statistically significant for MNEs operating in differentiated sectors only.[39] These results are further nuanced by differentiating the effect for different type of firms operating within the differentiated sectors. As such, dividing firms into the same groups as in the previous section, I find that only larger firms operating in differentiated sectors react to the presence of IIA and DTT with the first entry into the host economy (Columns 2 and 4). The same holds true for DTT only. IIA only also becomes (weakly) statistically significant for large firms operating in differentiated sectors in some regressions (Table A3.16). The combined effect of IIA and DTT is statistically significantly larger than the effect of DTT only for such firms. This supports the idea that the combination of IIAs and DTTs offers firms further certainty

[37] This is also consistent with evidence that firm's reliance on transfer pricing and transactions with tax haven countries depends on size (e.g. Bernard, Jensen, and Schott, 2006).

[38] It is also consistent with information on the costs of ISDS litigation, which may limit access for some firms.

[39] Blonigen et al. (2004) find that DTTs benefit more firms that use differentiated inputs more intensely. I do not have access to firm-level data on trade of inputs between MNEs and their affiliates but can identify the sectors in which the MNE operates itself and through its affiliates.

regarding tax treatment and other actions by the state through the availability of ISDS.

Table 4: Heterogenous Effects: Treaty and MNE Characteristics - The Role of Sectors.

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})			
	LPM			
	Full Sample of Countries		**Countries with EIA Only**	
	(1)	(2)	(3)	(4)
IIA and DTT (t-1) with ISDS - Differentiated Sectors	0.008***		0.012***	
	(0.003)		(0.003)	
x Larger Firms		0.011***		0.016***
		(0.004)		(0.004)
x Smaller Firms		-0.012		-0.012
		(0.008)		(0.009)
IIA and DTT (t-1) with ISDS - Homogenous Sectors	0.004		0.010	
	(0.008)		(0.008)	
x Larger Firms		0.009		0.009
		(0.015)		(0.016)
x Smaller Firms		0.003		0.011
		(0.009)		(0.009)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES
Observations	877,046	877,046	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism. Differentiated sectors refer to those that are not available on an organized exchange nor have publicly quoted reference prices; the remaining sectors are treated as homogeneous. Rauch (1999) sector classification is used and the information on the sector of the MNE at 4-digit level (NAICS classification). Firms are classified as large when they have affiliates in a larger number of countries than the median for the entire period, and as small otherwise. See Table A3.16 for further results. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

4.3.4. Country Characteristics

Finally, all the different heterogeneous effects are brought together. As explained earlier, one of the predictions coming from theory (Ossa et al., 2020) is that IIAs should have a stronger effect in countries where domestic institutions are weaker, i.e. where the domestic legal system does not impose sufficiently strong constraints on the state not to renege on its promise *ex post* in the absence of IIAs.[40] In order to provide micro-economic evidence on this issue, I differentiate the effect of treaties by quality of host country's

[40] In Ossa et al. (2020) this is captured by parameter $\hat{p}$ that varies across countries and where $\hat{p} < 1$ signifies lack of full commitment on the part of the state (i.e. lower quality of institutions).

Table 5: Heterogeneous Effects by Treaty, MNE and Sector Characteristics – The Role of Institutions.

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})							
	LPM							
	Full Sample of Countries				**Countries with EIA Only**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
The Role of Institutions: Overall								
IIA and DTT (t-1) with ISDS x Low Quality of Institutions	0.009**				0.012***			
	(0.004)				(0.004)			
IIA and DTT (t-1) with ISDS x High Quality of Institutions	0.007				0.012***			
	(0.004)				(0.004)			
The Role of Institutions: Differentiated Sectors								
IIA and DTT (t-1) with ISDS x Low Quality of Institutions		0.009**				0.011***		
		(0.004)				(0.004)		
x Larger Firms				0.011**				0.015***
				(0.004)				(0.005)
x Smaller Firms				-0.010				-0.011
				(0.008)				(0.009)
IIA and DTT (t-1) with ISDS x High Quality of Institutions		0.008*				0.013***		
		(0.005)				(0.005)		
x Larger Firms				0.010*				0.016***
				(0.005)				(0.005)
x Smaller Firms				-0.020				-0.019
				(0.013)				(0.014)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
Observations	877,046	877,046	877,046	877,046	833,079	833,079	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism. The information on quality of institutions is based on the rule of law data from the World Bank's Worldwide Governance Indicators. Higher values of World Bank's estimates correspond to higher quality of institutions (or lower level of political risk). First a median score for each country is found for the whole period. Then countries are classified as having high-quality domestic institutions when they score at or above 75th percentile, and as low-quality otherwise (see Table A2.1. in Appendix 2 for a full list of countries). Differentiated sectors refer to those that are not available on an organized exchange nor have publicly quoted reference prices; the remaining sectors are treated as homogeneous. Rauch (1999) sector classification is used and the information on the sector of the MNE at 4-digit level (NAICS classification). Firms are classified as large when they have affiliates in a larger number of countries than the median for the entire period, and as small otherwise. For the description of the specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level. For brevity, only the coefficients on the combination of IIA and DTT with ISDS depending on the quality of the host country's domestic institutions are shown in Panel A and their interactions with sector- and firm characteristics in Panel B; see Table A3.17 for full results.

domestic institutions. The data on the rule of law come from Kaufmann, Kraay and Mastruzzi (2010) and the World Bank's Worldwide Governance Indicators is used to measure the quality of institutions, following Nunn (2007).[41]

Results are reported in Table 5. First, I find some evidence that IIAs with ISDS used in combination with DTTs increase more the probability of MNE first entry only in countries with lower quality of domestic institutions (Column 1). These findings are consistent with some earlier macroeconomic studies (e.g. Neymayer and Spess, 2005; Busse et al., 2010).[42] Yet, once the effect is also differentiated by firm size and sector, IIAs with DTTs and ISDS have a statistically significant and positive effect on large firms in differentiated sectors both in high- and low institutional quality institutional environments. These results are strengthened when the sample is restricted to a group of countries with an EIA at some stage during the sample period. This would highlight the dual role of a combination of IIAs with DTTs - not only to protect investors from political risks in low institutional quality countries but also risks associated with changes to tax treatment and other regulations in high institutional quality environments.

5. Spillover Effects

Even in the absence of direct treaty coverage between the home country of the MNE and the host country, an MNE can still gain investment protection through its affiliates in third countries. This possibility makes studying potential indirect effects of such treaties useful to understand the full mechanism through which IIAs may influence MNE entry. This is also relevant considering that ISDS cases are often filed by subsidiaries of MNEs located in different jurisdictions to maximise the extent of protection available (so-called treaty- and venue-shopping). To study such possible indirect effects, I adapt my baseline, in particular relaxing the earlier used host-sector-year fixed effects (δ_{jst}), and include a set of relevant country controls instead. Formally, this can be expressed as:

$$E^{MNE}_{fsijt} = \sum_z \beta_{1,z}\theta_z IIA_{ijt-1} + \sum_z \sum_k \beta_{k,z}\theta_z OEIA^k_{ijt-1} + \sum_z \sum_l \beta_{l,z}\theta_z CIIA^l_{ijt-1} + \sum_z \beta_{2,z}\theta_z COEIA_{ijt-1} + \beta_3 MNE_{f(i)jt-1} + \beta_4 BILAT_{ijt-1} + \theta_{f(si)j} + \gamma_{f(si)t} + \beta_5 HOST_{jt-1} + \varepsilon_{fsijt} \quad (3)$$

[41] As in Nunn (2007), I also test alternative metrics, such as control of corruption or political stability, and obtain similar results. See the note to Table 5 for further information.

[42] Earlier empirical studies exploring the role of quality of institutions in reducing or strengthening the effect of IIAs on FDI flows have found mixed results. For example, Hallward-Driemeyer (2003) finds that BITs have a stronger effect in countries with more developed institutions. In turn, Neumayer and Spess (2005) and Busse et al. (2010) find that BITs have a stronger effect in less institutionally developed environments.

where $\beta_5 HOST_{jt-1}$ is a vector of host country controls, including in particular networks of treaties (e.g. Egger and Larch, 2008; Chen and Joshi, 2010; Bergstrand and Egger, 2013) - using all the EIA combinations from the baseline -, and capital knowledge model country-level controls used earlier (all lagged by one period).

Table 6 presents the results. First, I rerun the baseline regression for a sample of countries with information on treaty content while relaxing host-sector-year fixed effects and including treaty-network controls instead (Column 1).[43] I then add bilateral country controls from the capital knowledge model (Column 2). Panel A reports the coefficients on a bilateral treaty between the host and home and Panel B the coefficients on treaties with third countries. Results are presented separately for a sample of countries with bilateral EIAs (Columns 3-4) and those without (Columns 4-5). In doing this, I follow the literature that aims to distinguish econometrically between direct and indirect effects of policy interventions (Redding and Turner, 2014).

For the sample of countries with bilateral EIAs in place (Column 3), I observe a statistically significant and positive effect on the first MNE entry of both the presence of IIA with DTT between the host and home (*direct effect*) and with a third country (*indirect effect*), whereby the direct effect is statistically significantly stronger. For the sub-sample of countries that do not have a bilateral EIA in place (Column 5), i.e. only *indirect effect* of treaties can be observed, I still find a positive and statistically significant effect of an IIA-DTT combination signed outside of the host-home country pair. The sample size for the latter group is small, however, and the results are statically significant only at 10% level. It is also likely to be a particular group of countries. Yet, taken together, these results are indicative of potential spillover effects of treaties on MNE entry.

When I differentiate the effect depending on treaty content, I find that it is again only the combination of IIA and DTT with ISDS that has a statistically significant indirect effect for both groups of countries (Columns 4 and 6). This suggests that it is specifically the access to the ISDS enforcement mechanism via a third country that influences firm entry indirectly rather than an overall signalling effect of having any IIA in place. I also allow the indirect effect of an IIA-DTT combination with ISDS to vary depending on whether it is the first ISDS treaty ever signed by the host state or not (not reported). I find that the effect of the first treaty with ISDS is stronger than that of subsequent treaties (coefficients are statistically different from each other) for the group of countries without a bilateral EIA in place. This suggests that there could be a potential "open barn-door" effect, whereby the first treaty with ISDS may already allow investors to seek protection through their affiliates to enter a given market.

[43] Specifically, I include a dummy equal to 1 if a given host country has at least one other treaty of a given combination with third countries for each of the combinations used in the baseline in Table 1.

Table 6: Heterogeneous Effects: Treaty Characteristics – The Role of the Network of Treaties.

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	Full Sample of Countries		**Countries with EIA Only**		**Countries with No EIA Only**	
	Panel A. Direct Effect					
	(1)	(2)	(3)	(4)	(5)	(6)
IIA and DTT (t-1)	0.010***	0.011***	0.011***		-	-
	(0.004)	(0.004)	(0.004)			
IIA and DTT (t-1) - with ISDS				0.011**	-	-
				(0.004)		
IIA and DTT (t-1) - without ISDS				-0.016	-	-
				(0.010)		
	Panel B. Indirect Effect					
IIA and DTT (t-1)	0.007***	0.007***	0.005***		0.010*	
	(0.002)	(0.002)	(0.002)		(0.006)	
IIA and DTT (t-1) - with ISDS				0.003**		0.010*
				(0.001)		(0.005)
IIA and DTT (t-1) - without ISDS				-0.002		-0.007
				(0.006)		(0.055)
Host-Sector-Year Fixed Effects	NO	NO	NO	NO	NO	NO
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Treaty Networks with Third Countries (t-1)	YES	YES	YES	YES	YES	YES
Capital Knowledge Model Controls (t-1)	NO	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	877,046	865,472	829,855	829,855	18,898	18,898

Note: ISDS refers to Investor-State Dispute Settlement Mechanism. Robust standard errors (in parenthesis) are clustered by host-home country pair. Host-sector-year effects are relaxed and replaced with country controls, including in particular dummies on the presence of treaties with third-countries in all combinations in the baseline. Capital knowledge model controls (lagged by one period) refer to the sum and squared differences in real GDP (in logs) and an absolute difference in human capital (in logs) between the host and home country. Columns 1-2 report the results for the full sample, Columns 3-4 for the sample of countries with EIA only and Columns 5-6 for the sample of countries with a bilateral EIA in place. For the description of the specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

6. Concluding Remarks

The spread of IIAs and other agreements over the last few decades has been an important economic phenomenon. It has coincided with the proliferation of MNEs globally. This paper aimed to assess the extent to which these two trends are related, and specifically if IIAs affect MNEs expansion decisions at the extensive margin. Macro-economic studies on the subject have been numerous. Yet, they have been unable to establish the effect of IIAs on different margins of MNE activity and have suffered from methodological limitations. Meanwhile, micro-economic papers have been scarce, leaving ample room for "bringing the firm back in" (Danzman, 2019).

This paper provided novel micro-level evidence on the effect of IIAs, in combination with other agreements, on MNE first entry in a multi-country context. It also explored possible heterogeneous effects along several relevant dimensions - treaty design and firm-, sector- and country characteristics -, not studied thus-far in macroeconomic setting to shed light on the mechanism through which treaties affect MNE entry. It found positive and statistically significant effect of IIAs combined with DTTs on first MNE entry. Still, this effect holds only in very specific contexts, i.e.: 1) for treaties with ISDS; 2) country pairs not involved in an ISDS case; 3) larger, older and well-established MNEs in differentiated sectors; 4) and mostly lower quality institutional settings.

Also, much remains unknown. Due to data limitations, the paper looked at the effect of treaties on MNE entry decisions only. Their effects on the intensive margin (e.g. value of investment or number of employees) is also relevant. The paper also does not examine welfare implications of IIAs. Meanwhile, new entrants can have different features, and may contribute positively or negatively to the development of host economies. Stimulating MNE entry, IIAs may lead to above-optimal level of investment (e.g. Aisbett et al. 2010a) or provoke aggressive behaviour of firms in the market (e.g. Ossa et al., 2020; Schjelderup and Stähler, 2021). There may also be second-order effects if MNEs enter industries with important externalities, or affects the state's right to regulate. These are highly relevant topics that deserve to be thoroughly analysed.

Given the centrality of the ISDS mechanism in the policy debate and the empirical findings in this paper, its design and use by firms also deserves a further study. Who are the suing firms? What explains the rapid rise in ISDS disputes over time, and to what extent it is driven by changes to the system itself? A thorough analysis of the behaviour of ISDS claimant firms, and its evolution over time, can help shed light on this key issue.

Finally, a question remains whether IIAs are the most suitable and effective policy tool to help governments attract FDI. Firm-level assessments of other policy instruments on firm investment decisions can help policy-makers decide on the right policy mix.

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Appendix 1.
The Interplay between IIAs and DTTs

Both IIAs and DTTs deal with, and aim to constrain, state's regulatory rights to facilitate MNE activity. While DTTs clarify and harmonise cross-border tax rules (e.g. coordinating double-taxation relief); IIAs protect investors from unfair and discriminatory treatment and state actions that can amount to expropriation, which may apply to tax matters. Also, while DTTs deal with tax rules and not tax rates, changes to tax rates or fiscal treatment of firms may benefit from IIA protection and result in ISDS disputes.[44]

The interplay between IIAs and DTTs, discussed in the legal and policy literature,[45] can range from an overlapping scope to mutually exclusive area of application.[46] Yet, as stated by UNCTAD (2020), most IIAs do not exclude taxation from their scope, which means that a wide range of tax-related measures, whether of general or specific application, are covered by them.[47] Even with carve-outs, investment arbitration tribunals have found that if state tax-related actions have an expropriatory effect, firms may still be eligible to protection under IIAs (IBFD, 2015: 78).

There is currently an ongoing debate about the interaction between the state-to-state dispute-settlement mechanism available under DTTs, i.e. Mutual Agreement Procedures (MAP), and the investor-state dispute settlement mechanism (ISDS) available in IIAs. For example, UNCTAD (2020) highlights areas of potential overlap, including the fact that proceedings can be initiated simultaneously under MAP and ISDS and that the outcome of a MAP itself can give rise to ISDS cases. The private sector also highlights the attractiveness of ISDS in light of MAPs' shortcomings.[48] The fact that tax matters concern at least 14% of all known ISDS cases recorded in the UNCTAD ISDS cases database (amounting to USD 193.16 billion in sought damages), suggests that tax matters are highly relevant to investors using the IIA regime, in general, and ISDS, in particular.

[44] There is a number of ISDS cases under IIA regime initiated against countries that withdrew or changed fiscal incentives to firms (e.g. Charanne and Construction Investments v. Spain, SCC Case No. V 062/2012 or Isolux Netherlands, BV v. Kingdom of Spain, SCC Case V2013/153) or applied retroactive changes to tax rules, e.g. Vodafone International Holdings BV v. India, PCA Case No. 2016-35, 2020.

[45] e.g. Sauvant and Sachs (2009), IBFD (2015), UNCTAD (2020).

[46] For example, an IIA may contain an explicit hierarchy of application between an IIA and DTT; contain a partial carve-out that tends to exclude tax matters from IIA's national treatment and MFN clauses; or a full carve-out that tends to exclude tax matters from all clauses other than expropriation (IBFD, 2017: 54).

[47] For example, Blonigen et al. (2014) analysed the effect of DTTs on MNEs from United States, where a full tax carve-out applies. Yet, globally, partial rather than full tax carve-out in IIAs are more frequent.

[48] e.g. "(...) from a business perspective and absent alternative remedies, the availability of arbitration under a BIT is clearly positively welcomed. First, it allows the taxpayer to take positive action to resolve the dispute, which is currently not available under double taxation conventions. In addition, the taxpayer does not need to wait for final taxation to be imposed – it can proceed with arbitration in an attempt to pre-empt taxation that would result in a breach of its investor's rights under the BIT." (IBFD, 2015)

Appendix 2.
Data Construction

Data used in this paper comes from several different sources, including firm-level data on the location of MNEs from OECD countries and their foreign affiliates worldwide as well as country-level and country-pair level data on the coverage and content of international economic integration agreements. The preparation of the combined dataset involved several data-cleaning and harmonisation steps, described below.

Firm-Level Data

Information on the ownership links between the MNE parent and affiliate firms and other firm-level information used in this paper (e.g. location, business activity and legal status) come from the ORBIS database of Bureau van Dijk (BvD).[49] Ownership, company and legal information from ORBIS is exploited to capture in a meaningful manner ownership links between firms and identify comparable firms to construct the sample of MNEs and their affiliates reporting required information for years 1990-2010.

First, I include affiliates that are majority-controlled at the level of a global ultimate owner (i.e. the last identifiable owner in the ownership chain that owns at least 50.01% of the affiliate's shares) by their parent MNE, and for which the location and date of incorporation is known.[50] This focus, including on majority-control, is appropriate for several reasons. It allows for a clear identification of the nationality of a firm, which is necessary for a study of the impact of IIAs on MNE investment decisions.[51] It also permits an analysis of changes in the ultimate ownership, regardless of changes in intermediate corporate structures that could be driven by tax planning. In addition, majority-controlled firms account for a majority of firms with an ultimate owner in the dataset, and this is confirmed by other studies using ORBIS (e.g. Fans Rosen et al., 2018). It is also a threshold used in the official statistics on activities of foreign affiliates (FATS).

I also undertake several other cleaning and harmonisation steps. For example, I exclude MNEs or affiliate firms that have become bankrupt or have been closed down at any point of time. I also consider only ownership links that are active, i.e. those links that have been verified by BvD to be accurate and active as of a specific date for which the data is available. I also remove branches as they do not have a different legal

[49] The ORBIS database offers one of the richest sources of firm-level data with ownership and financial information available for a number of countries over time. In particular, it has been shown to have good coverage and representativeness for OECD countries and large firms (Kalemli-Özcan et al., 2015; Fans Rosen et al., 2018) and was used in several recent studies (Alfaro and Chen, 2018; Chen and Bao, 2018).

[50] Records in ORBIS can include firms located in unidentified countries and with unknown date of creation.

[51] See e.g. OECD (2006) and OECD (2016) for the discussion of the role of nationality for treaty protection.

entity from the parent firm, likely involve a different fixed entry cost structure, and may also not be explicitly protected under some treaties. In addition, in some regressions, only parents and affiliates with clearly identifiable 4-digit level sector (using NAICS classification) are retained in order to appropriately account for the sectoral distribution of parents and their affiliates. In terms of date of creation, in case of affiliate firms, only firms created between 1990 and 2010, the period of analysis, are kept, while MNEs are allowed to be created at any point of time.[52] Finally, I consider only MNEs with at least one foreign affiliate in one country at some stage during the sample period in order to explore the effect of treaties on MNEs' decision to open foreign affiliates.

These steps allow us to ensure that I capture meaningful ownership links between companies and identify correctly protection provided by treaties to firms. The firm-level dataset created in this way is merged with information on country characteristics and coverage of international economic integration agreements, discussed next.

Country- and Bilateral Country-pair Level Data

The information on country-pair economic integration agreements comes from several complementary sources, including UNCTAD, the World Bank, the World Trade Institute (2020), Baier et al. (2014), Kohl et al. (2016), the OECD and Global Forum on Transparency and Exchange of Information to ensure maximum coverage and accuracy possible. For example, in case of IIAs, whenever the date of signature of the treaty was missing in one database, the information was provided from the other database or complemented with the information from the treaty text itself. When a country pair has signed more than one IIA, the date of the first agreement signed is taken as the start of treaty protection. If the IIA has been terminated and not replaced by another IIA, the observations for a given country pair are treated as missing in order not to confound the potential effect of treaty signature and termination. The information on the scoring of provisions of IIAs, specifically the information on the presence of ISDS, comes from UNCTAD mapping of treaty content.[53]

Other country- and country-pair-level data come from several different sources, including the World Bank, UN COMTRADE and UNCTAD. Given a long time period of analysis, several countries have undertaken jurisdictional changes that needed to be taken into account during the data preparation. For example, missing trade data for countries previously belonging to former Czechoslovakia and Yugoslavia have been

[52] In our robustness checks, I also test if results change when I consider only MNEs that had been created prior to 1990 and have been active throughout 1990-2010, and results remain unchanged.

[53] Whenever information on the inclusion of ISDS provision is not available because the treaty was not scored, the observation is treated as missing in regressions on treaty content.

attributed to the respective modern-day jurisdiction using GDP data;[54] and other missing data for few countries at the start of the period have been extrapolated.

List of home countries in the sample: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Rep., Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.

List of host countries in the sample: Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Bermuda, Bolivia, Bosnia and Herzegovina, Brazil, Brunei Darussalam, Bulgaria, Cabo Verde, Cambodia, Cayman Islands, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Croatia, Cuba, Curacao, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Guatemala, Honduras, Hong Kong, China, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Korea, Rep., Kuwait, Lao PDR, Latvia, Lebanon, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, FYR, Madagascar, Malaysia, Malta, Mauritius, Mexico, Moldova, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, Rwanda, Saudi Arabia, Senegal, Serbia, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, St. Kitts and Nevis, Sweden, Switzerland, Tanzania, Thailand, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Venezuela, Vietnam, Zambia.

List of tax havens[55]**:** Andorra, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belize, British Virgin Islands, Cook Islands, Dominica, Gibraltar, Grenada, Guernsey, Isle of Man, Jersey, Liberia, Liechtenstein, Maldives, Marshall Islands, Monaco, Montserrat, Nauru, Netherlands Antilles; Niue; Panama; Samoa; Seychelles; St. Lucia; St. Kitts Nevis; St. Vincent and the Grenadines; Tonga; Turks and Caicos; U.S. Virgin Islands and Vanuatu.

[54] A similar strategy was pursued for Belgium and Luxembourg that record trade data for the Belgium-Luxembourg Economic Union (BLEU) prior to 1997.

[55] According to the OECD classification. Hines (2010) and Tørsløv, Wier and Zucman (2018) additionally include several countries, notably European economies.

Table A2.1: Country Classification according to Quality of Institutions

High Quality of Domestic Institutions (Median 1996-2010)		
Political Stability	**Rule of Law**	**Control of Corruption**
Australia	Australia	Australia
Austria	Austria	Austria
Barbados	Barbados	Barbados
Brunei Darussalam	Belgium	Belgium
Cabo Verde	Bermuda	Bermuda
Czech Republic	Cayman Islands	Cayman Islands
Denmark	Chile	Chile
Finland	Cyprus	Cyprus
Germany	Denmark	Denmark
Hong Kong SAR, China	Finland	Estonia
Hungary	France	Finland
Iceland	Germany	France
Ireland	Hong Kong SAR, China	Germany
Japan	Hungary	Hong Kong SAR, China
Liechtenstein	Iceland	Iceland
Luxembourg	Ireland	Ireland
Malta	Israel	Israel
Mauritius	Japan	Japan
Monaco	Liechtenstein	Liechtenstein
Netherlands	Luxembourg	Luxembourg
New Zealand	Malta	Netherlands
Norway	Mauritius	New Zealand
Oman	Netherlands	Norway
Portugal	New Zealand	Portugal
Qatar	Norway	Singapore
Singapore	Portugal	Slovenia
Slovak Republic	Singapore	Spain
Slovenia	Slovenia	Sweden
Sweden	Spain	Switzerland
Switzerland	Sweden	United Kingdom
The Bahamas	The Bahamas	The Bahamas
United Arab Emirates	Switzerland	Uruguay
	United Kingdom	

Note: Countries are classified as having high- or low quality of domestic institutions using the data on political stability and absence of violence, rule of law and control of corruption from the World Bank's Worldwide Governance Indicators database. First a median score for each country is found for the whole period. Then countries are classified as having high-quality domestic institutions when they score at or above 75^{th} percentile, and as low-quality otherwise. The table provides a list of countries with high-quality institutions; the remaining countries being classified as having low-quality institutions.
Source: Author's calculations using the World Bank's Worldwide Governance Indicators.

Appendix 3.
Tables and Figures

Figure A3.1: Spread of Economic Integration Agreements Over Space and Time, 1990-2010

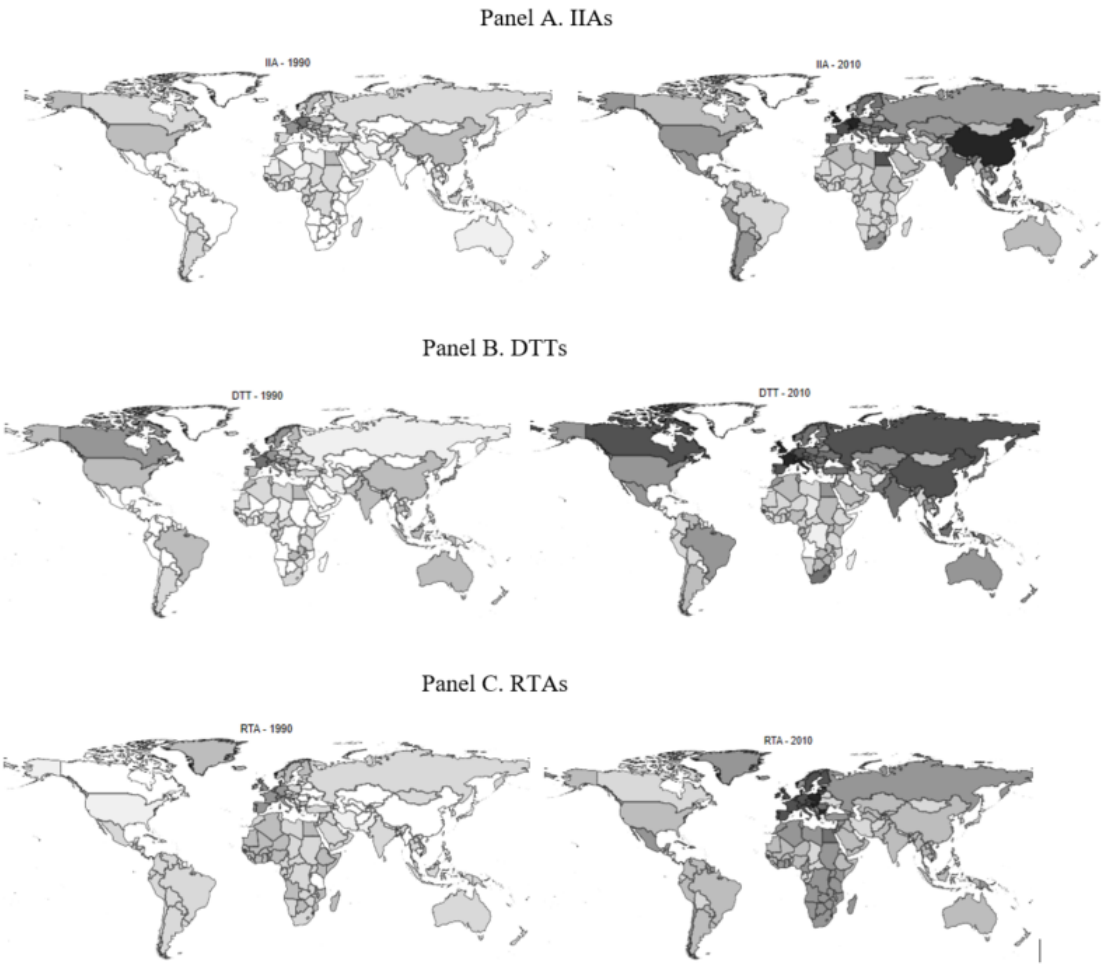


Figure A3.2: Number of Countries with Affiliates of MNEs from OECD Countries, 1990-2010

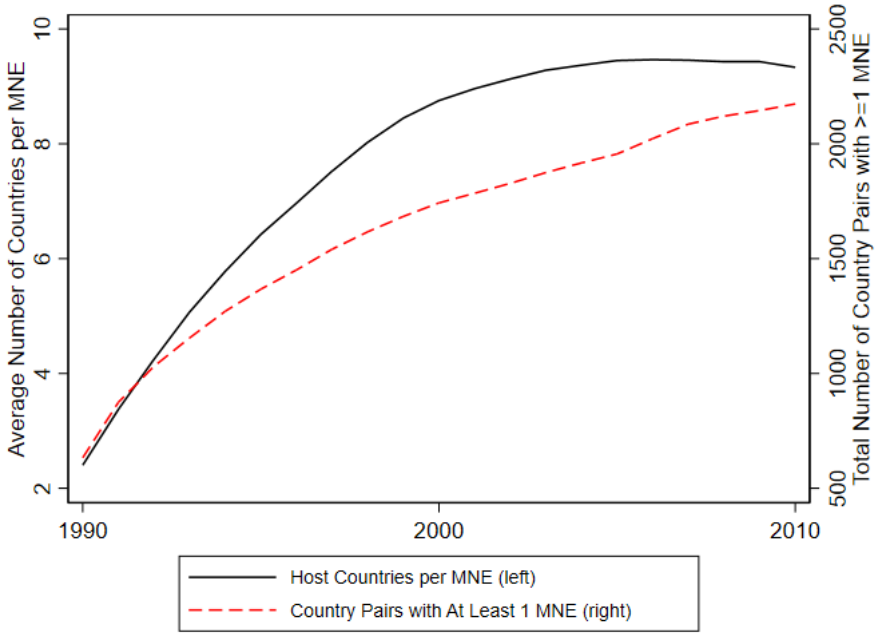


Figure A3.3: Number of MNE First Entries and Incidence of New IIAs, 1990-2010

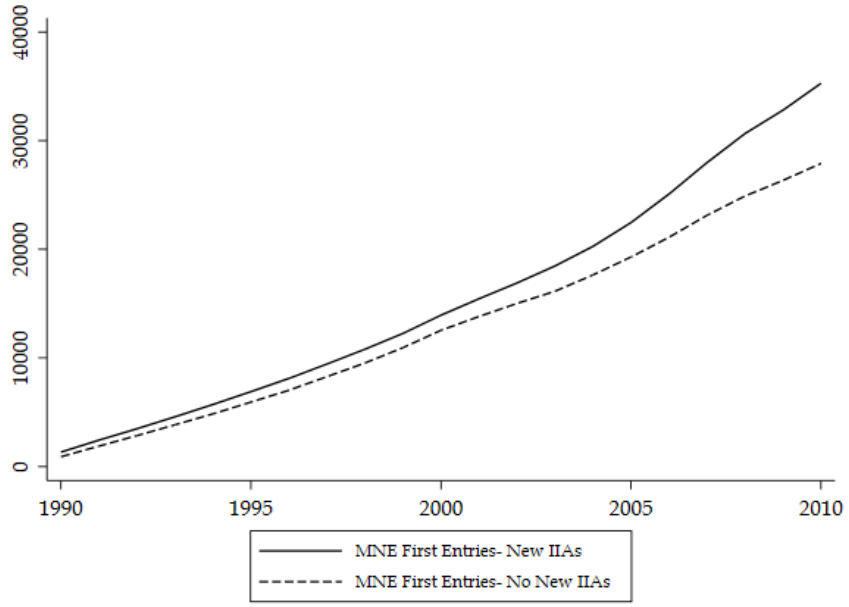
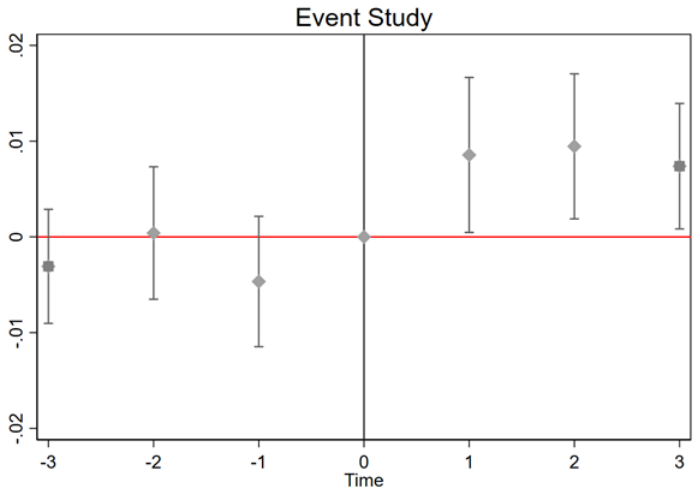


Figure A3.4: Robustness Check: Event Study.



Note: 90% confidence intervals are based on robust standard errors clustered by host-home country pairs. The graph shows the estimated coefficient on the IIA and DTT dummies for different time periods (t-3, t-2, t-1, t0, t+1, t+2, t+3) from a regression of the first entry of an MNE on the dummies for different combinations of treaties and relevant controls and sets of fixed effects used in the baseline regression in Table 1 (for further details see the note to Table 1).

Table A3.1: Overview of Recent Economic Studies on the Effect of IIAs on FDI and MNE Activity.

Study	Empirical Finding	Country coverage	Time coverage
Effects of IIAs on Aggregate FDI			
Hallward-Driemeyer (2003)	0/-	20 home and 31 host countries	1980-2000
Egger and Pfaffermayr (2004)	+	19 home and 54 host countries	1982-1997
Tobin and Rose-Ackerman (2005)	0/-	63 countries host countries	1980-2000
Neumayer and Spess (2005)	+	120 countries	1970-2001
Egger and Merlo (2007)	+	24 home and 28 host economies	1980-2001
Busse et al. (2010)	+	28 home and 83 host economies	1978-2004
Berger et al. (2011)	+/0	14 home and 83 host economies	1978-2004
Berger et al. (2013)	+/-	28 home and 83 host countries	1978-2004
Dixon and Haslam (2016)	+/-	25 host and home countries	1990–2008
Falvey and Foster-McGregor (2017)	+	22 home and 101 host countries	1985-2011
Aisbett et al (2018)	+/-	39 home and 83 host	1980-2010
Effects of IIAs on Firm-Level Outcomes			
Egger and Merlo (2012)	+	1 home and 86 host countries	1996-2005

Table A3.2: Summary Statistics

	Observations	Mean	SD	Min	Median	Max
First MNE Entry (E_{fiit}^{MNE})	1,287,263	0.05	0.21	0	0	1
IIA only	1,255,259	0.06	0.23	0	0	1
PTA only	1,255,259	0.02	0.13	0	0	1
DTT only	1,255,259	0.18	0.38	0	0	1
IIA and PTA	1,255,259	0.11	0.31	0	0	1
IIA and DTT	1,255,259	0.11	0.31	0	0	1
RTA and DTT	1,255,259	0.08	0.26	0	0	1
All treaties	1,255,259	0.36	0.48	0	0	1
MNE No. Foreign Affiliates (w/o Host)	1,287,263	14.14	32.6	0	2	615
MNE No. Foreign Affiliates in Host	1,287,263	0.96	2.55	0	1	244
MNE No. Countries	1,287,263	6.66	9.49	0	2	65
MNE No. Sectors	1,248,001	5.01	7.23	0	2	70
Bilateral MNE Stock	1,287,263	4,969.65	8,368.66	1	2,070.00	54,020.00
Bilateral Trade (log)	1,283,274	15.79	2.01	1.61	16.07	19.86

Table A3.3: Overview of Treaty Coverage

	Share of obs. with an EIA	Share of EIA switches
IIA only	6%	9%
PTA only	4%	1%
DTT only	16%	9%
IIA and PTA	13%	20%
IIA and DTT	10%	13%
RTA and DTT	11%	3%
All treaties	40%	44%

Table A3.4: Robustness Check: Alternative MNE Controls

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})			
	LPM			
	Firm-Year Fixed Effects	**Basic MNE Controls**	**Additional Lags on MNE Controls**	**Additional MNE Controls**
	(1)	(2)	(3)	(4)
IIA only (t-1)	0.000	0.000	0.001	0.002
	(0.003)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.005	0.003	0.006	0.006
	(0.005)	(0.004)	(0.005)	(0.004)
DTT only (t-1)	0.004**	0.004**	0.005**	0.004*
	(0.002)	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.002	0.002	0.004	-0.001
	(0.004)	(0.003)	(0.004)	(0.003)
IIA and DTT (t-1)	0.010***	0.009***	0.010***	0.012***
	(0.003)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.005	0.000	0.002	0.001
	(0.004)	(0.004)	(0.005)	(0.004)
All treaties (t-1)	-0.000	-0.000	0.002	-0.002
	(0.003)	(0.003)	(0.003)	(0.003)
Firm-Host Fixed Effects	YES	YES	YES	YES
Host-Sector-Year Fixed Effects	YES	YES	YES	YES
Home-Sector-Year Fixed Effects	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	NO	NO	NO
Bilateral Country-Pair Trade Controls	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES
Observations	902,398	1,208,712	1,126,961	1,174,180

Note: IIA refers to International Investment Agreement; PTA refers to Preferential Trade Agreement; DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host-home country pairs. Columns 2-4 do not include firm-year fixed effects included in the baseline (Column 1) and instead include various MNE controls. Column 2 only includes the log of the number of foreign affiliates of the MNE globally outside of the host country (lagged by one period), also included in the baseline, as a time-variant MNE control. Column 3 also includes two- and three-year lags of that variable. Column 4 additionally incorporates the total number of countries and sectors in which the MNE operates globally (each lagged by on period). For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.5: Robustness Check: Alternative Sets of Country Controls and Fixed Effects

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})						
	LPM						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
IIA only (t-1)	0.000	-0.003	-0.003	-0.003	0.000	0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	-0.002	-0.000	-0.001	0.000	0.003	0.003	0.002
	(0.002)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)
DTT only (t-1)	-0.002	-0.002	-0.002	-0.001	0.003*	0.004*	0.004*
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	0.000	0.000	-0.000	0.001	0.005	0.004	0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
IIA and DTT (t-1)	0.003**	0.008***	0.008***	0.007***	0.008***	0.008***	0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.001	-0.002	-0.002	-0.000	0.000	0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)
All treaties (t-1)	0.003*	0.000	-0.000	-0.001	0.002	0.002	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
Host-Home Fixed Effects	NO	NO	NO	NO	YES	YES	YES
Home-Sector-Year Fixed Effects	NO	NO	NO	NO	YES	YES	YES
Host-Sector-Year Fixed Effects	NO	NO	NO	NO	YES	YES	YES
Additional Host Country Controls (t-1)	NO	NO	NO	YES	NO	NO	NO
Capital Knowledge Model Controls (t-1)	NO	NO	YES	YES	YES	NO	NO
Treaty Networks with Third Countries (t-1)	NO	YES	YES	YES	NO	NO	NO
Bilateral Country-Pair Trade Controls (t-1)	NO	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	NO	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Observations	1,214,302	1,210,954	1,197,856	1,181,986	1,197,793	1,210,844	902,398

Note: IIA refers to International Investment Agreement; PTA refers to Preferential Trade Agreement; DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host-home country pairs. (Time-variant) MNE-host country affiliate controls refer to the log of the number of foreign affiliates of the MNE globally outside of the host country (lagged by one period). Bilateral country-pair trade controls refer to the log of the sum of bilateral exports and imports between the host and home country (lagged by one period) and bilateral country-pair MNE controls refer to the stock of MNEs from the home country in the host country (lagged by one period). Capital knowledge model controls (lagged by one period) refer to the sum and squared differences in real GDP (in logs) and an absolute difference in human capital (in logs) between the host and home country. Additional host country controls refer to trade and investment costs; the former referring to a standard measure of trade openness (100 minus the trade share of total GDP, lagged by one period) and the latter to the quality of institutions associated with sound business climate (lagged by one period) sourced from the World Bank's World Governance Indicators. For comparison, Columns 2-5 report results for the sample of observations used in Column 1 in Table 1 with baseline specification (including host-home, host-sector-year, home-sector-year fixed effects). Column 6 reports the results for the final sample used in Column 6 in Table 1 and retained as preferred specification in the paper. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.6: Robustness Check: Endogeneity Concerns

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})							
	LPM							
	Baseline	**Placebo Test: Baseline**	**Placebo Test: Placebo**	**Time Trend**	**Countries with EIA Only**	**Excluding Largest MNEs (p99)**	**Medium-Sized MNEs (p25-p75)**	**Excl. Largest Home Countries**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IIA only (t-1)	0.000	0.000	-0.002	0.003	0.004	0.001	-0.001	0.000
	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.005)	(0.003)
PTA only (t-1)	0.005	0.002	0.008	0.004	0.008	0.005	0.011	0.001
	(0.005)	(0.005)	(0.006)	(0.006)	(0.005)	(0.005)	(0.008)	(0.005)
DTT only (t-1)	0.004**	0.004*	0.000	0.003	0.005**	0.004*	0.010***	0.003
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.004)	(0.004)
IIA and PTA (t-1)	-0.002	-0.004	0.004	0.002	0.002	-0.001	0.004	-0.002
	(0.004)	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.007)	(0.005)
IIA and DTT (t-1)	0.010***	0.012***	-0.003	0.010***	0.013***	0.010***	0.015***	0.010***
	(0.003)	(0.004)	(0.005)	(0.004)	(0.003)	(0.003)	(0.005)	(0.004)
PTA and DTT (t-1)	0.005	0.003	0.007	0.003	0.008*	0.004	0.000	0.002
	(0.004)	(0.005)	(0.006)	(0.006)	(0.004)	(0.004)	(0.008)	(0.005)
All treaties (t-1)	-0.000	-0.001	0.004	0.005	0.004	-0.001	-0.001	0.001
	(0.003)	(0.004)	(0.005)	(0.004)	(0.003)	(0.003)	(0.007)	(0.004)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES	YES
Observations	902,398	794,400	735,658	902,398	859,521	884,653	474,741	663,410

Note: Robust standard errors (in parenthesis) are clustered by host-home country pairs. Column 1 reports the baseline. Columns 2-3 present the results of the placebo test: first, the instance of the first signed combination of a IIA and DTT is identified and only observations until that treaty switch are retained. Using this new sample, the effect of that first signature on the first MNE entry is estimated as a baseline (Column 3); then the lead of that first treaty pair is taken and used as a placebo (Column 4). Column 4 includes the host-home country pair time trend. Column 5 reports results excluding from the sample country pairs that have no bilateral EIA in place during the sample period and Column 6 excludes the top 99 percentile of MNE firms in terms of the total number of affiliates globally. Column 7 excludes all firms below 25th and above 75th percentile in terms of the number of foreign affiliates globally. Column 8 excludes the largest home countries from the sample (top 99th percentile). For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.7: Robustness Check: Inclusion of Capital Knowledge Model Controls

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	(1)	(2)	(3)	(4)	(5)	(6)
IIA only (t-1)	0.000	-0.000	0.000	-0.000	-0.000	0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.005	0.005	0.005	0.005	0.004	0.003
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
DTT only (t-1)	0.004*	0.003	0.003	0.002	0.002	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.001	-0.001	-0.001	-0.001	0.003	0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)
IIA and DTT (t-1)	0.010***	0.009***	0.010***	0.009***	0.009***	0.008***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.005	0.005	0.004	0.004	0.000	0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
All treaties (t-1)	0.001	0.000	0.000	-0.000	0.000	0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Host-Home Fixed Effects	NO	NO	NO	NO	NO	YES
Home-Sector-Year Fixed Effects	NO	NO	NO	NO	YES	YES
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	NO
Firm-Year Fixed Effects	YES	YES	YES	YES	NO	NO
Bilateral Country-Pair Trade Controls (t-1)	YES	NO	YES	NO	NO	NO
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	NO	NO	NO	NO
Capital Knowledge Model Controls (t-1)	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	890,297	891,961	890,297	891,961	1,197,484	1,199,605

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host-home country pairs. Capital knowledge model controls (lagged by one period) refer to the sum and squared differences in real GDP (in logs) and an absolute difference in human capital (in logs) between the host and home country. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.8: Robustness Check: Additional Treaty Controls

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})	
	LPM	
	Baseline	**Additional Treaty Controls**
	(1)	(9)
IIA only (t-1)	0.000	0.002
	(0.003)	(0.005)
PTA only (t-1)	0.005	0.005
	(0.005)	(0.008)
DTT only (t-1)	0.004**	0.006*
	(0.002)	(0.004)
IIA and PTA (t-1)	-0.002	0.004
	(0.004)	(0.005)
IIA and DTT (t-1)	0.010***	0.013**
	(0.003)	(0.005)
PTA and DTT (t-1)	0.005	0.004
	(0.004)	(0.008)
All treaties (t-1)	-0.000	0.005
	(0.003)	(0.005)
Host-Sector-Year Fixed Effects	YES	YES
Firm-Host Fixed Effects	YES	YES
Firm-Year Fixed Effects	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES
Additional Treaty Controls (t-2, t-3)	NO	YES
Observations	902,398	835,488

Note: IIA refers to International Investment Agreement; PTA refers to Preferential Trade Agreement; DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host-home country pairs. Additional treaty controls refer to two- and three year lags on the agreements dummies. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.9: Robustness Check: Clustering of Standard Errors

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	(1)	(2)	(3)	(4)	(5)	(6)
IIA only (t-1)	0.000	0.000	0.000	0.000	0.000	0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.005	0.005	0.004	0.004	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)
DTT only (t-1)	0.004*	0.004*	0.003	0.003	0.003	0.004
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)
IIA and PTA (t-1)	-0.002	-0.002	-0.002	-0.002	0.001	0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
IIA and DTT (t-1)	0.010**	0.009**	0.010**	0.009**	0.008***	0.008***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.005	0.005	0.004	0.004	-0.000	0.000
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
All treaties (t-1)	-0.000	-0.000	-0.001	-0.001	-0.001	0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
Host-Home Fixed Effects	NO	NO	NO	NO	NO	YES
Home-Sector-Year Fixed Effects	NO	NO	NO	NO	YES	YES
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	NO
Firm-Year Fixed Effects	YES	YES	YES	YES	NO	NO
Bilateral Country-Pair Trade Controls (t-1)	YES	NO	YES	NO	NO	NO
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	NO	NO	NO	NO
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	902,398	905,493	902,398	905,493	1,212,170	1,214,302

Note: IIA refers to International Investment Agreement; PTA refers to Preferential Trade Agreement; DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host country and home country (two-way). For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.10: Robustness Check: Compositional Effects

	LPM						
	Excl. Tax Havens (OECD)	**Excl. Tax Havens (Hines)**	**Excl. Tax Havens (Tørsløv et al.)**	**MNEs Present Throughout**	**Excl. China**	**Excl. CEE**	**Excl. EU**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
IIA only (t-1)	0.001	0.005*	0.006*	0.002	0.000	-0.002	0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.005	0.003	0.002	0.003	0.003	0.009*	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
DTT only (t-1)	0.004**	0.004*	0.005**	0.004*	0.004**	0.005**	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.002	-0.001	-0.002	-0.003	-0.002	-0.003	-0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
IIA and DTT (t-1)	0.010***	0.011***	0.013***	0.009***	0.009***	0.007**	0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.005	0.002	0.001	0.005	0.004	0.008*	0.007
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.006)
All treaties (t-1)	-0.000	0.000	0.001	-0.001	-0.000	-0.002	-0.004
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Observations	897,361	801,781	709,885	655,047	883,445	741,029	671,762

Note: Columns 1-3 present results of the baseline regression excluding affiliates located in tax havens, identified as being listed in different lists of tax havens prepared by the OECD (2010), Hines (2011) and Tørsløv, Wier and Zucman (2018) (from least to most restrictive list). Column 4 presents results only for MNEs present throughout the sample period (i.e. established prior 1990 and present throughout 1990-2010). Columns 5-7 exclude different types of countries. In particular, Column 5 excludes affiliates located in China, Column 6 affiliates located in the Central and Eastern Europe (CEE) and Column 7 all firms whose home country of the MNE and host country of the affiliate belong to the EU. Robust standard errors (in parenthesis) are clustered by host-home country pairs. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.11: Robustness Check: First Treaty Switch

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})		
	LPM		
	Full Sample of Countries	**One Treaty Switch Only**	**One Treaty Switch Only - Countries with EIA**
	(1)	(2)	(3)
IIA only (t-1)	0.001	0.000	0.005
	(0.003)	(0.004)	(0.003)
PTA only (t-1)	0.004	0.003	0.008
	(0.005)	(0.006)	(0.006)
DTT only (t-1)	0.004**	0.005**	0.006***
	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.002	-0.005	-0.000
	(0.004)	(0.005)	(0.005)
IIA and DTT (t-1)	0.010***	0.014***	0.018***
	(0.003)	(0.004)	(0.004)
PTA and DTT (t-1)	0.005	0.007	0.011**
	(0.004)	(0.005)	(0.005)
All treaties (t-1)	-0.000	0.003	0.007*
	(0.003)	(0.004)	(0.004)
Host-Sector-Year Fixed Effects	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES
Observations	902,398	728,733	684,837

Note: IIA refers to International Investment Agreement; PTA refers to Preferential Trade Agreement; DTT refers to Double-Taxation Agreement. Robust standard errors (in parenthesis) are clustered by host-home country pairs. Column 1 reports the baseline. Column 2 reports the results of the same regressions for a sample of countries that underwent one treaty switch only (i.e. countries that underwent one treaty switch only throughout the sample period and those that underwent multiple switches until the first switch). Columns 3 shows the same results additionally restricting the sample to countries that have a bilateral EIA in place at some point during the sample period. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.12: Robustness Check: EU Treatment

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	(1)	(2)	(3)	(4)	(5)	(6)
IIA only (t-1)	0.001	0.001	0.001	0.001	0.000	0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.007	0.006	0.006	0.006	0.003	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
DTT only (t-1)	0.004**	0.004**	0.004*	0.003	0.003	0.004*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.001	-0.001	-0.001	-0.001	0.002	0.003
	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)
IIA and DTT (t-1)	0.010***	0.010***	0.010***	0.010***	0.009***	0.008***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.004	0.004	0.003	0.004	-0.001	0.000
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
All treaties (t-1)	0.001	0.001	0.000	0.000	-0.000	0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Home-Sector-Year Fixed Effects	NO	NO	NO	NO	YES	YES
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	NO
Firm-Year Fixed Effects	YES	YES	YES	YES	NO	NO
Bilateral Country-Pair Trade Controls (t-1)	YES	NO	YES	NO	NO	NO
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	NO	NO	NO	NO
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	902,398	905,493	902,398	905,493	1,212,170	1,214,302

Note: The table reproduces Table 1 with baseline specification while changing the coding of the IIA variable to include all EU members regardless of whether they are covered by an additional bilateral or multilateral investment agreement or not. Robust standard errors (in parenthesis) are clustered by host-home country pairs. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.13: Robustness Check: Potential Changes to Treaties

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})		
	LPM		
	Any IIA Terminated	**IIA Not Ratified**	**IIA Replaced**
	(1)	(2)	(3)
IIA only (t-1)	0.001	0.001	0.002
	(0.003)	(0.003)	(0.003)
PTA only (t-1)	0.004	0.003	0.004
	(0.005)	(0.005)	(0.005)
DTT only (t-1)	0.004**	0.004**	0.004*
	(0.002)	(0.002)	(0.002)
IIA and PTA (t-1)	-0.002	-0.002	-0.002
	(0.004)	(0.004)	(0.004)
IIA and DTT (t-1)	0.010***	0.010***	0.009***
	(0.003)	(0.003)	(0.003)
PTA and DTT (t-1)	0.005	0.004	0.004
	(0.004)	(0.004)	(0.004)
All treaties (t-1)	-0.000	-0.000	-0.001
	(0.003)	(0.004)	(0.003)
Host-Sector-Year Fixed Effects	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES
Firm-Year Fixed Effects	NO	NO	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	NO	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES
Observations	898,853	871,647	872,083

Note: Robust standard errors (in parenthesis) are clustered by host-home country pairs. The table shows results of the baseline regression from Table 1 for different samples of countries: Column 1 excludes country pairs that have terminated any of their bilateral IIAs at any point of time during the sample period; Column 2 excludes country pairs that have not ratified their IIA during the sample period and Column 3 excludes country pairs with an IIA that was replaced by another IIA at any point during sample period. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.14: Heterogeneous Effects: Treaty Characteristics – The Role of ISDS Provisions and ISDS Cases

Panel A. Full Sample of Countries				
Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})			
LPM				
	(1)	(2)	(3)	(4)
IIA only (t-1)	0.000			
	(0.003)			
IIA only (t-1) - with ISDS		-0.000		
		(0.003)		
IIA only (t-1) - with ISDS - Binding			0.000	
			(0.003)	
IIA only (t-1) - with ISDS - Binding - Before or No ISDS Case				0.000
				(0.003)
IIA only (t-1) - with ISDS - Binding - After ISDS Case				-0.001
				(0.009)
IIA only (t-1) - with ISDS - Signalling Only			-0.003	-0.003
			(0.009)	(0.009)
IIA only (t-1) - without ISDS		0.011	0.011	0.011
		(0.013)	(0.013)	(0.013)
DTT only (t-1)	0.004*	0.004*	0.004*	0.004*
	(0.002)	(0.002)	(0.002)	(0.002)
IIA and DTT (t-1)	0.008**			
	(0.003)			
IIA and DTT (t-1) - with ISDS		0.008**		
		(0.003)		
IIA and DTT (t-1) - with ISDS - Binding			0.008**	
			(0.003)	
IIA and DTT (t-1) - with ISDS - Binding - Before or No ISDS Case				0.009***
				(0.003)
IIA and DTT (t-1) - with ISDS - Binding - After ISDS Case				-0.002
				(0.005)
IIA and DTT (t-1) - with ISDS - Signalling Only			0.005	0.005
			(0.006)	(0.006)
IIA and DTT (t-1) - without ISDS		0.004	0.004	0.004
		(0.011)	(0.011)	(0.011)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES
Observations	877,046	877,046	877,046	877,046

Panel B. Sample of Countries with EIA				
Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})			
	LPM			
	(1)	(2)	(3)	(4)
IIA only (t-1)	0.004			
	(0.003)			
IIA only (t-1) - with ISDS		0.004		
		(0.003)		
IIA only (t-1) - with ISDS - Binding			0.004	
			(0.003)	
IIA only (t-1) - with ISDS - Binding - Before or No ISDS Case				0.004
				(0.003)
IIA only (t-1) - with ISDS - Binding - After ISDS Case				0.001
				(0.009)
IIA only (t-1) - with ISDS - Signalling Only			-0.000	-0.000
			(0.010)	(0.010)
IIA only (t-1) - without ISDS		0.011	0.011	0.011
		(0.013)	(0.013)	(0.013)
DTT only (t-1)	0.005**	0.005**	0.005**	0.005**
	(0.002)	(0.002)	(0.002)	(0.002)
IIA and DTT (t-1)	0.012***			
	(0.003)			
IIA and DTT (t-1) - with ISDS		0.012***		
		(0.003)		
IIA and DTT (t-1) - with ISDS - Binding			0.012***	
			(0.003)	
IIA and DTT (t-1) - with ISDS - Binding - Before or No ISDS Case				0.012***
				(0.003)
IIA and DTT (t-1) - with ISDS - Binding - After ISDS Case				0.002
				(0.005)
IIA and DTT (t-1) - with ISDS - Signalling Only			0.008	0.008
			(0.007)	(0.007)
IIA and DTT (t-1) - without ISDS		0.006	0.006	0.006
		(0.012)	(0.012)	(0.012)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES
Observations	833,079	833,079	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism, and ISDS cases to disputes launched in the ISDS system. "Binding" refers to ratified agreements while "Signalling Only" refers to agreements that were signed but not ratified, i.e. the ISDS mechanism is not enforceable. "Before or no ISDS case" is a binary variable (interacted with the treaty variables) that takes a value of 1 in the periods before a case was started between the home country of the investor and the host state of the affiliate or when no such case has ever been started. "After ISDS case" is a binary variable (interacted with the treaty variables) that takes a value of 1 in the period when a case was started between the home country of the investor and the host country of the affiliate and all the following periods, and 0 otherwise. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.15: Heterogenous Effects by Treaty and MNE Characteristics – The Role of Size, Age and Experience.

Panel A. Full Sample of Countries							
Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})						
	LPM						
	Size (Affiliates)	**Size (Countries)**	**Size (Sectors)**	**Age (3 Years)**	**Age (5 Years)**	**Experience (3 Years)**	**Experience (5 Years)**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
IIA only (t-1) with ISDS - Smaller / Newer	-0.005	-0.005	-0.006	-0.003	-0.006	-0.008	0.003
	(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)	(0.005)
IIA only (t-1) with ISDS - Larger / Older	0.001	0.001	0.001	0.000	0.001	0.002	-0.002
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
IIA only (t-1) without ISDS - Smaller / Newer	-0.005	-0.005	-0.006	0.032	0.029	0.001	0.010
	(0.018)	(0.018)	(0.017)	(0.022)	(0.029)	(0.023)	(0.016)
IIA only (t-1) without ISDS - Larger / Older	0.019	0.019	0.020	0.007	0.006	0.013	0.012
	(0.014)	(0.014)	(0.015)	(0.013)	(0.013)	(0.014)	(0.014)
DTT only (t-1) - Smaller / Newer	-0.001	-0.001	-0.001	-0.004	-0.005	-0.001	0.002
	(0.007)	(0.007)	(0.008)	(0.006)	(0.006)	(0.008)	(0.005)
DTT only (t-1) - Larger / Older	0.005*	0.005*	0.005*	0.005**	0.005**	0.005	0.004
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.004)
IIA and DTT (t-1) with ISDS - Smaller / Newer	-0.010	-0.010	-0.009	0.001	-0.005	-0.007	0.003
	(0.007)	(0.007)	(0.008)	(0.007)	(0.006)	(0.008)	(0.005)
IIA and DTT (t-1) with ISDS - Larger / Older	0.010***	0.010***	0.010***	0.008***	0.009***	0.010***	0.008**
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
IIA and DTT (t-1) - without ISDS - Smaller / Newer	-0.017	-0.017	-0.016	0.014	0.014	-0.000	0.003
	(0.016)	(0.016)	(0.016)	(0.021)	(0.016)	(0.017)	(0.013)
IIA and DTT (t-1) - without ISDS - Larger / Older	0.010	0.010	0.013	0.002	0.002	0.004	0.003
	(0.013)	(0.013)	(0.013)	(0.011)	(0.011)	(0.013)	(0.013)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Observations	877,046	877,046	858,869	877,046	877,046	877,046	877,046

Panel B. Sample of Countries with EIA							
Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})						
	LPM						
	Size (Affiliates)	**Size (Countries)**	**Size (Sectors)**	**Age (3 Years)**	**Age (5 Years)**	**Experience (3 Years)**	**Experience (5 Years)**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
IIA only (t-1) with ISDS - Smaller / Newer	-0.007	-0.007	-0.008	-0.006	-0.008	-0.010	0.003
	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.008)	(0.005)
IIA only (t-1) with ISDS - Larger / Older	0.007*	0.007*	0.007*	0.005	0.005*	0.008**	0.005
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.005)
IIA only (t-1) without ISDS - Smaller / Newer	-0.010	-0.010	-0.011	0.030	0.022	-0.006	0.008
	(0.020)	(0.020)	(0.019)	(0.023)	(0.029)	(0.024)	(0.016)
IIA only (t-1) without ISDS - Larger / Older	0.022	0.022	0.024	0.008	0.008	0.017	0.016
	(0.015)	(0.015)	(0.015)	(0.013)	(0.013)	(0.014)	(0.014)
DTT only (t-1) - Smaller / Newer	-0.005	-0.005	-0.006	-0.009	-0.007	-0.006	0.001
	(0.009)	(0.009)	(0.009)	(0.007)	(0.006)	(0.010)	(0.005)
DTT only (t-1) - Larger / Older	0.007**	0.007**	0.007**	0.006***	0.007***	0.008**	0.008*
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.005)
IIA and DTT (t-1) with ISDS - Smaller / Newer	-0.010	-0.010	-0.009	-0.002	-0.007	-0.008	0.003
	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.009)	(0.006)
IIA and DTT (t-1) with ISDS - Larger / Older	0.015***	0.015***	0.015***	0.013***	0.014***	0.016***	0.014***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
IIA and DTT (t-1) - without ISDS - Smaller / Newer	-0.024	-0.024	-0.018	0.010	0.011	-0.006	0.000
	(0.017)	(0.017)	(0.017)	(0.021)	(0.016)	(0.018)	(0.013)
IIA and DTT (t-1) - without ISDS - Larger / Older	0.014	0.014	0.018	0.005	0.004	0.009	0.008
	(0.013)	(0.013)	(0.013)	(0.011)	(0.011)	(0.013)	(0.013)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES	YES
Observations	833,079	833,079	815,867	833,079	833,079	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism. Size refers to (1) the total number of affiliates (Column 1); (ii) total number of countries (Column 2); and (iii) total number of sectors (Column 3) in which the MNE operates through its foreign affiliates. Firms are classified as larger if their size is above the median observed for the sample period. Age refers to the number of years since the firm has been established. Firms are classified as younger if they were created in the last three- (Column 4) or five years (Column 5), and as older otherwise. Experience refers to the number of years since a firm has opened its first foreign affiliate globally. Firms are classified as newly internationalised if they opened their first foreign affiliate in the last three- (Column 6) or five years (Column 7), and as well-established otherwise. Panel A reports the results for the full sample of countries and Panel B for the sample of countries with EIA only. For further information and the description of the baseline specification, see the note to Table 1. For the description of the specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.16: Heterogenous Effects: Treaty and MNE Characteristics - The Role of Sectors.

Dependent variable	**Probability of First Foreign Entry**			(E_{fijt}^{MNE})
	LPM			
	Full Sample of Countries		**Countries with EIA Only**	
	(1)	(2)	(3)	(4)
IIA only (t-1) with ISDS - Differentiated	0.001		0.004	
	(0.003)		(0.003)	
Larger Firms		0.002		0.007*
		(0.004)		(0.004)
Smaller Firms		-0.005		-0.007
		(0.006)		(0.007)
IIA only (t-1) with ISDS - Homogenous	-0.011		-0.004	
	(0.008)		(0.008)	
IIA only (t-1) without ISDS	0.011		0.011	
	(0.013)		(0.013)	
DTT only (t-1) - Differentiated	0.004**		0.005**	
	(0.002)		(0.002)	
Larger Firms		0.005*		0.008**
		(0.003)		(0.003)
Smaller Firms		0.000		-0.004
		(0.008)		(0.009)
DTT only (t-1) - Homogenous	-0.001		0.001	
	(0.005)		(0.005)	
IIA and DTT (t-1) with ISDS - Differentiated	0.008***		0.012***	
	(0.003)		(0.003)	
Larger Firms		0.011***		0.016***
		(0.004)		(0.004)
Smaller Firms		-0.012		-0.012
		(0.008)		(0.009)
IIA and DTT (t-1) with ISDS - Homogenous	0.004		0.010	
	(0.008)		(0.008)	
IIA and DTT (t-1) - without ISDS	0.004		0.006	
	(0.011)		(0.012)	
Host-Sector-Year Fixed Effects	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES
Observations	877,046	877,046	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism. Differentiated sectors refer to those that are not available on an organized exchange nor have publicly quoted reference prices; the remaining sectors are treated as homogeneous. Rauch (1999) sector classification is used and the information on the sector of the MNE at 4-digit level (NAICS classification). Firms are classified as large when they have affiliates in a larger number of countries than the median for the entire period, and as small otherwise. For further information and the description of the baseline specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.

Table A3.17: Heterogeneous Effects by Treaty, MNE and Sector Characteristics – The Role of Institutions.

Dependent variable	**Probability of First Foreign Entry** (E_{fijt}^{MNE})					
	LPM					
	Full Sample of Countries			**Sample of Countries with EIA Only**		
	(1)	(2)	(3)	(4)	(5)	(6)
IIA and DTT (t-1) with ISDS - Differentiated	0.008***			0.012***		
	(0.003)			(0.003)		
Low Quality		0.009**			0.011***	
		(0.004)			(0.004)	
Larger Firms			0.011**			0.015***
			(0.004)			(0.005)
Smaller Firms			-0.010			-0.011
			(0.008)			(0.009)
High Quality		0.008*			0.013***	
		(0.005)			(0.005)	
Larger Firms			0.010*			0.016***
			(0.005)			(0.005)
Smaller Firms			-0.020			-0.019
			(0.013)			(0.014)
IIA and DTT (t-1) with ISDS - Homogenous	0.004	0.004		0.010	0.010	
	(0.008)	(0.008)		(0.008)	(0.008)	
Larger Firms			0.010			0.009
			(0.015)			(0.016)
Smaller Firms			0.003			0.011
			(0.009)			(0.009)
IIA and DTT (t-1) - without ISDS	0.004	0.005		0.006	0.006	
	(0.011)	(0.011)		(0.012)	(0.012)	
Larger Firms			-0.016			-0.023
			(0.016)			(0.017)
Smaller Firms			0.011			0.014
			(0.013)			(0.013)
Host-Sector-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Host Fixed Effects	YES	YES	YES	YES	YES	YES
Firm-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair Trade Controls (t-1)	YES	YES	YES	YES	YES	YES
Bilateral Country-Pair MNE Controls (t-1)	YES	YES	YES	YES	YES	YES
MNE-Host Country Affiliate Controls (t-1)	YES	YES	YES	YES	YES	YES
Observations	877,046	877,046	877,046	833,079	833,079	833,079

Note: IIA refers to International Investment Agreement and DTT refers to Double-Taxation Agreement. ISDS refers to Investor-State Dispute Settlement Mechanism. The information on quality of institutions is based on the rule of law data from the World Bank's Worldwide Governance Indicators. Higher values of World Bank's estimates correspond to higher quality of institutions (or lower level of political risk). First a median score for each country is found for the whole period. Then countries are classified as having high-quality domestic institutions when they score at or above 75^{th} percentile, and as low-quality otherwise (see Table A2.1. in Appendix 2 for a full list of countries). Differentiated sectors refer to those that are not available on an organized exchange nor have publicly quoted reference prices; the remaining sectors are treated as homogeneous. Rauch (1999) sector classification is used and the information on the sector of the MNE at 4-digit level (NAICS classification). Firms are classified as large when they have affiliates in a larger number of countries than the median for the entire period, and as small otherwise. For the description of the specification, see the note to Table 1. Statistically significant at *** 1% level, ** 5% level, * 10% level.