

(UN)STABLE BITS*

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ABSTRACT

Over half (800 billion USD) of all foreign direct investments (FDI) in 2020 flowed between countries with either a bilateral investment treaty (BIT) or a free trade agreement (FTA) with an investment chapter. Country preferences for the protections offered by these agreements has undergone a major reformation during the last two decades. This reformation has been fueled in part by the growing incidence of investor-state dispute settlement (ISDS) cases under these treaties, which has exposed countries hosting protected investments to more than 76 billion dollars in damages. Recent and unprecedented shifts in the investment treaty network include mass treaty terminations by India (the fifth largest recipient of FDI in 2020) and the removal of ISDS in the United States Mexico Canada Agreement.

This article explores how initial and evolving preferences over BIT provisions of each signatory to a BIT may have influenced terminations and renegotiations in the investment treaty network. We use a hand-coded database (created by one of us in partnership with the United Nations Conference on Trade and Development (UNCTAD)) to identify drafting patterns and infer evolving preferences for each signatory in the investment treaty network. We find evidence that both the input of the less developed signatory at the negotiation stage and changes in each signatory's preferences over BIT provisions following treaty ratification have contributed to BIT renegotiations and terminations. Our findings suggest that (1) more balanced negotiations between a host and source country may increase the longevity of investor protections in a BIT or FTA and (2) more assistance to developing countries in treaty drafting and preference formation may increase the overall stability of the investment treaty network.

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I. INTRODUCTION

In November 2018, following more than a year of negotiations by representatives from Canada, Mexico and the United States, the new NAFTA, now rebranded as the United States – Mexico – Canada Agreement (USMCA), was signed by leaders from the three member states.¹ The Trump Administration viewed the successful renegotiation of NAFTA as one of its signature achievements, and argued that the USMCA “solves the many deficiencies and mistakes in NAFTA.”² One of the key revisions in the USMCA was the almost complete removal of investor-state dispute settlement (ISDS), the primary mechanism that had been used to enforce the investor protections guaranteed by NAFTA.³

The removal of ISDS from the USMCA is just one manifestation of the growing instability of investor protections promulgated under both investment chapters in Free Trade Agreements (FTAs) and Bilateral Investment Treaties (BITs). These protections (and their stability) have important implications for a staggering amount of foreign direct investment; over half (800 billion USD) of all FDI in 2020 flowed between countries with either a BIT or an FTA with an investment chapter.⁴ These agreements provide substantive standards to protect the investments of investors from one contracting state in the other contracting state.⁵ Almost all of these agreements also give foreign investors the right to directly bring arbitration claims against host states for violation of the substantive investment protections in these treaties.⁶ Protected investors have initiated more than 1,100 dispute settlement proceedings under either a BIT or an investment chapter in an FTA and they (collectively) have been awarded or negotiated through settlement more than 76 billion dollars in damages.⁷ Although BITs have been around for over 60 years and FTAs have been around for over 35 years, the growing incidence of ISDS under these agree-

¹Cite.

²<https://ustr.gov/usmca>.

³Cite. ISDS was preserved for only a handful of industries, such as natural resource extraction, and only for a handful of investor protections, such as from direct expropriation by the host country. Interestingly, ISDS remains available for Canadian investors in Mexico and Mexican investors in Canada through the investment chapter in the Trans-Pacific Partnership. Cite.

⁴Cite UNCTAD 2020 World Investment Report.

⁵Cite.

⁶Of the 2,574 FTAs and BITs with a public text, 2,440 (94.8 percent) grant investors this right to enforce the treaty through arbitration. Cite UNCTAD IIA Navigator.

⁷UNCTAD ISDS Navigator, <https://investmentpolicy.unctad.org/investment-dispute-settlement>.

ments is a fairly recent phenomenon.⁸ Seven-hundred-thirty-three claims (66 percent of all claims) have been filed since 2010.⁹

This surge in ISDS cases brought by foreign investors has fueled increasing controversy regarding these investment treaties and their provisions.¹⁰ Several countries have been on the receiving end of controversial arbitration claims.¹¹ Some of these countries (primarily with developing economies) have terminated their BITs en masse, denouncing the system as being unjust and biased.¹² Other countries have chosen to pursue more incremental reforms by renegotiating existing BITs so that they are better tailored to reflect their preferences.¹³ Of the 2,655 BITs that have entered into force by 2020, 163 have been unilaterally terminated, 120 have been replaced by a new treaty (renegotiated), 81 have been terminated by the consent of both signatories, and another 11 BITs have expired.¹⁴ The remaining 2,290 BITs remain stable and have not been terminated.¹⁵ By contrast, there has been much less turnover of FTAs.¹⁶ Of the 131 FTAs that have entered into force, two have been replaced by an FTA that covers a larger geographic region,¹⁷ one (the

⁸The first BIT was signed by Germany and Pakistan in 1959. Cite UNCTAD IIA Navigator. The first FTA was signed by Israel and the United States in 1985. Cite UNCTAD IIA Navigator.

⁹UNCTAD, *Investment Policy Hub - Investment Dispute Settlement Navigator*, <https://investmentpolicyhub.unctad.org/ISDS>.

¹⁰Cite report from World Investment Forum 2016.

¹¹Give example here of controversial claims.

¹²Countries that have terminated their BITs en masse include South Africa (Cite), Bolivia (Cite), Ecuador (Cite), India (Cite), and Indonesia (Cite).

¹³UNCTAD, *Investment Policy Hub - International Investment Agreements Navigator*, <https://investmentpolicyhub.unctad.org/IIA>.

¹⁴UNCTAD, *Investment Policy Hub - International Investment Agreements Navigator*, <https://investmentpolicyhub.unctad.org/IIA>. These numbers differ from those in Table 1 because some BITs do not have publicly available text or have not been mapped, and thus are not included in our Database. For consistency purposes, we categorically refer to termination by any of the first three methods as “terminate”. When referring to the specific termination method, we will use “unilaterally terminate”, “bilaterally terminate” or “renegotiate”.

¹⁵UNCTAD, *Investment Policy Hub - International Investment Agreements Navigator*, <https://investmentpolicyhub.unctad.org/IIA>.

¹⁶UNCTAD, *Investment Policy Hub - International Investment Agreements Navigator*, <https://investmentpolicyhub.unctad.org/IIA>.

¹⁷The Albania-Montenegro-Serbia FTA was terminated on November 22, 2007 and has been replaced by the Central European FTA. UNCTAD, *Investment Policy Hub - International Investment Agreements Navigator*, <https://investmentpolicyhub.unctad.org/IIA>. The Mexico Nicaragua FTA was terminated on September 1, 2013 and has been replaced by the Central America-Mexico FTA. Cite UNCTAD IIA Navigator

Jordan-Turkey FTA) has been unilaterally terminated,¹⁸ and one (NAFTA) has been renegotiated by the original signatories.¹⁹

In this paper we explore why some investment treaties are susceptible to termination (including unilateral termination, bilateral termination, and termination by renegotiation), while other investment treaties remain stable. Because of the low rate of termination of FTAs, our analysis here focuses on survival and termination outcomes of BITs.

Popular narrative attributes BIT terminations to the confluence of two developments.²⁰ On the one hand, the benefits of a BIT in terms of attracting foreign investment are, at best, uncertain. The common rationale offered to BIT signatories, that these treaties will help them attract more foreign investments and therefore generate economic growth, is still an open question despite numerous papers being written in an attempt to find the answer.²¹ On

¹⁸This treaty was terminated on November 22, 2018. UNCTAD, *Investment Policy Hub - International Investment Agreements Navigator*, <https://investmentpolicyhub.unctad.org/IIA>.

¹⁹Cite to article cited in opening paragraph. As discussed above, since NAFTA has been replaced by the USMCA, we are able to compare the investment chapters to determine that the renegotiation of the treaty was driven, at least in part, by updated U.S. preferences regarding ISDS provisions in the treaty's investment chapter. Since the Jordan-Turkey FTA was not replaced by a new treaty, we are not able to determine whether or not the termination decision was driven, in part, by dissatisfaction with the treaty's investment chapter, or whether it was driven exclusively by other considerations.

²⁰<https://ccsi.columbia.edu/sites/default/files/content/docs/our%20focus/Cost-and-Benefits-of-Investment-Treaties-Practical-Considerations-for-States-ENG-mr0.pdf>.

²¹Many of these papers find a positive correlation between BITs and bilateral FDI flows. See, *i.e.* Neumayer, E. and L. Spess (2005). "Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries?", *World Development*, Vol. 33, No. 10, pp. 1567-1585 (finding a positive, significant, and robust correlation between the number of BITs signed by a developing country and total FDI inflows to that country). See also Busse, M., J. Koniger and P. Nunnenkamp (2010). "FDI Promotion through Bilateral Investment Treaties: More than a BIT?", *Review of World Economics*, Vol. 146, No. 1, pp. 147-177 (presenting similar findings using bilateral FDI data and a more sophisticated research design). Other papers find little or no correlation between BITs and FDI. See, *i.e.* Yackee, J. (2010). "Do Bits Really Work? Revisiting the Empirical Link between Investment Treaties and Foreign Direct Investment", Univ. of Wisconsin Legal Studies Research Paper No. 1054. Available at SSRN: <https://ssrn.com/abstract=1015083> or <http://dx.doi.org/10.2139/ssrn.1015083>. The findings in the literature vary depending on the country pairs included in the sample and the control variables added to the model specification. See UNCTAD (2014). "The Impact of International Investment Agreements on Foreign Direct Investment: An Overview of Empirical Studies 1998-2014", *IIA Issues Note*, New York and Geneva: United Nations (presenting a detailed summary of this empirical literature). Due to data limitations and statistical challenges, it is difficult to draw a causal link between BITs and FDI. See generally JONATHAN BONNITCHA, LAUGE N. SKOVGAARD POULSEN, & MICHAEL WAIBEL, THE POLITICAL ECONOMY OF THE INVESTMENT TREATY REGIME, 158-67 (summarizing the findings of key empirical studies and discussing the challenges of properly measuring the causal effect of BITs on FDI).

the other hand, developments in ISDS have made it convincingly clear that the costs of a BIT are not zero and likely much higher than host countries anticipated when signing these agreements. Such costs entail not only the large amount of damages that a respondent country has to pay after losing a case (with an average of \$504 million),²² but also the high litigation costs governments incur in defending a case (with an average of \$5 million).²³ In addition, ISDS proceedings and even the threat of their initiation impose costs on host countries' regulatory space and undermine their ability to regulate public affairs. The imbalance in costs and benefits of BITs have led to the termination of these treaties.²⁴ What the popular narrative fails to explain, however, is why some BITs survive and others succumb to termination—i.e. what is driving the variation in outcomes across BITs?

Despite the considerable controversy surrounding BIT instability and the important implications thereof, empirical research on this question is thin. Important work by Haftel and Thompson (2017) and by Haftel, Broude, and Thompson (2019) explore the relationship between ISDS and one type of BIT termination event, renegotiation. They find that the co-signatories' tendency to renegotiate a BIT is affected by their previous experience in ISDS proceedings. This finding is consistent with the popular narrative and helps to explain why some but not all BITs are renegotiated.²⁵

This paper aims to provide a more nuanced and more comprehensive exploration of BIT terminations in four ways. First, we develop new measures of preference formation and evolution across treaty provisions. These measures enable us to look at the relationship between signatory preferences and

²²https://unctad.org/system/files/official-document/diaepcbinf2018d2_en.pdf

²³<https://undocs.org/en/A/CN.9/WG.III/WP.153>.

²⁴<https://www.tni.org/en/article/why-did-ecuador-terminate-all-its-bilateral-investment-treaties;> <https://www.dlapiper.com/en/us/insights/publications/2014/12/international-arbitration-newsletter-q4-2014/challenging-the-status-quo/>

²⁵Haftel and Thompson (2017) argue that states renegotiate when they learn new information about the consequences of their treaty commitments through investor-state arbitration. They find that states that are jointly involved in more ISDS cases are more likely to renegotiate their BITs. They also find that states appear unaffected by the ISDS experiences of other countries when they decide to renegotiate BITs. In a follow-up study, Haftel, Broude and Thompson (2019) find that states that have been involved in more investment disputes are more likely to renegotiate or terminate international investment agreements to expand their state regulatory space. This effect is shown to be more salient when states have more experience as respondents in these investment disputes. They report mixed results regarding the effect of dispute outcomes on states' likelihood to expand their state regulatory space through treaty renegotiation or termination. See Haftel, Yoram Z., and Alexander Thompson. "When do states renegotiate investment agreements? The impact of arbitration." *The Review of International Organizations* 13.1 (2018): 25-48; Thompson, Alexander, Tomer Broude, and Yoram Z. Haftel. "Once bitten, twice shy? Investment disputes, state sovereignty, and change in treaty design." *International Organization* 73.4 (2019): 859-880.

BIT terminations directly rather than indirectly through ISDS as a mechanism that influences preferences, as prior work did. Second, we are able to use these measures of BIT preferences to infer the other signatory's input during treaty negotiation, which, based on anecdotal evidence, may constitute another important factor that contributes to BIT terminations. Third, we look at all types of termination events, not just renegotiations. Finally, we look at termination events through 2020, adding a decade of observations to the seminal work of Haftel and Thompson.

Anecdotal evidence points to the lack of negotiation input from developing countries and evolving preferences of BIT signatories as potential underlying sources of instability in the investment treaty network. Most early BITs were between a developed and a developing country. The negotiations of these BITs were typically initiated by the developed country, which supplied the treaty templates for negotiation. Some studies have found that some investment treaties very closely follow Western BIT templates, occasionally word for word.²⁶ Most developing countries signed off on Western BIT templates without carefully considering alternatives. As a result, until they were hit by an investment arbitration claim, these developing countries often had little idea what they were getting into, let alone the meaning of the vague treaty terms by which they had committed to be bound.

When Pakistan, the country that signed the very first BIT (1959 Germany-Pakistan BIT), was hit by a multi-million dollar arbitration claim brought by Swiss investors in 2001, the Attorney General of Pakistan did not even know what a BIT was and had to look it up on Google.²⁷ In preparation for the arbitration proceedings, the Attorney General tried to find negotiation records of the Pakistan-Switzerland BIT, but he was unable to trace any records of meaningful negotiations ever taking place.²⁸ “The maximum level of input to the negotiations from Pakistan,” commented the Attorney General, “appears to have been proof-reading, and at times, albeit rarely, some not very significant suggestions on the text.”²⁹ The Pakistani officials participating in those negotiations mistakenly considered the treaty to simply be a piece of paper that would facilitate good press at home.³⁰

²⁶Poulsen, Lauge N. Skovgaard. *Bounded rationality and economic diplomacy: The politics of investment treaties in developing countries*. Cambridge University Press, 2015, at 14.

²⁷Lauge Skovgaard Poulsen and Damon Vis-Dunbar, *Reflections on Pakistan's investment-treaty program after 50 years: an interview with the former Attorney General of Pakistan, Makhdoom Ali Khan*, <https://www.iisd.org/itn/fr/2009/03/16/pakistans-standstill-in-investment-treaty-making-an-interview-with-the-former-attorney-general-of-pakistan-makhdoom-ali-khan/>

²⁸See *id.*

²⁹See *id.*

³⁰See *id.*

Pakistan is not alone in misunderstanding the profound implications when signing up for the investment protection obligations under BITs. Officials from developing countries in charge of BIT negotiations often lacked both experience and expertise in the field.³¹ At times the negotiators from developed countries had to explain the meaning of simple treaty terms to their developing country counterparts, who often mistook these vague terms for non-binding soft law.³² Being negotiated in such unequal settings, with the more developed country having an established objective and often little interest in making allowance for divergent interests of its co-signatory (hosting the lions-share of protected investment), the resultant treaty can generate backlash later when ISDS cases are brought under the treaty.³³

It is clear from these anecdotes that some (possibly many) developing countries did not fully comprehend the consequences of BITs which they signed without carefully negotiating or drafting the terms. After having an opportunity to learn about those consequences, for example, from their arbitration experiences, they may develop new preferences over specific treaty terms. These countries may then seek to incorporate these preferred terms into existing BITs through renegotiation. They may also decide to abandon some BITs altogether through either unilateral or bilateral termination.

Hence, based on these anecdotes, we introduce three different factors that may be at play here and explore their correlation with BIT termination: (1) initial negotiation input, (2) preference formation, and (3) preference evolution. We begin by developing a method to infer a country's preferences for each BIT provision that evolves over time. Some countries publish model agreements that actually memorialize their true preferences over BIT provisions. However, most countries do not retain such model BITs. To capture essentially all BIT-signing countries in our analysis, we look at drafting patterns in each country's signed BITs to generate a set of evolving preferences (which we term a "synthetic model") for every country. We also use actual model BITs that some countries published as a check on the synthetic models we generate.

Using the synthetic model BITs, we generate measures of a signatory's negotiation input, preference formation, and evolving preferences. Specifically, to measure the level of input from a signatory in negotiating a BIT, we compare the signed treaty provisions against its co-signatory's synthetic model BIT (which reflects the co-signatory's preferred provisions at the time

³¹Poulsen, Lauge N. Skovgaard. *Bounded rationality and economic diplomacy: The politics of investment treaties in developing countries*. Cambridge University Press, 2015, at 18.

³²See *id.*

³³Price, David. "Indonesia's Bold Strategy on Bilateral Investment Treaties: Seeking an Equitable Climate for Investment?" *Asian Journal of International Law* 7.1 (2017): 124-151.

of treaty signature). Since the more developed signatory is often the party that provides the template that forms the textual basis for negotiation (particularly for earlier BITs), we are particularly interested in the extent to which treaty provisions deviate from the synthetic model BIT of the more developed signatory.³⁴ The extent of deviation indicates the level of negotiation input from the less developed signatory. The less the treaty provisions deviate from the more developed signatory's preferences (or, equivalently, its synthetic model BIT), the less negotiation input we attribute to the less developed signatory. We expect that such treaties are less stable in the sense that they are more likely to eventually be terminated.

Relatedly, having signed BITs largely based on the developed country's template, some developing countries may not have developed consistent preferences for BIT provisions at the time when they signed a treaty. These treaties may be more susceptible to later changes, as the less developed signatory starts to form its own preferences over BIT provisions. Hence, we calculate the number of missing provisions in the less developed signatory's synthetic model BIT, and use it as a proxy for the level of incompleteness of this signatory's preferences.³⁵ We expect that treaties are less stable when the less developed signatory has more incomplete preferences.

Finally, a country's BIT preferences may change over time. A country which initially preferred to have robust investment protection in its BITs may later develop preferences for more restrictions or carve-outs to such protection, as the country becomes a capital importer or as it becomes subject to more ISDS disputes. Conversely, for countries which experience increases in outbound investments, their preferences may shift toward adopting more investor-friendly BIT provisions. As a country's BIT preferences evolve, the country is likely to find some of its earlier BITs outdated, and may therefore seek to renegotiate or, failing renegotiation, unilaterally terminate these treaties. To measure a country's evolving preferences, we compare the signed treaty provisions against a signatory's synthetic model BIT for every year since a treaty entered into force (which reflects the country's evolving preferences). We expect that a treaty is more likely to be terminated when it deviates more from a signatory's current preferences.

³⁴It is possible for any pair of countries to sign a BIT, including a BIT between two developed countries (referred to as a north-north BIT in the literature), a BIT between two developing countries (a south-south BIT), and a BIT between a developed and a developing country (a north-south BIT). Although BITs of each variation exist, they are most prevalent among north-south pairings. For this reason, we focus on north-south BITs in our discussion here.

³⁵Missing provisions occur in a synthetic model when there is no consistent pattern in the treaties signed by a country, which makes it much harder to infer the country's true preference.

In this paper we present evidence that these destabilizing factors are correlated with BIT terminations. Specifically, we find evidence that BITS are more likely to be unilaterally terminated when the less developed cosignatory has less input and more incomplete preferences at the negotiation stage. We also find evidence that BITS are more likely to be renegotiated when they fall out of sync with the signatories' evolving preferences.

This paper points to the potential role that negotiation input, preference formation and evolution play in the termination of BITS, which has long been overlooked in related policy discussion and academic scholarship. The results provide empirical evidence that reveals a more nuanced explanation for BIT termination than the one dominating the popular narrative: BITS are more likely to be terminated when the less developed signatory was persuaded into signing the treaty with little influence over its content and little knowledge of its implications, or when the treaty text falls out of sync with the signatories' evolving preferences. The findings suggest that more balanced negotiations and more assistance to developing countries in treaty drafting and preference formation can help increase the overall stability of the investment treaty network. The paper also introduces an innovative method to infer parties' negotiation input and approximate their preference evolution, which we anticipate will have relevant applications to study preference formation and preference evolution in the context of private contracts.

The remainder of the paper proceeds as follows. Section II discusses examples that illustrate the potential influence of countries' negotiation input and evolving preferences over BIT termination. Section III introduces the data and research design. Section IV presents the empirical findings. Section V concludes.

II. NEGOTIATION INPUT, EVOLVING PREFERENCES, AND TREATY TERMINATION

There are three ways to terminate a BIT. First, each signatory has the option to unilaterally terminate the BIT (Unilateral Termination), provided that conditions stipulated in the treaty are met.³⁶ Second, the signatories to an existing BIT may both agree to negotiate a new BIT, which will terminate and replace the existing one (Renegotiation). Third, the two signatories may agree to terminate a BIT without negotiating a new one to replace it (i.e. bilateral termination or termination by consent). As more countries reevaluate their BIT

³⁶As a general matter, a BIT can be unilaterally terminated at the expiration of an initial term. However, some treaties may contain more specific rules as to when the treaty can be terminated absent consent from both parties. This may impact the interpretation of our findings on unilateral termination. We are exploring ways to address this concern in a future iteration of this paper.

programs, BIT termination by all three methods have become more common in recent years. While the prior literature largely focuses on the impact of ISDS, in this section we illustrate, through a few examples, how the signatories' negotiation input and their evolving preferences are also influencing BIT termination. First we describe how input from less developed countries and evolving preferences are partially driving unilateral terminations. We then explore the same phenomenon but in the context of BIT renegotiations. Finally, for completeness, we discuss the motivating factor behind bilateral terminations which (as we discuss below) are less related to either negotiation input or evolving preferences.

A. *Unilateral Terminations*

Since 2009, South Africa has unilaterally terminated 11 BITs, all but one were signed with European countries.³⁷ This wave of terminations appears to be spurred by a 2007 ICSID case brought by Italian investors against South Africa's black economic empowerment legislation.³⁸ This was the first time that a South African domestic policy was challenged before an investment arbitration tribunal.³⁹ While on its face, it was this case that caused the South African government to reconsider its investment treaty policies, the decision to terminate BITs with EU member countries specifically is also driven by a recognition that these BITs—negotiated based on EU model text—represent an imbalance of interests between foreign investors and host states.

In reviewing South Africa's investment treaty practices, the Department of Trade and Industry issued a report, stating that “[e]xisting international investment agreements are based on a 50-year-old model that remains focused on the interests of investors from developed countries. Major issues of concern for developing countries are not being addressed in the BIT negotiating processes”.⁴⁰ Having signed most of its BITs in a hurry to attract investment following apartheid, the South African government eventually started to pay attention to these treaties after its signature legislation was challenged by foreign investors for violating a treaty signed with Belgium and Luxembourg. South Africa finally came to the conclusion that some of the provisions in these treaties impose too great a restriction on the government's

³⁷The exception is the South Africa-Argentina BIT, which was terminated in 2017. 11 South African BITs remain in force. The co-signatories are China, Cuba, Finland, Iran, South Korea, Mauritius, Nigeria, Russia, Senegal, Sweden and Zimbabwe.

³⁸*Piero Foresti, Laura de Carli v Republic of South Africa.*

³⁹Qumba, M., South Africa's move away from international investor-state dispute: a breakthrough or bad omen for investment in the developing world?

⁴⁰“South African trade department critical of approach taken to BIT-making”, Damon Vis-Dunbar, Investment Treaty News, 15 July 2009, <http://www.iisd.org/itn/2009/07/15/south-african-trade-department-critical-of-approach-taken-to-bit-making/>

policy-making ability.⁴¹ In this sense, both the ISDS experience and South Africa's lack of negotiation input contributed to the termination of these EU BITs by South Africa.

India is another country which has unilaterally terminated most of its existing BITs. In 2016, India sent a notice of termination of its existing BITs to at least 58 countries, which resulted from a review of its BIT program following a loss in an ISDS case against Australian investors.⁴² Shortly afterwards, however, India introduced a new model BIT, which aims to recalibrate the balance of interests between the State and foreign investors and address India's concerns with the earlier generation of BITs that it signed.⁴³ This new model BIT significantly restricts the standards of protection offered to foreign investors. Notably, the model BIT excludes the most favored nation standard and fair and equitable treatment standard, which are typical provisions that can be found in most BITs.⁴⁴ Since its release, India has negotiated (or renegotiated) at least four new BITs based on the text of the model BIT.⁴⁵ India's entry into these new BITs with reformed text suggests that the terminations are driven by not only the ISDS claims being brought against it, but also by a re-calibration of the content of its existing BITs as well.

Indonesia, another country which has unilaterally terminated a significant number of BITs, also attributes its termination decision to changes in its preferences over BIT provisions. Indonesia's then president, in explaining Indonesia's decision to terminate most of its BITs, stated that these BITs were "contracts with foreigners of 20 or 30 years ago [that] turn out to be inappropriate and unjust."⁴⁶ Putting this shift of preferences into context, the Indonesian Ambassador to Belgium stated that "[these BITs] were signed when global economic power had not yet shifted to Asia and when Indonesia was neither a democracy nor a member of the G20. They were signed when the Indonesian gross domestic product (GDP) was less than the US\$1.2

⁴¹Adam Green, South Africa: BITs in Pieces, Financial Times, <https://www-ft-com.mutex.gmu.edu/content/b0eec497-5123-3939-92f7-a5fbc73dd33>.

⁴²<https://www.lexology.com/library/detail.aspx?g=4bdc087c-20f0-4729-9166-1d6de9b8d2de>

⁴³<https://www.lexology.com/library/detail.aspx?g=4bdc087c-20f0-4729-9166-1d6de9b8d2de>

⁴⁴Model Text for the Indian Bilateral Investment Treaty (2016), <https://dea.gov.in/sites/default/files/ModelBITAnnex0.pdf>

⁴⁵Abhishek Dwivedi, India's Flawed Approach to Bilateral Investment Treaties, <https://thediplomat.com/2020/12/indias-flawed-approach-to-bilateral-investment-treaties/>

⁴⁶President Susilo Bambang YUDHOYONO, "Introductory Plenary Meeting of the Cabinet" President's Office (28 June 2012), <http://www.presidentri.go.id/index.php/fokus/2012/06/28/8068.html>. See David Price, Indonesia's Bold Strategy on Bilateral Investment Treaties: Seeking an Equitable Climate for Investment? 7 Asian Journal of International Law 124, 139.

trillion that it is today and when the Indonesian middle class was far below 90 million persons, increasing steadily...It should not come as a shock that Indonesia wants to update, modernize and balance its BITs.”⁴⁷

B. Renegotiations

Some of the countries which have unilaterally terminated multiple BITs have also been engaged in BIT renegotiation. The Czech Republic, for example, while terminating six of its existing BITs due to their incompatibility with EU law, also managed to renegotiate four other BITs when the co-signatory agreed to the proposed amendments to bring these BITs into compliance with EU law.⁴⁸ Indonesia, when sending notice of termination to multiple BIT co-signatories, also indicated its intent to renegotiate these BITs at a future point.⁴⁹ According to the Indonesian Ambassador to Belgium, Indonesia was seeking to “update, modernize and balance its BITs”, because its old BITs were signed based on Western templates which only represent corporate interests and lack consistency.⁵⁰

Dissatisfaction with existing treaty terms is an important driving factor behind BIT renegotiation. Some countries renegotiated their BITs to expand the protection of foreign investments, largely because the old BITs offer very limited investment protection.⁵¹ For example, Germany has renegotiated eighteen BITs, which were among the earlier generations of German BITs and offered limited protection of foreign investments.⁵² The renegotiated BITs expanded the scope of protection, including introducing strong ISDS provisions which the old BITs lacked.⁵³ Similarly, China, which historically took a restrictive approach with respect to both substantive protections and ISDS,

⁴⁷Arif Havas Oegroseno, *Revamping Bilateral Treaties*, The Jakarta Post (July 7, 2014), <https://www.thejakartapost.com/news/2014/07/07/revamping-bilateral-treaties.html>.

⁴⁸Tomáš Fecák, ‘Czech Experience with Bilateral Investment Treaties: Somewhat Bitter Taste of Investment Protection’ (2011) 2 *Czech Yearbook of Public & Private International Law* 252.

⁴⁹Leon Trakman and Kunal Sharma, ‘Indonesia’s Termination of the Netherlands-Indonesia BIT: Broader Implications in the Asia-Pacific’ (Kluwer Arbitration Blog, 1 September 2014).

⁵⁰Arif Havas Oegroseno, *Revamping Bilateral Treaties*, The Jakarta Post (July 7, 2014), <https://www.thejakartapost.com/news/2014/07/07/revamping-bilateral-treaties.html>.

⁵¹Behn, D., O. K. Fauchald, and M. Langford. “Backlash and State Strategies in International Investment Law.” *The Changing Practices of International Law*. Cambridge University Press, 2018.

⁵²See *id.*

⁵³Thompson, Alexander, Tomer Broude, and Yoram Z. Haftel. “Once bitten, twice shy? Investment disputes, state sovereignty, and change in treaty design.” *International Organization* 73.4 (2019): 859-880.

has renegotiated some of its early BITs to remove these restrictions as more and more Chinese investors have invested abroad.⁵⁴

Other countries renegotiated their BITs to carve out more space for host states to regulate public policy matters. Before terminating most of its BITs, Indonesia successfully renegotiated a few BITs with more carve-outs and limitations on foreign investment protection. The BIT between Indonesia and Finland, which was renegotiated in 2006 and remains in force today despite Indonesia's mass termination of other BITs, explicitly reserves the right for Indonesia to maintain limited exceptions to the national treatment standard, a reservation that leaves space for state policy-making and is absent in the initial BIT between the two countries.⁵⁵ India, another country that has unilaterally terminated a significant number of BITs, also entered into renegotiation with some of its prior co-signatories. India is using its new model BIT in these negotiations. The new model, compared to India's old-generation BITs, imposes considerable restrictions on the level of protection offered to foreign investments.⁵⁶

C. Termination by Consent

Different from the other two termination types, over 95 percent of the BITs terminated by consent were intra-EU BITs between EU member countries.⁵⁷ These terminations were either driven by new country accessions to the European Union or the recent *Achmea* decision by the Court of Justice of the European Union, which held that the arbitration provisions in intra-EU BITs were incompatible with EU law.

Some countries terminated their intra-EU BITs before or after they joined the European Union. For example, in preparation for its accession to the EU, Malta terminated its BIT with Switzerland.⁵⁸ Other intra-EU BITs were terminated in the aftermath of the Court of Justice of the European Union's decision in the *Achmea* case.⁵⁹ For a time, it was an open question whether

⁵⁴Chaisse, Julien, and Kehinde Folake Olaoye. "The Tired Dragon: Casting Doubts on China's Investment Treaty Practice." *Berkeley Bus. LJ* 17 (2020): 134.

⁵⁵Berger, Axel, and Jan Knörich. *Friends or foes? Interactions between Indonesia's international investment agreements and national investment law*. No. 82. *Studies*, 2014.

⁵⁶Abhishek Dwivedi, *India's Flawed Approach to Bilateral Investment Treaties*, <https://thediplomat.com/2020/12/indias-flawed-approach-to-bilateral-investment-treaties/>

⁵⁷cite.

⁵⁸Bungenberg, Marc, and Christoph Herrmann. "The New Competence of the European Union in the Area of Foreign Direct Investment (FDI): A Third Country Perspective." *Essay*. In *Common Commercial Policy after Lisbon*, 237. Berlin: Springer, 2015.

⁵⁹CJEU, *Slovak Republic v. Achmea* (2018).

intra-EU BITs were contrary to EU law.⁶⁰ This question was resolved in the affirmative in 2018 by the Court of Justice of the European Union in the *Achmea* case, which held that the investor-state arbitration provisions in intra-EU BITs were incompatible with EU law.⁶¹ Since then, several countries have terminated their intra-EU BITs. On May 5, 2020, 23 EU member countries signed the agreement for the termination of intra-EU BITs (the "termination agreement"), which aims to terminate some 130 intra-EU BITs between the signatories.⁶²

III. DATA AND METHODOLOGY

To explore how negotiation input and the evolution of BIT provision preferences affect treaty termination, we use the UNCTAD IIA Database (the Database), created by one of us in partnership with UNCTAD.⁶³ The Database contains provision level information for every signed BIT with publicly available text, providing a comprehensive picture of the evolution of the BIT network.⁶⁴ 179 countries have a signed BIT recorded in the Database, 60 of which are low income or lower middle income countries at the time of BIT signature (Figure A1).

The Database contains detailed information on the inclusion and variation of 118 different treaty provisions.⁶⁵ These include definitions⁶⁶, host state obligations⁶⁷, procedural provisions on how to resolve disputes between a

⁶⁰Bungenberg, Marc, and Christoph Herrmann. "The New Competence of the European Union in the Area of Foreign Direct Investment (FDI): A Third Country Perspective." Essay. In *Common Commercial Policy after Lisbon*, 237. Berlin: Springer, 2015.

⁶¹CJEU, *Slovak Republic v. Achmea* (2018).

⁶²European Commission, EU Member States sign an agreement for the termination of intra-EU bilateral investment treaties, https://ec.europa.eu/info/publications/200505-bilateral-investment-treaties-agreement_en. Signatories of the termination agreement include Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia and Spain.

⁶³Cite.

⁶⁴Cite.

⁶⁵Cite.

⁶⁶Standard BIT definitions include what qualifies as an investment and who qualifies as an investor.

⁶⁷Standard host state obligations include a promise to treat protected investments fairly and equitably (fair and equitable treatment), and at least as well as the host state treats investments made by its own nationals (national treatment) or other international investors (most favored nation treatment). Signatories also typically promise to provide protected investments with full protection and security and to not expropriate the protected investment, either directly or indirectly (i.e. through regulation that erodes the value of the protected investment).

protected investor and a signatory⁶⁸, and provisions on the mechanics of the treaty, such as treaty renewal, methods of treaty termination, and treaty duration.⁶⁹

The Database also contains detailed information on BIT termination, including the termination method and date of termination. 121 countries are signatories to BITs which have been terminated by one of the four termination method (renegotiation, unilateral termination, bilateral termination, or expiration) (Figure A2). However, the Database does not contain information on which one of the two signatories unilaterally terminated a BIT, or initiated the renegotiation of a BIT. We are able to identify the signatory which unilaterally terminated its BIT for 138 of the 165 BITs being terminated by this method. The majority of them (72.5%) are the less developed side of the two signatories.

Table 1 presents summary statistics on the status of treaties as recorded in the Database. Of the 2,534 BITs in the Database, 333 (13.1 percent) have been terminated. Unilateral termination is the most common termination method, constituting 49.5 percent of all terminations taking place. Figure 1 plots a time series of BIT termination by termination method. We see an incremental increase in renegotiations beginning in the mid-1990s, followed by a sharp surge in unilateral terminations after 2010.

Using the Database, we look at drafting patterns in each country's signed BITs to generate a set of evolving preferences (which we term a "synthetic model") for every country.⁷⁰ This synthetic model is our best approximation of the true preferences of each country participating in the investment treaty network. We then use this synthetic model to estimate (1) the negotiation input of a country's cosignatory, (2) the level of preference incompleteness at the time the treaty is signed, and (3) a country's current (and evolving) preferences. We then use these measures to explore their correlation with a treaty's termination likelihood.

⁶⁸These investor-state dispute settlement provisions include provisions laying out the rules and forums available to protected investors to resolve disputes, how long protected investors must wait before filing a claim, whether or not protected investors must first litigate their claim in the courts of the host country, and whether or not the host country agrees to arbitration *ex ante* (i.e. before the dispute arises).

⁶⁹Cite.

⁷⁰In the main analysis, we use a set of most litigated provisions to generate the synthetic model, because they tend to be the provisions which countries care most about and serve as a more accurate approximation for country preferences. These provisions include the definition of investor and investment, the fair and equitable treatment, most favored nation treatment, national treatment, full protection and security, and investor-state dispute settlement provisions. In the Appendix, we use the full sample of provisions to generate synthetic models and run the same set of regressions as those in Tables 2-8. As Tables A1-A7 show, the majority of the findings are robust to using the full set of BIT provisions to generate synthetic models.

A. *Inferring Preferences*

To infer a country's preferences and generate these synthetic models, we look for consistency in each country's drafting practices for each provision over a rolling five treaty window. If at least four out of five treaties contain the same provision in the window, we infer that the country has a preference for that particular provision. We do not infer the formation of an initial preference for a provision until the four-out-of-five-treaties threshold is met during a rolling five treaty window (before then, preference for such provisions are recorded as missing). Once a preference is inferred, if, during a subsequent window, four out of five treaties contain a different version of the provision, we infer there is a shift in the country's preference from the original provision language to the new provision language. We date the shift in preference to the first occurrence of the new provision in the relevant five treaty window. For each BIT signatory, we repeat this process for each of the 118 coded BIT provisions to generate a synthetic model for each year from the time the country signed its first BIT up until 2020. These synthetic model BITs reflect a country's evolving preferences over different BIT provisions.

Some countries publish actual model agreements that document their true BIT preferences. Unfortunately, most countries do not have published models. Even countries that do have a published model, many have also signed BITs that precede the publication of the model, providing limited information about the formation and evolution of preferences in earlier BITs. One silver lining, however, is that we are able to use these actual model BITs as a check on the synthetic models that we generate.

We have information on the content of published model BITs for 49 countries in the Database (Figure A3). For each country with a published model BIT, we compare their synthetic model to the corresponding true model and calculate the share of provisions that match across the two models. The average match share for all synthetic models that have a corresponding true model is 90.9 percent. A distribution of the match share between synthetic and actual models is presented in Figure 2.⁷¹ In Figure 3, we generate two

⁷¹It is interesting to note that two of the outliers with a low match share in the figure are the U.S. model BIT from 2012 and the Canada model agreement released in 2004. These outliers are being driven by a lag between the release of the model agreement and the signing of the next BIT. For example, the United States has not signed a new BIT based on the 2012 model, and so the U.S. synthetic model in 2012, which is generated using signed BITs, does not reflect the most recent changes in U.S. preferences embodied in the 2012 model agreement. We are considering different ways to address this. One option is to include investment chapters in FTAs, which will give us more data points (and, for some countries, more recent data points) for a country's preferences. One drawback of including FTAs is that these agreements may include more than two signatories, and so stronger assumptions are required in order to make inferences about the preferences of a single signatory. Another

separate distributions based on countries' income level. Overall, more developed countries (high income and upper middle income countries) have a higher average match share (91.4 percent) than less developed countries (low income and lower middle income countries), which have an average match share of 89 percent.

We use these synthetic models in three ways. The first is to estimate the input of a less developed country in the treaty negotiation based on how much the signed treaty deviates from the more developed country's synthetic model at the time of treaty signature. The second is to estimate the number of provisions for which a country has not formed preferences at the time of treaty signature. The third is to estimate how much a signed treaty deviates from a country's current (and evolving) preferences since the treaty was signed. We then use these measures to explore how they are correlated with BIT termination likelihood.

B. Estimating Negotiation Input

Qualitative data and anecdotal evidence suggest that the more developed signatory often provides the initial draft that serves as a template in a BIT negotiation. This is consistent with our finding below that lower income countries have more variation in their signed treaties, manifested in more missing provisions in their synthetic models. Thus, to estimate input in the negotiation of each treaty, we compare the signed treaty with the synthetic model (in the year the BIT is signed) of the *more developed* signatory⁷² and calculate the share of the provisions that match across the two treaties (Developed Match Share). We exclude missing preferences from the Developed Match Share calculation.

There are a total of 118 coded treaty provisions. Suppose, for simplicity, that the synthetic model for the more developed signatory has data for 100 of these provisions and the signed treaty matches the synthetic model on 90 of these provisions. The Developed Match Share in this case would be 90 out of 100 or 90 percent. We infer from this data that the less developed signatory was able to negotiate concessions from the more developed signatory on the

option is to calculate the match share based on the preferences in the year the first BIT is signed after the publication of the model agreement. This will improve the match share between synthetic and actual models, but does not provide us with a way to backdate shifting preferences in synthetic models. The lag in our current methodology does, however, give us at least a conservative estimate of shifting preferences for each signatory.

⁷²Relative development of the signatories is determined using the World Bank income level classification system. A signatory to a BIT is classified as more developed relative to its co-signatory if the signatory is categorized in a higher income grouping relative to the co-signatory.

drafting of the 10 provisions that do not match the synthetic model of the more developed signatory.

A higher Developed Match Share means there is less deviation from the more developed signatory's template, suggesting less negotiation input from the less developed signatory. A lower Developed Match Share means there is more deviation from the more developed signatory's template, suggesting a greater degree of negotiation input from the less developed signatory.

Note that negotiation input from the less developed signatory is an output of at least three different inputs. The first is the preferences of the less developed signatory. The second is the effort put in by the less developed signatory to have its preferences included in the treaty. The third is the willingness of the more developed signatory to grant concessions when negotiating the text of the agreement with the less developed signatory.

More input from the less developed signatory (resulting in a lower Developed Match Share) indicates that (1) the less developed signatory has formed its own preferences over more treaty provisions (and these preferences deviate from the preferences of its more developed co-signatory)⁷³, (2) the less developed signatory has pushed for the inclusion of its preferences in the treaty, and (3) the more developed signatory was willing to make concessions to include these new provisions that deviate from its own preferences.

By a similar logic, less input from the less developed signatory (resulting in a higher Developed Match Share) may be a reflection of a break-down of one or any number of these inputs. For example, less input from the less developed signatory may be caused by failure on the part of the less developed signatory to research and develop its own preferences, or to request that those preferences be included in the treaty. Alternatively, even if a less developed signatory puts forth effort to develop its own set of preferred provisions and it pushes hard in negotiations for the inclusion of these preferences in the treaty, a high Developed Match Share (low input from the less developed signatory) may still result if the less-developed signatory's negotiation position is weak relative to its more developed co-signatory and the co-signatory decides to steam role the negotiations.⁷⁴

Note that, since the Developed Match Share is calculated using the fixed preference of the more developed co-signatory in the year the BIT is signed, the negotiation input measure is constant across time for each BIT. Using this

⁷³Although BITs impose the same obligations on both signatories, in a typical pairing of BIT signatories, the less developed signatory will primarily be an FDI importer and the more developed signatory will primarily be an FDI exporter. This asymmetry may naturally lead to different preferences over treaty provisions, with FDI exporters preferring stronger protections, and FDI importers preferring more carve-outs to preserve their ability to regulate FDI without fear of arbitration claims being brought by protected investors.

⁷⁴Add footnote describing this very phenomenon in the context of bilateral tax treaties.

measure we are able to explore the correlation between negotiation input and BIT termination.

The distribution of the Developed Match Share is presented in Figure 4. The mean Developed Match Share is stable at around 95 percent from 1970 through 2000. From 2000 to 2020, the mean Developed Match Share falls from 95.1 percent to 87.8 percent. This suggests that input from the less developed cosignatory has more than doubled (from concessions in 4.9 percent of provisions to concessions in 12.2 percent of provisions) in recent BITs relative to earlier BITs.

C. Estimating Incomplete Preferences

Some countries may not have developed consistent BIT provision preferences until they have signed more BITs and have learned more about their consequences. This phenomenon is reflected in a country's synthetic model as missing provisions.⁷⁵ We use these missing provisions as a measure of preference completeness which may, itself, be another driver of treaty termination.

Specifically, we calculate Share Missing by taking the number of missing provisions in the synthetic model of the less developed signatory and dividing that number by the total number of possible coded provisions in the BIT (118). Thus, a higher Share Missing measure suggests that the less developed signatory has not yet formed a consistent preference (at least that we are able to observe) for a larger number of investment treaty provisions.

Figure 5 breaks down the share of missing provisions in synthetic models by a country's income level over time. For countries that signed BITs on or before 1970, our generated synthetic models have missing data for close to one third of BIT provisions. Preferences for low income countries are the most incomplete with 41.3 percent of provisions missing. Preferences for high income countries are the most complete with 24.5 percent of provisions missing. There is a convergence in completeness over time, with the average completeness for each income level passing and stabilizing at or above 90 percent from 2000 through 2020. This finding suggests that countries are gradually forming preferences over BIT provisions, with low income countries doing more catching up than other income groups.

The delay in preference formation over BIT provisions, particularly for lower income countries, suggests that countries may renege on their earlier BITs after developing more consistent preferences. We explore below

⁷⁵Recall that, in order to infer an initial preference for a country on a particular provision, four out of five BITs in the five treaty window must display a consistent version of the provision. If not, the provision is coded as missing by construction until we reach a five treaty window that satisfies the four out of five criteria.

whether or not there is a positive correlation between the level of incompleteness of the less-developed signatory's preferences (Share Missing) and the likelihood of BIT termination.

D. Estimating Evolving Preferences

Another possible driver of treaty termination is that, as countries update their preferences over time, the distance between a signed BIT and a signatory's current preferences may increase (or decrease) relative to the distance at the time the treaty enters into force. This may increase (or decrease) the probability the BIT is terminated or replaced by a new treaty.

To estimate how much an active BIT deviates from each signatory's current preferences, we calculate the evolving match share (Evolving Match Share) for each co-signatory by comparing the signed BIT with the current preferences of each co-signatory as reflected in their respective synthetic model. Note that, since the Evolving Match Share is calculated using the evolving preference of each signatory, the Evolving Match Share may change across the panel and will almost certainly be different for each signatory. Using these measures we are able to explore the correlation between preference updating and BIT termination.

The trend of the Evolving Match Share is broken down by income level in Figure 6. As can be seen in the figure, Evolving Match Share by income level is initially quite disperse, with low income countries having a mean Evolving Match Share of 84.9 percent relative to upper middle income countries having a mean Evolving Match Share of 96.7 percent. There is a convergence over time with all income levels having an Evolving Match Share between 85.8 percent (low income countries) and 88.8 percent (high income countries) by 2020. Note that the data used to generate this figure includes all BITs that are active at the end of each decade. Thus, terminations and renegotiations of early BITs likely help to account for this convergence across income level groupings.

In Figure 7, we generate a similar figure for all BITs signed before 1990. The BITs enter the dataset in the year they are signed and remain in the dataset across the remainder of the panel. For each BIT in this subset (including those that get terminated or renegotiated), we track its signatories' evolving preferences until 2020. This helps illustrate how shifting preferences have affected the Evolving Match Share over time for a stable set of BITs, rather than for a constantly evolving set of BITs that enter and exit throughout the panel. As Figure 7 shows, there is an overall downward trend in Evolving Match Share across all income groups. Low income countries, in particular, experience a decrease of around 20 percent in the proportion of signed BIT provisions which match with their current preferences. This reflects the larger shift in

preferences experienced by low income countries, which likely result from their lagged preference formation in the early years. In addition, high income countries and upper middle income countries, which started with a higher Evolving Match Share in the 1970s, also have a higher Evolving Match Share in 2020, as compared to the other two income groups. This suggests that despite preference evolution over time, the current preferences of more developed countries still deviate less from the text of pre-1990 BITs as compared to those of less developed countries.

IV. ANALYSIS

In this section we explore the correlation between three BIT outcome variables:⁷⁶ (1) unilateral termination, (2) renegotiation, and (3) bilateral termination, and three covariates: (1) negotiation input (measured by the Developed Match Share), (2) incomplete preferences (measured by the number of missing provisions in the synthetic model of the less developed signatory at the time the treaty was signed) (Share Missing), and (3) evolving preferences (measured by the mean of the Evolving Match Share of each signatory).

We use a panel data set that includes an observation for each BIT in each year that it is in force. For example, Chile and Peru signed a BIT on February 2, 2000, which entered into force on August 11, 2001. It was then replaced by a new treaty on March 1, 2009. So, the Chile-Peru BIT enters the data-set in 2001 and survives until 2009 (with an observation in 2009, but no observation in 2010). BITs that have entered into force and remain in force have observations beginning in the year the BIT enters into force through the end of the panel in 2020.

Using this dataset we test the following hypotheses:

- Hypothesis 1: BITs with a higher Developed Match Share (lower negotiation input) are more likely to be terminated (by unilateral termination or renegotiation).⁷⁷
- Hypothesis 2: BITs with higher Share Missing are more likely to be terminated (by unilateral termination or renegotiation).

⁷⁶Termination by expiration is not included in the analysis. In this paper we are interested in exploring how ex-post decision making is influenced by either negotiation input or preference updating. Termination by expiration is driven largely by the initial treaty drafting (i.e. the treaty is set to expire in the explicit terms of the treaty), not the ex-post actions of the signatories.

⁷⁷Note that, prior to undertaking our analysis, we expected, consistent with the discussion in footnote 18 in Section III, that bilateral terminations are driven primarily, if not exclusively, by the Achmea decision. Our regression results throughout this section confirm this expectation, finding a positive and statistically significant correlation between the Achmea decision and bilateral termination of Intra-EU BITs.

- Hypothesis 3: BITS with lower Evolving Match Share are more likely to be terminated (by unilateral termination or renegotiation).

To test these hypotheses, we use a Cox proportional hazard model, which allows us to estimate the “risk” that each BIT is terminated as time elapses.⁷⁸ In our analysis we estimate the correlation between BIT termination and (1) Developed Match Share, (2) Share Missing, and (3) Evolving Match Share.

Our analyses include six additional control variables that may also influence BIT termination events. First, we control for the year each treaty was signed (Year of Signature). We anticipate that older BITS are more likely to be terminated relative to newer BITS.

Second, we control for the difference in the two signatories’ income level as determined by the World Bank⁷⁹ (Difference in Income Level). We anticipate that if BIT signatories have the same income level, the BIT is more likely to be renegotiated rather than terminated because of a more level playing field for treaty negotiations. If BIT signatories have a larger difference in their income levels, we anticipate the BIT is more likely to be unilaterally terminated, since there may be divergence in country preferences and more imbalance in the relative bargaining positions of the signatories.

Third, we include an indicator variable that equals one if the BIT governs a dyad with no history of bilateral FDI (i.e. whether the BIT is considered a “Paper BIT”). We anticipate that BITS that do not govern bilateral FDI are less likely to be terminated, since the expected litigation risks from continuing the BIT should be low.

Fourth, we include two different measures of arbitration history of the signatories: (1) the cumulative number of ISDS cases brought against either signatory (Cumulative Number of Cases), and (2) the number of ISDS cases

⁷⁸This approach has the advantage of being able to estimate the effects of the explanatory variables on the risk of termination, while leaving the baseline risk unspecified. We use the following model:

$$h_{ij}(t) = h_0(t)e^{\beta_1 \text{Share}X_{ij} + \delta X_{ij} + \varepsilon_{ij}} \quad (1)$$

In this model, $h_{ij}(t)$ represents the probability of the BIT between countries i and j being terminated conditional on having continued until year t . $h_0(t)$ models the baseline hazard of termination; $\text{Share}X_{ij}$ is the covariate of interest (i.e. the Developed Match Share, Share Missing, or Evolving Match Share); and X_{ij} is the vector of control variables.

⁷⁹There are four different income levels: High Income (which we assign a score of 4), Upper Middle Income (3), Lower Middle Income (2), and Low Income (1). The difference is calculated by subtracting the income level of the lower income country from the higher income country. Note that regressions using Developed Match Share only include BITS between countries whose income level difference is greater than or equal to zero so that we can determine which of the two countries is more developed. Regressions using the Evolving Match Share include all BITS.

brought against either signatory in the previous year (Number of Cases). Informed by the findings of Haftel and Thompson (2017)⁸⁰ and Haftel, Broude, and Thompson (2019)⁸¹ we anticipate a positive correlation between ISDS history of the signatories and BIT termination.

Finally, we include a control variable for intra-EU BITs in any year after the *Achmea* decision (*Achmea*). As discussed earlier, the *Achmea* decision held that arbitration provisions in intra-EU BITs were incompatible with EU law. Ninety-five percent of BITs that are terminated by consent have been between intra-EU countries. Thus, we anticipate the *Achmea* variable will be positively correlated with BIT termination by consent and negatively correlated with unilateral termination and renegotiation.

A. *Negotiation Input*

To test our first hypothesis that less negotiation input is correlated with a higher rate of termination, we begin with a simple regression that estimates the coefficient Developed Match Share when the outcome variable is termination (by any means) (reported in the first column in Table 2). We then add in control variables one at a time to the model specification in columns 2 through 7.

Contrary to Hypothesis 1, we find a negative correlation between Developed Match Share and treaty termination, which is statistically significant in columns (1)-(3). The coefficient estimate can be interpreted by scaling the negotiation input measure by the total number of provisions for which the more developed co-signatory has a preference. Doing this conversion, our results suggest that one additional concession by the more developed co-signatory is correlated with a 0.8 percent increase in the probability the BIT will eventually be terminated.

In Table 3, we run separate regressions by termination type using the preferred model specification.⁸² The estimates in columns 3 and 4 in Table 3 suggest that the negative correlation in Table 2 is being driven by BITs that are terminated through renegotiation. By contrast, we now find a positive and statistically significant correlation between Developed Match Share and unilateral termination likelihood, which is consistent with our hypothesis that BITs with lower negotiation input from the less developed signatory are more likely to be unilaterally terminated.

To better understand the negative correlation between Developed Match Share and treaty renegotiation, we further explore whether the relationship

⁸⁰Cite

⁸¹Cite

⁸²Note that in the regressions for each type of termination, we use competing risk survival regressions which account for all competing events (i.e. terminations by another method).

between the two is different for BITs signed before and after 2000. Prior to 2000 there was little to no information about how arbitration tribunals would interpret and/or enforce BIT provisions. It is generally understood that countries became aware of their potential exposure to litigation and damages under a BIT following a series of highly influential ISDS awards issued around 2000.⁸³ Hence, we explore whether or not the correlation between Developed Match Share and treaty renegotiation is different for BITs signed before and after 2000.

To conduct this analysis, we divide the sample of BITs based on whether the treaty is signed before or after 2000, and run the same set of regressions as those in columns 3 and 4 of Table 3 for these two subsets of treaties. Table 4 present the results. The first two columns replicate columns 3 and 4 of Table 3 and serve as a baseline for comparison. The next two columns present results using the sample of pre-2000 BITs. The last two columns present results using the sample of post-2000 BITs.

We find a negative and statistically significant correlation between Developed Match Share and Renegotiation for both BITs signed before and after 2000. The coefficient on Developed Match Share for pre-2000 BITs is much smaller in magnitude and has lower significance level. One plausible explanation for this difference in the relationship between negotiation input and renegotiation likelihood for pre-2000 and post-2000 BITs is that the marginal value of early BITs is small relative to later BITs. For BITs signed after 2000, countries signed these BITs with more complete information about the costs of these treaties, and so the BITs that were signed most likely had an expected value greater than the updated costs, making it optimal for these new BITs to be signed in the first instance. Because these BITs have a higher relative expected value, the signatories have a greater interest in salvaging the deal either through renegotiation, or by allowing the original treaty to remain in force. This may explain why we find a stronger negative correlation between Developed Match Share and renegotiation likelihood for BITs signed after 2000: the more input that a signatory has already invested in a deal, the stronger the incentives may be to salvage it in light of the higher relative expected value of the deal.

B. Incomplete Preferences

To test our second hypothesis that BITs with higher Share Missing are more likely to be terminated, we follow the same approach used for the Developed Match Share measures. In Table 5 we find a positive and statistically significant correlation between Share Missing and termination likelihood in all but the most basic model specification (Columns 2 through 7). In Table 6 we find

⁸³Cite.

that the positive correlation is being driven by unilateral terminations, with a positive and statistically significant result only appearing in columns 1 and 2. These results are consistent with Hypothesis 2 that treaty termination is more likely if the less developed co-signatory has more incomplete preferences at the time the BIT is signed.

Contrary to Hypothesis 2, we do not find a similar result for BIT renegotiation. This may be indicative of countries with incomplete preferences being in a weaker position, relative to countries that form preferences earlier, to get their cosignatory back to the negotiating table. Barring renegotiation, these countries may decide their second best option is to unilateral terminate the agreement.

C. Evolving Preferences

To test our third hypothesis that BITs with lower Evolving Match Shares are more likely to be terminated, we again begin with a simple regression to calculate the coefficient on the Evolving Match Share (averaged across both the more and less developed co-signatory). This estimate is reported in column 1 of Table 7. We then add in control variables one at a time to the model specification in columns 2 through 7.

In Table 7, we find a negative and statistically significant correlation between Evolving Match Share and termination likelihood in columns (2) through (7). This finding is consistent with Hypothesis 3: a treaty becomes more likely to be terminated as the signatories' BIT preferences evolve and move further away from the treaty text (i.e. as the Evolving Match Share goes down, the probability of treaty termination goes up). On average, consistent preferences on one additional provision is correlated with a 0.07 percent decrease in the probability the BIT will eventually be terminated.

In Table 8, we again run separate regressions by termination type using the preferred model specification.⁸⁴ We find a negative and statistically significant correlation between Evolving Match Share and renegotiation likelihood. That is, as the distance between a signed BIT and both signatories' current preferences increase (lower Evolving Match Share), the probability that the BIT will be replaced by a new treaty also increases. However, we do not find similar results with respect to unilateral termination or bilateral termination.

D. Control Variables

Throughout our analyses, we also calculate coefficient estimates of the correlation between BIT termination events and six control variables that may also

⁸⁴Here we again use competing risk survival regressions which account for all competing events (i.e. terminations by another method).

be driving termination. When looking at terminations by any method (Tables 2, 5, and 7) the estimates are consistent with our expectations: older BITs are more likely to be terminated, BITs that govern no FDI are less likely to be terminated, and the more often the co-signatories have been named a respondent in ISDS, the more likely a BIT is terminated. Each of these results are highly statistically significant.

When looking at terminations by termination type (Tables 3, 6, and 8), the estimates are more nuanced. Consistent with our expectations, bilateral terminations are driven primarily, if not exclusively, by the *Achmea* decision. The coefficient estimate in each table is positive and highly statistically significant, and no outcome variables and almost no control variables have coefficient estimates that are statistically significant.⁸⁵

Consistent with our expectations, we find a negative and statistically significant correlation between BIT termination by renegotiation and the difference in income level of the BIT signatories (i.e. if there is a large difference between the signatories' income level, the BIT is less likely to be renegotiated) (columns 1 and 2 of Tables 3 and 6).⁸⁶ Also consistent with our expectations, we find a positive correlation between BIT termination by unilateral termination and the difference in income level (i.e. if there is a large difference between the signatories' income level, the BIT is more likely to be renegotiated). This correlation is only statistically significant in the estimates for the Evolving Match Share (Table 8).

Interestingly, we find *older* BITs are more likely to be unilateral terminated (columns 1 and 2 in Tables 3, 6, and 8), but *newer* BITs are more likely to be renegotiated (columns 3 and 4 in Tables 3 and 6).

Finally, our estimates suggest that the positive correlation between the ISDS history of the signatories and BIT termination is driven exclusively by unilateral terminations (columns 1 and 2 in Tables 3, 6, and 8). Contrary to Haftel and Thompson (2017)⁸⁷ and Haftel, Broude, and Thompson (2019)⁸⁸, we do not find a positive correlation between ISDS history and renegotiation (columns 3 and 4 in Tables 3, 6, and 8).⁸⁹

⁸⁵The only exception is a negative and statistically significant correlation between the difference in income-level and bilateral termination in columns 5 and 6 of Table 8.

⁸⁶Note that columns 1 and 2 of Table 8 also report a negative correlation, though the estimates are not statistically significant.

⁸⁷Cite

⁸⁸Cite

⁸⁹More work would need to be done to determine what is driving the difference in our estimates, though we posit three possible explanations here. First, our dataset includes termination events through 2020 whereas the Haftel, Broude, and Thompson data only includes termination events through 2010. Second, we follow the UNCTAD IIA classification of "renegotiation" by not classifying BITs that have been amended by a protocol as having been renegotiated. Haftel, Broude, and Thompson, by contrast, classify protocol amend-

V. CONCLUSION

In this paper we introduce an innovative method to infer individual country preferences over treaty provisions in BITs. To do this, we look for consistency in drafting patterns in early BITs signed by each country. After identifying consistent drafting patterns, we use these patterns to infer an initial set of preferences for each country. We then look at how these preferences evolve over time by rolling our analysis chronologically over the treaty history of each country.

Using this method, we are able to construct measures of three factors that may be contributing to the increasing instability of the investment treaty network. These factors are the amount of input of the less-developed signatory in the signed BIT, the completeness of the less-developed signatory's preferences at the time a BIT is signed, and the evolving preferences of both signatories relative to the content of a signed BIT.

In our initial descriptive statistics, we present evidence that (1) compared to earlier BITs, those that have been signed in the last decade are more balanced in terms of incorporating provisions that deviate from the preferred provisions of the more developed co-signatory (Figure 4); (2) all countries generally, and low income countries in particular, have developed more consistent preferences over time (Figure 5); and (3) these preferences are being updated in a way that has led to a signed BIT being out of sync with the current preference of its signatories (Figure 7).

Our statistical analysis explores how these factors may have contributed to unilateral treaty terminations and renegotiations. We find that (1) less input from the less developed signatory is positively correlated with unilateral termination (Finding 1); (2) more input from the less developed signatory is positively correlated with renegotiation (Finding 2); (3) more incomplete preferences of the less developed signatory at the time of signing is positively correlated with unilateral termination (Finding 3); and (4) lower preference match share (averaged across both signatories) is positively correlated with renegotiation (Finding 4).

Finding 1 suggests that more balanced negotiations between a host and source country may increase the stability of investor protections in a new BIT or FTA. Thus, to the extent capital exporting countries are interested in the longevity of negotiated protections for their investors, they may do well to think carefully before leveraging their bargaining position in the negotiations to dismiss the preferences of their co-signatory.

ments as renegotiation events. Finally, it may be the case that, in the context of renegotiation, preference formation and evolution turns out to erode the correlation between renegotiation and the ISDS history of the signatories. [Run regressions using our data without preference variables to test whether positive correlation is reintroduced.]

Finding 2 suggests that the fewer concessions a developing country is able to secure from the more developed co-signatory during the original BIT negotiation, the harder it may be to get the co-signatory to revise the treaty through renegotiation. This difficulty to renegotiate, however, may have led to terminations by other methods.

Finding 3 suggests that even though incomplete preferences may result in a windfall for the more developed signatory in the short run, it may come at the expense of more uncertainty regarding the stability of those protections in the long run. Providing more assistance to developing countries to inform them of available drafting options and help them form preferences will increase the overall stability of new treaties.

Finally, Finding 4 suggests that, as countries become more sophisticated and preferences are updated, we can expect to see more turnover in the investment treaty network. To the extent that both signatories have provisions they would like to change, we anticipate these are likely to result in a new treaty that better reflects the collective preferences of the signatories.

In this paper we have documented how early BITs in the investment treaty network were primarily a reflection of the preferences of more developed, capital exporting countries. This resulted in strong protections and remedies that have benefited protected investors at the expense of host countries in both expected and unexpected ways. We have also documented that, over time, less developed and capital importing countries have been updating their preferences in ways that are contributing to recent and seismic shifts in the investment treaty network. We can expect more turnover in the coming years as this process continues to play out. To the extent capital exporting countries value long-term stability, they would do well to pursue a more balanced and equitable approach when negotiating with their capital importing signatories.

Figure 1: BIT terminations by type

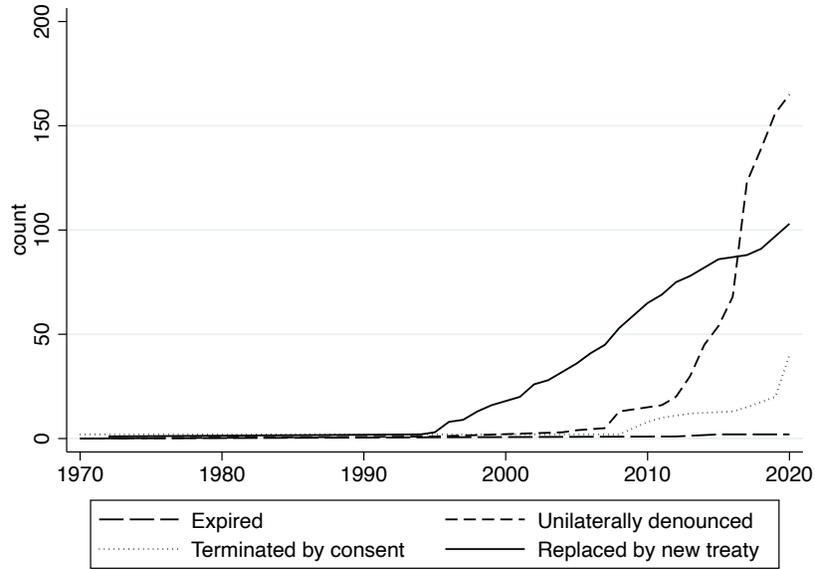


Figure 2: Match share between actual model BITs and synthetic model BITs

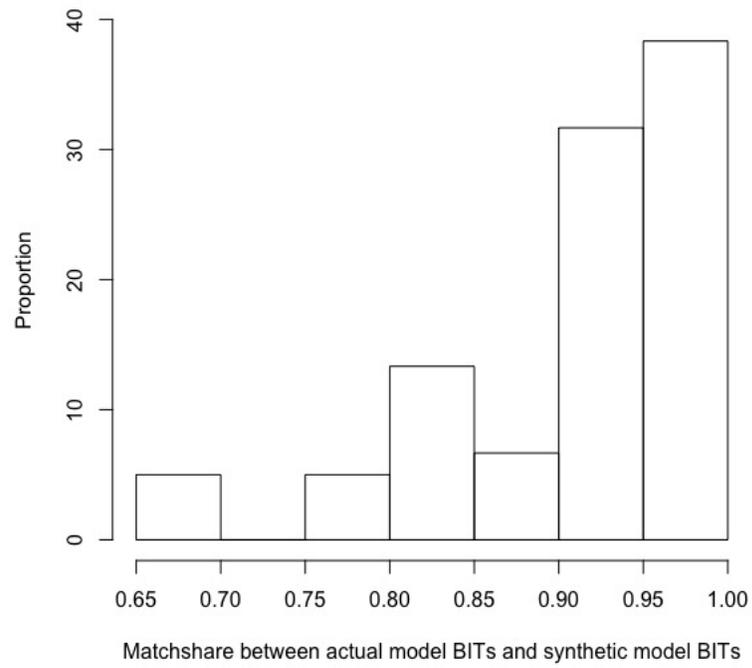


Figure 3: Match share between actual model BITs and synthetic model BITs by income group

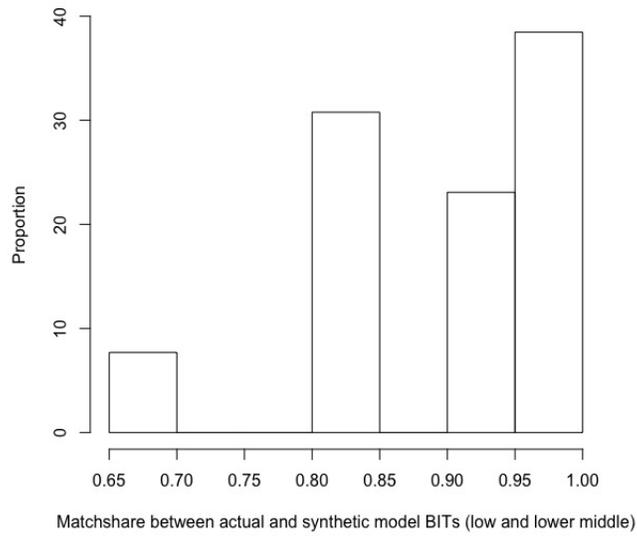
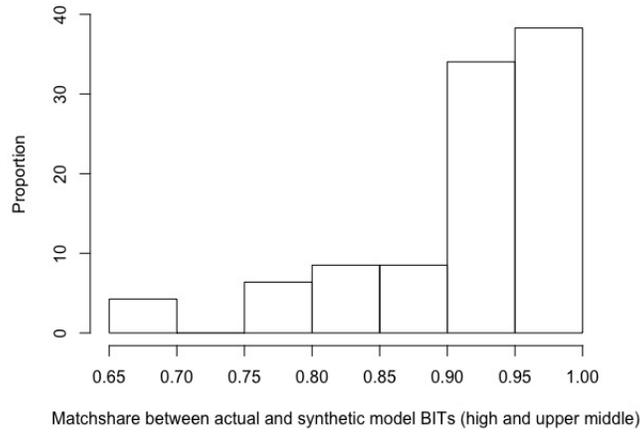


Figure 4: Developed Match Share Trend

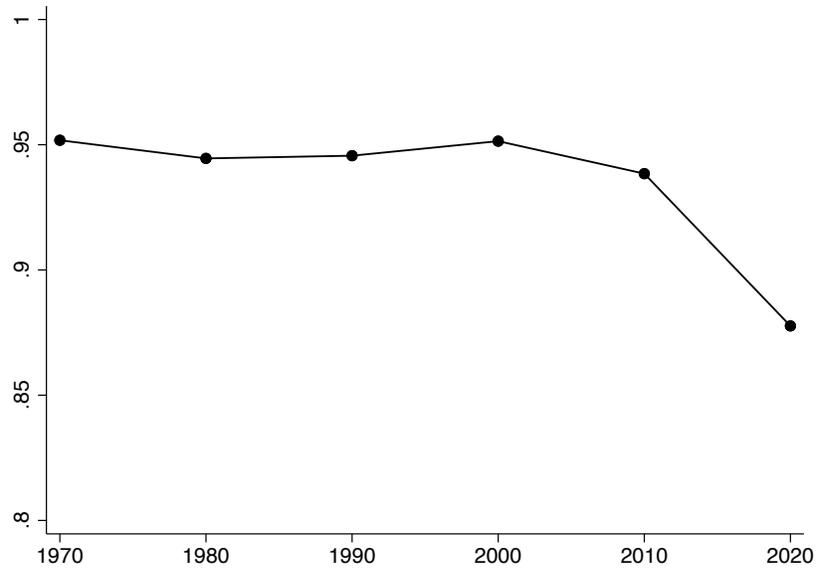


Figure 5: Missing Provisions in Synthetic Models

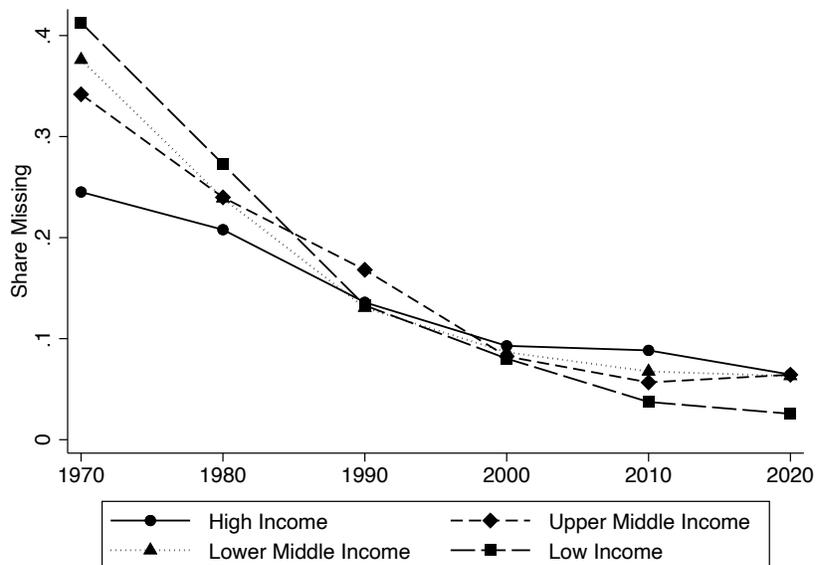


Figure 6: Evolving Preferences by Income Level

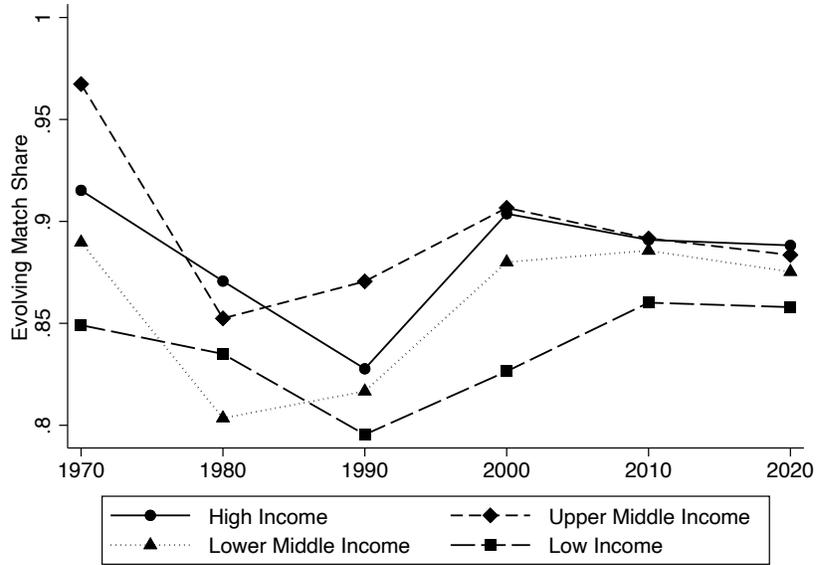


Figure 7: Evolving Preferences by Income Level (pre-1990 BITS)

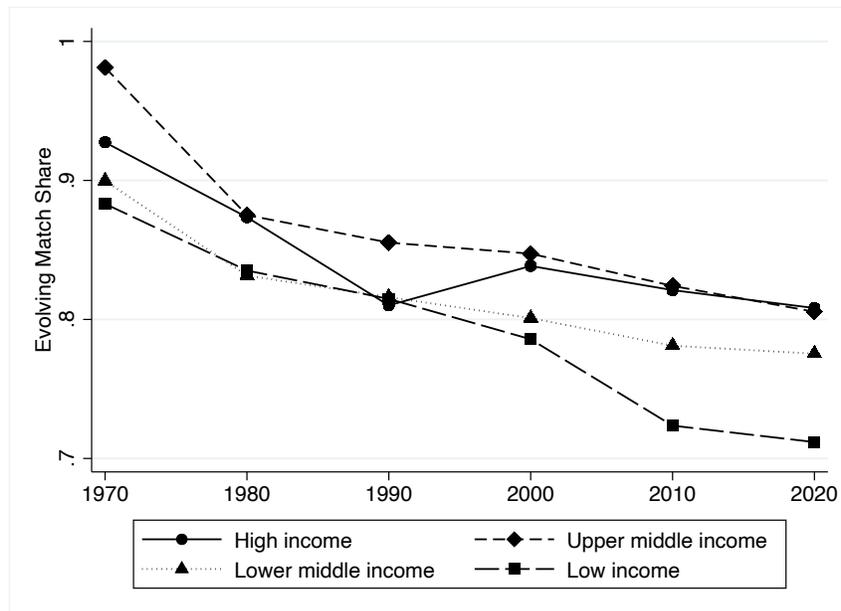


Table 1: Summary Statistics

Treaty status	N	%
Bilaterally terminate	63	2.49%
Expire	2	0.08%
Renegotiate	103	4.06%
Unilaterally terminate	165	6.51%
In force	2201	86.86%
Total	2534	100%

Table 2: Negotiation input and termination likelihood

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Developed match share	-1.550* (0.887)	-1.865** (0.920)	-1.642* (0.928)	-1.519 (0.932)	-1.479 (0.943)	-1.369 (0.953)	-1.363 (0.944)
Year of signature		0.0458*** (0.0108)	0.0400*** (0.0112)	0.0321*** (0.0111)	0.0300*** (0.0110)	0.0215* (0.0113)	0.0253** (0.0112)
Difference in income level			-0.307** (0.126)	-0.277** (0.126)	-0.255** (0.126)	-0.200 (0.129)	-0.228* (0.127)
Paper BIT				-0.704** (0.278)	-0.702** (0.278)	-0.657** (0.279)	-0.671** (0.279)
Achmea					1.261*** (0.428)	1.250*** (0.427)	1.256*** (0.428)
Cumulative number of cases (cosignatories)						0.0140*** (0.00425)	
Number of cases (cosignatories)							0.101*** (0.0218)
Observations	33694	33694	33544	33544	33544	31997	31997

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 3: Negotiation input and termination likelihood by termination type

	(1)	(2)	(3)	(4)	(5)	(6)
	Unilaterally terminate	Unilaterally terminate	Renegotiate	Renegotiate	Bilaterally terminate	Bilaterally terminate
Developed match share	2.534* (1.408)	2.495* (1.377)	-3.186*** (1.211)	-3.202*** (1.208)	1.374 (4.348)	1.558 (4.681)
Year of signature	0.0890*** (0.0144)	0.100*** (0.0159)	-0.0417*** (0.0101)	-0.0450*** (0.0102)	0.0687 (0.0484)	0.0760 (0.0505)
Difference in income level	0.120 (0.152)	0.0393 (0.148)	-0.640*** (0.180)	-0.629*** (0.181)	-1.257 (0.873)	-1.213 (0.858)
Paper BIT	-1.079** (0.514)	-1.117** (0.513)	-0.461 (0.336)	-0.437 (0.337)	1.649 (1.347)	1.533 (1.368)
Achmea	-17.69*** (0.323)	-17.13*** (0.287)	-21.10*** (0.350)	-17.11*** (0.341)	4.603*** (0.652)	4.654*** (0.599)
Cumulative number of cases (cosignatories)	0.0247*** (0.00390)		-0.0131 (0.0112)		-0.00928 (0.0204)	
Number of cases (cosignatories)		0.142*** (0.0163)		-0.0688 (0.101)		-0.492 (0.319)
Observations	31997	31997	31997	31997	31997	31997

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 4: Negotiation input and renegotiation likelihood (pre- vs. post-2000)

	(1)	(2)	(3)	(4)	(5)	(6)
	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate
Developed match share	-3.186*** (1.211)	-3.202*** (1.208)	-2.395** (1.206)	-2.415** (1.205)	-14.03*** (4.876)	-14.04*** (4.882)
Year of signature	-0.0417*** (0.0101)	-0.0450*** (0.0102)	-0.0440*** (0.0106)	-0.0490*** (0.0105)	-0.288 (0.236)	-0.286 (0.239)
Difference in income level	-0.640*** (0.180)	-0.629*** (0.181)	-0.657*** (0.186)	-0.643*** (0.187)	-1.025 (0.909)	-1.059 (0.946)
Paper BIT	-0.461 (0.336)	-0.437 (0.337)	-0.430 (0.340)	-0.397 (0.341)	-17.75*** (0.766)	-15.92*** (0.781)
Achmea	-21.10*** (0.350)	-17.11*** (0.341)	-21.02*** (0.370)	-17.04*** (0.354)	-16.33*** (0.844)	-14.37*** (0.838)
Cumulative number of cases (cosignatories)	-0.0131 (0.0112)		-0.0163 (0.0127)		-0.00362 (0.0152)	
Number of cases (cosignatories)		-0.0688 (0.101)		-0.0623 (0.106)		-0.133 (0.244)
All BITs	Yes	Yes				
Pre-2000 BITs			Yes	Yes		
Post-2000 BITs					Yes	Yes
Observations	31997	31997	25912	25912	6085	6085

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 5: Preference formation and termination likelihood

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Share Missing	0.0185 (0.274)	1.105*** (0.355)	1.148*** (0.355)	1.076*** (0.359)	1.047*** (0.359)	1.107*** (0.359)	1.023*** (0.361)
Year of signature		0.0628*** (0.0129)	0.0582*** (0.0131)	0.0502*** (0.0132)	0.0476*** (0.0131)	0.0394*** (0.0133)	0.0424*** (0.0132)
Difference in income level			-0.308** (0.126)	-0.278** (0.126)	-0.254** (0.127)	-0.198 (0.129)	-0.226* (0.128)
Paper BIT				-0.636** (0.279)	-0.635** (0.279)	-0.580** (0.280)	-0.602** (0.279)
Achmea					1.245*** (0.428)	1.220*** (0.427)	1.240*** (0.427)
Cumulative number of cases (cosignatories)						0.0155*** (0.00426)	
Number of cases (cosignatories)							0.102*** (0.0217)
Observations	33243	33243	33047	33047	33047	31515	31515

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 6: Preference formation and termination likelihood by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Share Missing	1.656*** (0.569)	1.399** (0.595)	0.547 (0.441)	0.562 (0.442)	-0.700 (1.364)	-0.436 (1.252)
Year of signature	0.108*** (0.0190)	0.117*** (0.0210)	-0.0343** (0.0144)	-0.0365** (0.0148)	0.0582 (0.0623)	0.0698 (0.0669)
Difference in income level	0.113 (0.150)	0.0392 (0.146)	-0.630*** (0.187)	-0.622*** (0.188)	-1.262 (0.897)	-1.216 (0.875)
Paper BIT	-1.043** (0.514)	-1.091** (0.513)	-0.390 (0.344)	-0.370 (0.346)	1.715 (1.408)	1.630 (1.435)
Achmea	-17.77*** (0.302)	-15.18*** (0.277)	-20.94*** (0.370)	-16.96*** (0.364)	4.614*** (0.636)	4.645*** (0.589)
Cumulative number of cases (cosignatories)	0.0253*** (0.00391)		-0.0112 (0.0108)		-0.00928 (0.0197)	
Number of cases (cosignatories)		0.137*** (0.0162)		-0.0630 (0.0985)		-0.488 (0.319)
Observations	31515	31515	31515	31515	31515	31515

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 7: Evolving preference (average) and termination likelihood

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)
Evolving match share	0.278 (0.473)	-1.429*** (0.552)	-1.405** (0.550)	-1.436*** (0.551)	-1.492*** (0.562)	-1.423** (0.556)	-1.469*** (0.557)
Year of signature		0.0590*** (0.0109)	0.0559*** (0.0111)	0.0486*** (0.0110)	0.0398*** (0.0108)	0.0260** (0.0110)	0.0349*** (0.0109)
Difference in income level			-0.128* (0.0717)	-0.0989 (0.0721)	-0.0336 (0.0735)	-0.0106 (0.0754)	-0.0266 (0.0742)
Paper BIT				-0.744*** (0.260)	-0.746*** (0.260)	-0.687*** (0.260)	-0.720*** (0.260)
Achmea					1.982*** (0.228)	1.880*** (0.230)	1.956*** (0.228)
Cumulative number of cases (cosignatories)						0.0199*** (0.00329)	
Number of cases (cosignatories)							0.0993*** (0.0202)
Observations	45536	45536	45327	45327	45327	43192	43192

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 8: Evolving preference (average) and termination likelihood by termination type

	(1)	(2)	(3)	(4)	(5)	(6)
	Unilaterally terminate	Unilaterally terminate	Renegotiate	Renegotiate	Bilaterally terminate	Bilaterally terminate
Evolving match share	0.888 (1.029)	0.855 (1.049)	-2.610*** (0.853)	-2.613*** (0.850)	-0.540 (1.677)	-0.428 (1.671)
Year of signature	0.0706*** (0.0146)	0.0856*** (0.0155)	-0.0184 (0.0146)	-0.0192 (0.0146)	0.00846 (0.0270)	0.0176 (0.0275)
Difference in income level	0.224** (0.0943)	0.174* (0.0903)	-0.130 (0.108)	-0.129 (0.108)	-1.130*** (0.321)	-1.141*** (0.317)
Paper BIT	-1.252** (0.512)	-1.299** (0.511)	-0.462 (0.332)	-0.457 (0.332)	-0.519 (1.078)	-0.542 (1.077)
Achmea	0.848** (0.402)	0.955** (0.393)	-20.74*** (0.267)	-20.77*** (0.250)	3.443*** (0.462)	3.519*** (0.448)
Cumulative number of cases (cosignatories)	0.0276*** (0.00295)		-0.00532 (0.00874)		0.00781 (0.00860)	
Number of cases (cosignatories)		0.136*** (0.0149)		-0.0418 (0.0810)		-0.0583 (0.0870)
Observations	43192	43192	43192	43192	43192	43192

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

VI. FIGURE APPENDIX

Figure A1: BIT signatories

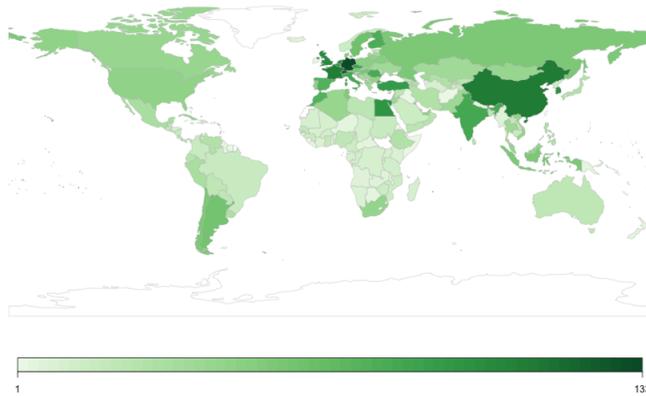


Figure A2: BIT termination

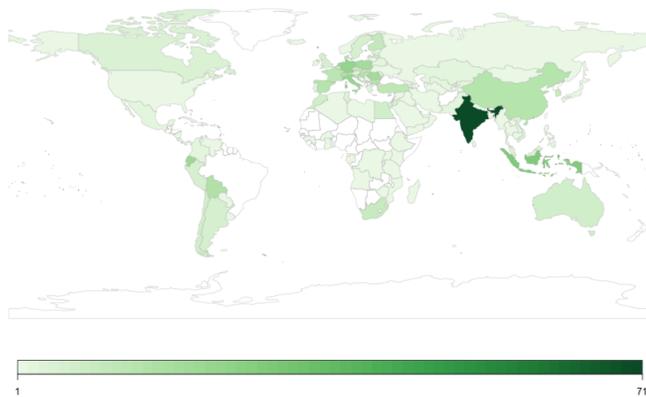
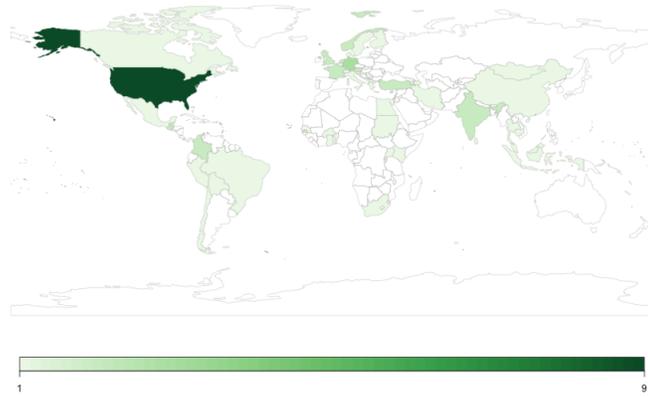


Figure A3: Model BITs



VII. TABLE APPENDIX

Table A1: Negotiation input and termination likelihood

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Developed match share	-3.995*** (1.150)	-4.164*** (1.180)	-3.914*** (1.188)	-3.733*** (1.195)	-3.672*** (1.206)	-3.491*** (1.219)	-3.521*** (1.208)
Year of signature		0.0449*** (0.0107)	0.0392*** (0.0111)	0.0316*** (0.0110)	0.0296*** (0.0110)	0.0212* (0.0113)	0.0249** (0.0111)
Difference in income level			-0.300** (0.126)	-0.271** (0.126)	-0.250** (0.126)	-0.196 (0.129)	-0.223* (0.127)
Paper BIT				-0.683** (0.279)	-0.682** (0.279)	-0.639** (0.279)	-0.652** (0.279)
Achmea					1.232*** (0.428)	1.224*** (0.427)	1.230*** (0.428)
Cumulative number of cases (cosignatories)						0.0136*** (0.00428)	
Number of cases (cosignatories)							0.101*** (0.0219)
Observations	33686	33686	33536	33536	33536	31990	31990

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A2: Negotiation input and termination likelihood by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Developed match share	-1.364 (1.419)	-1.409 (1.382)	-4.773*** (1.851)	-4.772*** (1.845)	1.441 (5.547)	2.162 (5.505)
Year of signature	0.0865*** (0.0136)	0.0975*** (0.0150)	-0.0430*** (0.0100)	-0.0465*** (0.0101)	0.0699 (0.0494)	0.0778 (0.0523)
Difference in income level	0.155 (0.155)	0.0718 (0.150)	-0.658*** (0.179)	-0.646*** (0.180)	-1.246 (0.873)	-1.204 (0.861)
Paper BIT	-1.062** (0.515)	-1.098** (0.514)	-0.454 (0.336)	-0.428 (0.338)	1.654 (1.352)	1.537 (1.371)
Achmea	-17.76*** (0.316)	-15.19*** (0.282)	-21.08*** (0.348)	-17.09*** (0.339)	4.606*** (0.647)	4.680*** (0.582)
Cumulative number of cases (cosignatories)	0.0242*** (0.00390)		-0.0138 (0.0114)		-0.00933 (0.0203)	
Number of cases (cosignatories)		0.139*** (0.0162)		-0.0722 (0.103)		-0.498 (0.322)
Observations	31990	31990	31990	31990	31990	31990

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A3: Negotiation input and renegotiation likelihood (pre- vs. post-2000)

	(1)	(2)	(3)	(4)	(5)	(6)
	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate
Developed match share	-4.773*** (1.851)	-4.772*** (1.845)	-3.606* (1.848)	-3.598* (1.844)	-13.35** (5.267)	-13.64** (5.831)
Year of signature	-0.0430*** (0.0100)	-0.0465*** (0.0101)	-0.0446*** (0.0106)	-0.0498*** (0.0105)	-0.249 (0.219)	-0.237 (0.226)
Difference in income level	-0.658*** (0.179)	-0.646*** (0.180)	-0.669*** (0.185)	-0.655*** (0.186)	-1.103 (1.109)	-1.154 (1.126)
Paper BIT	-0.454 (0.336)	-0.428 (0.338)	-0.424 (0.340)	-0.390 (0.342)	-17.72*** (0.681)	-15.96*** (0.674)
Achmea	-21.08*** (0.348)	-17.09*** (0.339)	-21.03*** (0.368)	-17.06*** (0.351)	-16.83*** (0.875)	-14.95*** (0.854)
Cumulative number of cases (cosignatories)	-0.0138 (0.0114)		-0.0169 (0.0129)		0.0111 (0.0184)	
Number of cases (cosignatories)		-0.0722 (0.103)		-0.0650 (0.107)		-0.0810 (0.253)
All BITs	Yes	Yes				
Pre-2000 BITs			Yes	Yes		
Post-2000 BITs					Yes	Yes
Observations	31990	31990	25912	25912	6078	6078

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A4: Preference formation and termination likelihood

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Share missing	0.512 (0.698)	3.645*** (0.909)	3.765*** (0.915)	3.611*** (0.924)	3.590*** (0.926)	3.712*** (0.923)	3.492*** (0.930)
Year of signature		0.0686*** (0.0129)	0.0640*** (0.0131)	0.0563*** (0.0132)	0.0541*** (0.0131)	0.0454*** (0.0132)	0.0486*** (0.0132)
Difference in income level			-0.315** (0.126)	-0.286** (0.126)	-0.262** (0.127)	-0.209 (0.129)	-0.236* (0.128)
Paper BIT				-0.627** (0.278)	-0.625** (0.278)	-0.571** (0.279)	-0.594** (0.279)
Achmea					1.273*** (0.427)	1.250*** (0.427)	1.270*** (0.427)
Cumulative number of cases (cosignatories)						0.0156*** (0.00428)	
Number of cases (cosignatories)							0.100*** (0.0218)
Observations	33235	33235	33039	33039	33039	31508	31508

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A5: Preference formation and termination likelihood by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Share missing	5.898*** (1.366)	5.540*** (1.444)	1.577 (1.217)	1.622 (1.224)	-2.264 (4.098)	-1.587 (3.839)
Year of signature	0.119*** (0.0186)	0.130*** (0.0208)	-0.0333** (0.0145)	-0.0355** (0.0148)	0.0553 (0.0658)	0.0666 (0.0710)
Difference in income level	0.0792 (0.150)	0.00922 (0.146)	-0.623*** (0.186)	-0.614*** (0.187)	-1.270 (0.913)	-1.223 (0.895)
Paper BIT	-1.042** (0.513)	-1.087** (0.512)	-0.392 (0.345)	-0.371 (0.346)	1.715 (1.412)	1.622 (1.448)
Achmea	-17.72*** (0.309)	-17.14*** (0.286)	-20.92*** (0.368)	-16.94*** (0.362)	4.599*** (0.633)	4.642*** (0.580)
Cumulative number of cases (cosignatories)	0.0253*** (0.00389)		-0.0113 (0.0109)		-0.00928 (0.0197)	
Number of cases (cosignatories)		0.135*** (0.0165)		-0.0647 (0.0992)		-0.488 (0.320)
Observations	31508	31508	31508	31508	31508	31508

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A6: Evolving preference (average) and termination likelihood

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Evolving match share	0.236 (0.678)	-1.652** (0.747)	-1.617** (0.746)	-1.634** (0.749)	-1.726** (0.760)	-1.708** (0.741)	-1.717** (0.752)
Year of signature		0.0549*** (0.0105)	0.0519*** (0.0107)	0.0444*** (0.0106)	0.0357*** (0.0104)	0.0223** (0.0105)	0.0309*** (0.0105)
Difference in income level			-0.126* (0.0717)	-0.0976 (0.0721)	-0.0324 (0.0735)	-0.00954 (0.0755)	-0.0254 (0.0742)
Paper BIT				-0.737*** (0.260)	-0.739*** (0.260)	-0.679*** (0.260)	-0.713*** (0.260)
Achmea					1.985*** (0.228)	1.882*** (0.230)	1.959*** (0.228)
Cumulative number of cases (cosignatories)						0.0201*** (0.00330)	
Number of cases (cosignatories)							0.0997*** (0.0202)
Observations	45536	45536	45303	45303	45303	43170	43170

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A7: Evolving preference (average) and termination likelihood by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Evolving match share	1.526 (1.234)	1.803 (1.321)	-4.372*** (1.159)	-4.360*** (1.153)	-0.970 (2.141)	-0.659 (2.203)
Year of signature	0.0706*** (0.0146)	0.0847*** (0.0155)	-0.0184 (0.0132)	-0.0194 (0.0131)	0.00876 (0.0266)	0.0174 (0.0272)
Difference in income level	0.222** (0.0939)	0.172* (0.0900)	-0.120 (0.108)	-0.120 (0.109)	-1.135*** (0.323)	-1.143*** (0.318)
Paper BIT	-1.263** (0.511)	-1.311** (0.510)	-0.482 (0.334)	-0.476 (0.335)	-0.515 (1.077)	-0.539 (1.076)
Achmea	0.836** (0.404)	0.934** (0.395)	-20.71*** (0.264)	-20.75*** (0.249)	3.451*** (0.457)	3.523*** (0.443)
Cumulative number of cases (cosignatories)	0.0273*** (0.00298)		-0.00576 (0.00893)		0.00810 (0.00856)	
Number of cases (cosignatories)		0.135*** (0.0150)		-0.0446 (0.0826)		-0.0576 (0.0864)
Observations	43170	43170	43170	43170	43170	43170

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

* $p < .10$, ** $p < .05$, *** $p < .01$