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Article

(Un)stable BITs

Cree Jones[†] & Weijia Rao^{††}

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INTRODUCTION

In November 2018, after more than a year of negotiations by representatives from Canada, Mexico, and the United States, the United States-Mexico-Canada Agreement (USMCA) was signed by leaders from the three member states, replacing the North American Free Trade Agreement (NAFTA).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 partial removal of investor-state dispute settlement (ISDS), the primary mechanism that had been used to enforce the investor protections guaranteed by NAFTA.³

The partial removal of ISDS from the USMCA is just one manifestation of the growing instability of investor protections promulgated under investment chapters in both 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 forty percent (\$640 billion) 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 investors from one contracting state investing in another contracting state.⁵ Almost all of these agreements also give foreign investors the right to directly bring arbitration claims against host states for violations of the substantive investment protections in these treaties.⁶ Protected investors have

1. See M. Angeles Villarreal & Ian F. Fergusson, *U.S.-Mexico-Canada (USMCA) Trade Agreement*, CONG. RES. SERV., IF10997-16 at 1 (2021), <https://crsreports.congress.gov/product/pdf/IF/IF10997/16>. A revised version of the agreement was signed on December 10, 2019. See *id.* The USMCA entered into force on July 1, 2020. See *id.*

2. Jen Kirby, *The US, Canada, and Mexico Have a New NAFTA Deal. It's Called USMCA*, VOX (Oct. 1, 2018), <https://www.vox.com/2018/10/1/17921966/usmca-nafta-agreement-trump-canada>.

3. See Villarreal & Fergusson, *supra* note 1, at 1. ISDS was only preserved between the United States and Mexico, and only after claims are first fully litigated in domestic courts (that is, after national remedies are exhausted). *Id.* A few industries are exempt from the exhaustion of national remedies requirement (oil, natural gas, power generation, infrastructure, and telecommunications). *Id.* Interestingly, ISDS remains available for Canadian investors in Mexico and Mexican investors in Canada through the investment chapter of the Trans-Pacific Partnership (TPP). See TPP Full Text, OFF. OF THE U.S. TRADE REP., Ch. 9, § B. For a detailed discussion of ISDS changes under the USMCA, see U.S. INTERNATIONAL TRADE COMMISSION, U.S.-MEXICO-CANADA TRADE AGREEMENT: LIKELY IMPACT ON THE U.S. ECONOMY AND ON SPECIFIC INDUSTRY SECTORS 194-99 (2019).

4. See U.N. Conf. on Trade and Dev., *World Investment Report 2021: Investing in Sustainable Recovery*, at 6, U.N. Doc. UNCTAD/WIR/2021 (2021) (reporting total FDI flows). The amount of FDI flowing between countries with either a BIT or FDI was calculated using proprietary bilateral FDI data provided directly to the authors by UNCTAD.

5. See JONATHAN BONNITCHA, LAUGE N. SKOVGAARD POULSEN & MICHAEL WAIBEL, *THE POLITICAL ECONOMY OF THE INVESTMENT TREATY REGIME* 93-126 (2017) (explaining the standard investment protections included in investment treaties).

6. Of 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. See *International Investment Agreements Navigator*, U.N. CONF. ON TRADE & DEV., <https://investmentpolicy.unctad.org/international-investment-agreements> (last visited Feb. 2, 2022) [hereinafter *IIA Navigator*].

initiated more than 1,100 dispute settlement proceedings under either a BIT or an investment chapter in an FTA; collectively, they have been awarded (through arbitration or settlements) more than \$76 billion.⁷ Although BITs have existed for over sixty years and FTAs have existed for over thirty-five years, the growing incidence of ISDS under these agreements is a fairly recent phenomenon.⁸ Seven hundred and thirty-three claims (or sixty-six percent of all claims) have been filed since 2010.⁹

Anecdotal evidence suggests that at least some, and possibly many, developing countries did not appreciate their potential exposure to arbitration under these treaties when they were initially signed. Evidence also suggests that many developing countries had little input in the drafting of early BITs, the terms of which would later prove costly for many host countries. Most early BITs were concluded between developed and developing countries. The negotiations of these BITs were typically initiated by developed countries, 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.¹⁰ Most developing countries signed off on Western BIT templates without carefully considering the alternatives.¹¹ As a result, until they were named as respondents in investment arbitration claims, these developing countries often had little idea what they were getting into, nor did they realize the meaning of the vague treaty terms by which they had committed to be bound.

For example, when Pakistan, which signed the very first BIT (the 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.¹² 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.¹³ “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.”¹⁴ The Pakistani officials participating in those negotiations mistakenly considered the treaty to simply be a piece of paper that

7. About \$50 billion were awarded in disputes between former Yukos shareholders and Russia. See *Investment Dispute Settlement Navigator*, U.N. CONF. ON TRADE & DEV., <https://investmentpolicy.unctad.org/investment-dispute-settlement> (last visited Feb. 2, 2022) [hereinafter *IDS Navigator*].

8. The first BIT was signed by Germany and Pakistan in 1959. See *IIA Navigator*, *supra* note 6. The first FTA was signed by Israel and the United States in 1985. See *id.*

9. See *IDS Navigator*, *supra* note 7.

10. See LAUGE N. SKOVGAARD POULSEN, *BOUNDED RATIONALITY AND ECONOMIC DIPLOMACY: THE POLITICS OF INVESTMENT TREATIES IN DEVELOPING COUNTRIES* 14 (2015).

11. See *id.*

12. See Lauge Skovgaard Poulsen & 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*, IISD (March 16, 2009), <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/>.

13. See *id.*

14. *Id.*

would facilitate good press at home.¹⁵

This narrative is not unique to Pakistan. There is evidence suggesting that officials from many developing countries in charge of BIT negotiations often lacked both experience and expertise in the field.¹⁶ At times, the negotiators from developed countries had to explain the meaning of treaty terms to their developing country counterparts, who often mistook those terms for nonbinding soft law.¹⁷ These early imbalances in treaty negotiations, combined with the recent surge in ISDS cases initiated by foreign investors, has fueled increasing controversy regarding these investment treaties and their provisions.¹⁸ Several countries have been on the receiving end of controversial arbitration claims.¹⁹

Some of these countries (primarily countries with developing economies) have terminated their BITs en masse, denouncing the system as unjust and biased.²⁰ Other countries have chosen to pursue more incremental reforms by renegotiating existing BITs so that they are better tailored to reflect their preferences.²¹ Based on data published in May 2022, of the 2,667 BITs that entered into force on or before December 31, 2020, 165 have been unilaterally terminated, 121 have been renegotiated, fifty-one have been terminated by the consent of both signatories, and fourteen have expired.²² The remaining 2,316

15. *See id.*

16. *See* POULSEN, *supra* note 10, at 18.

17. *See id.*

18. For example, at the 2014 World Investment Forum organized by UNCTAD, more than fifty key stakeholders, including chief investment treaty negotiators for several countries, issued statements calling for reforms to investment treaty enforcement and investor-state arbitration. *See World Investment Forum 2014: Reforming the International Investment Agreements Regime*, U.N. CONF. ON TRADE & DEV. (Oct. 16, 2014), <https://perma.cc/8BWU-MSFR>; *see also* 220+ Law and Economics Professors Sign Letter Opposing ISDS in the TPP, COLUM. CTR. ON SUSTAINABLE DEV. (Sep. 7, 2016), <https://perma.cc/SY5X-AG59> (letter signed by more than 220 law and economics professors urging the U.S. Congress to oppose the inclusion of investor-state dispute settlement provisions in two regional trade agreements: the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership).

19. For example, investors have brought claims against host countries alleging that their protected investments have been treated unfairly in violation of the Fair and Equitable Treatment (FET) standard included in almost all investment treaties. *See, e.g.,* Pope & Talbot Inc. v. Government of Canada, Award on Merits of Phase 2, 41 I.L.M. 1347 (2002). Host countries respond to these claims by alleging that the treatment is fair and also by arguing that the FET standard does not guarantee fair treatment as an absolute standard in isolation, but as a standard that conforms to the minimum standard of treatment under customary international law. *See, e.g., id.* Arbitration tribunals have often sided with investors on this question. *See, e.g., id.* (extending FET beyond the customary international law minimum standard). Countries have since updated their drafting practices to cabin FET within the standard set by customary international law. *See* Cree Jones & Weijia Rao, *Sticky BITs*, 61 HARV. INT. L.J. 357 (2020) (documenting the innovation and adoption of the customary international law minimum standard limitation within the investment treaty network).

20. Countries that have terminated their BITs en masse include India and Ecuador. *See* Kavaljit Singh & Burghard Ilge, *India Overhauls its Investment Treaty Regime*, FIN. TIMES (Jul. 15, 2016), <https://www.ft.com/content/53bd355c-8203-34af-9c27-7bf990a447dc>; *see also* Cecilia Olivet, *Why did Ecuador Terminate All Its Bilateral Investment Treaties?*, TRANSNAT'L INST. (May 25, 2017), <https://perma.cc/Q7QT-YL52>. Other countries, including South Africa, Bolivia, and Indonesia, have also unilaterally terminated many BITs, though not at the same scale as India and Ecuador. *See IIA Navigator*, *supra* note 6.

21. *See id.*; *see also* David Price, *Indonesia's Bold Strategy on Bilateral Investment Treaties: Seeking an Equitable Climate for Investment?*, 7 ASIAN J. INT'L L. 124 (2017).

22. *IIA Navigator*, *supra* note 6. These numbers reflect all termination events that occurred on or before December 31, 2020. For consistency, 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

BITs remain stable and have not been terminated.²³ By contrast, there has been much less turnover among FTAs.²⁴ Of the 131 FTAs that have entered into force, two have been replaced by an FTA that covers a larger geographic region,²⁵ one (the Jordan-Turkey FTA) has been unilaterally terminated,²⁶ and one (NAFTA) has been renegotiated by its original signatories.²⁷

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. Specifically, we explore whether the variation in BIT termination events is driven by one or more of the following: (1) an initial imbalance in negotiation input; (2) a change in the relative bargaining position of the signatories after the BIT has entered into force; (3) a delay in forming a preference over BIT provisions; and (4) a subsequent shift in signatories' preferences over BIT provisions.²⁸

In order to explore the relationship between BIT terminations and these potential factors, we introduce and calculate measures for each of these factors. These measures, critically, turn on a novel method we developed to infer individual countries' preferences from negotiated instruments. Using these measures and a series of regressions, we find (1) some (although inconsistent) evidence that more negotiation input from the less developed signatory is associated with a lower risk of unilateral termination; (2) consistent evidence that more negotiation input from the less developed signatory is associated with a higher risk of renegotiation; (3) consistent evidence that an increase in the bargaining position of the less developed signatory is associated with a higher risk of unilateral termination; (4) consistent evidence that a delay in preference formation of the less developed signatory is associated with a higher risk of unilateral termination; and (5) consistent evidence that a shift in the less developed signatory's preferences away from the content of an active BIT is associated with a higher risk of both unilateral termination and renegotiation. We also find some evidence that the lack of negotiation input better explains unilateral termination decisions of incremental terminators which selectively terminated some, but not all of their BITs, while an increase in bargaining position better explains unilateral termination decisions of mass terminators

terminate," "bilaterally terminate," or "renegotiate."

23. *See id.*

24. *See id.*

25. The Albania-Montenegro-Serbia FTA was terminated on November 22, 2007 and has been replaced by the Central European FTA. *Id.* The Mexico-Nicaragua FTA was terminated on September 1, 2013 and has been replaced by the Central America-Mexico FTA. *Id.*

26. This treaty was terminated on November 22, 2018. *Id.*

27. *See Villarreal & Fergusson, supra* note 1. 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 an updated U.S. preference 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.

28. Because of the low rate of termination of FTAs, our analysis here focuses on survival and termination outcomes of BITs.

(India and Ecuador) which terminated the vast majority of their BITs.

Collectively, these findings suggest that as less developed, capital-importing countries continue to form and update their preferences for BIT protections and obligations and continue to obtain a stronger bargaining position, allowing them to recalibrate these agreements to account for those preferences, one can expect the turnover in the investment treaty network to continue. However, to the extent capital-exporting countries value the investment protections that BITs provide to their investors, this Article's findings suggest that these countries would do well to pursue a more balanced and equitable approach when negotiating with their capital-importing counterparts, which could reduce the risk of unilateral termination by their cosignatories.

This Article proceeds as follows. The remainder of this Part describes the popular narrative surrounding BIT termination events and identifies how this project augments this narrative. This Part also introduces the method we use to disentangle individual country preferences from negotiated BITs. Part II discusses a series of case studies that illustrate the potential influence that countries' negotiation input and evolving preferences may have over BIT termination. Part III introduces the data and research design. Part IV presents the empirical findings. Part V concludes.

A. Popular Narrative

Popular narrative attributes BIT terminations to the confluence of two developments.²⁹ 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 the existence of substantial scholarship attempting to evaluate it.³⁰ The ability of a BIT to attract foreign

29. See, e.g., Lise Johnson, Jesse Coleman, Guven Brooke & Lisa E. Sachs, *Costs and Benefits of Investment Treaties: Practical Considerations for States*, COLUM. CTR. ON SUSTAINABLE DEV. STAFF PUBL'NS (March 2018), https://scholarship.law.columbia.edu/sustainable_investment_staffpubs/81/.

30. Many of these papers find a positive correlation between BITs and bilateral FDI flows. See, e.g., Eric Neumayer & Laura Spess, *Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries?*, 33 *WORLD DEV.* 1567 (2005) (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 Matthias Busse, Jens Koniger & Peter Nunnenkamp, *FDI Promotion through Bilateral Investment Treaties: More than a BIT?*, 146 *REV. WORLD ECON.* 144 (2010) (presenting similar findings using bilateral FDI data and a more sophisticated research design). Other research finds little or no correlation between BITs and FDI. See, e.g., Jason W. Yackee, *Do Bits Really Work? Revisiting the Empirical Link between Investment Treaties and Foreign Direct Investment*, Univ. of Wisconsin Legal Studies Research Paper, No. 1054 (2007), <https://ssrn.com/abstract=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 *The Impact of International Investment Agreements on Foreign Direct Investment: An Overview of Empirical Studies 1998-2014*, IIA Issues Note, U.N. CONF. ON TRADE & DEV. (Sept. 2014), <https://investmentpolicy.unctad.org/uploaded-files/document/unctad-web-diac-pcb-2014-Sep%2024.pdf> (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 BONNITCHA, POULSEN & WAIBEL, *supra* note 5, at 158-66 (summarizing the findings of key empirical studies and discussing the challenges of properly measuring the causal effect of BITs on FDI). One study, leveraging an arbitration decision that unexpectedly expanded investor protections in many (but not all) BITs, uses a difference-in-differences research design to attempt causal estimation. Cree Jones, *Do Legal Remedies Promote Investment? New Evidence from a Natural Experiment in the Investment Treaty Network* (Dec. 15, 2017) (unpublished manuscript), <https://perma.cc/2UE7-CQ3P>. That paper presents

investment is, at best, uncertain.

On the other hand, developments in ISDS have made it convincingly clear that the costs of a BIT are not zero and are likely much higher than host countries anticipated when signing these agreements.³¹ Such costs entail not only the large amount of damages that a respondent country has to pay after losing a case (averaging \$545 million),³² but also the high litigation costs governments incur in defending a case (averaging about \$5 million).³³ In addition, ISDS proceedings, and even the threat of their initiation, constrain host countries' abilities to regulate protected foreign investments specifically and to regulate commerce more generally.³⁴ The popular narrative thus holds that the imbalance in costs and benefits of BITs have led to the termination of these treaties.³⁵ Although compelling, this popular narrative is incomplete in that it fails to explain why some BITs survive and others succumb to termination—that is, it fails to explain what drives the variation in outcomes across BITs. In particular, some countries, such as India and Ecuador, terminated the vast majority of their BITs. Other countries, such as Indonesia and South Africa, only terminated some, but not all of their BITs. The popular narrative fails to explain the variation within and among countries with respect to BIT outcomes.

Despite the considerable controversy surrounding BIT instability and the important implications thereof, empirical research on this question is thin.³⁶ Important work by Haftel and Thompson and by Haftel, Broude, and Thompson focuses on the relationship between ISDS and one type of BIT termination event: renegotiation. They find that the cosignatories' tendencies to renegotiate BITs is affected by their previous experiences in ISDS proceedings. This finding is consistent with the popular narrative and helps explain why some but not all BITs are renegotiated.³⁷ This Article builds on this nascent literature by

convincing evidence that investors did not increase investment in response to these new protections. It also suggests that judicially imposed provisions may, perversely, have caused a decline in demand for foreign investment among host countries. *Id.*

31. See, e.g., Johnson et al., *supra* note 29, at 5.

32. See *id.* at 11.

33. See U.N. Comm. on Int'l Trade L., Working Group III (Investor-State Dispute Settlement Reform), *Possible reform of investor-State dispute settlement (ISDS) — cost and duration*, at 10, U.N. Doc. A/CN.9/WG.III/WP.153 (August 31, 2018), <https://undocs.org/en/A/CN.9/WG.III/WP.153>.

34. See Johnson et al., *supra* note 29.

35. See *supra* note 20.

36. Important exceptions include: Wolfgang Alschner & Dmitriy Skougarevskiy, *Mapping the Universe of International Investment Agreements*, 19 J. INT'L ECON. LAW 561 (2016); Wolfgang Alschner, Manfred Elsig & Rodrigo Polanco, *Introducing the Electronic Database of Investment Treaties (EDIT): The Genesis of a New Database and Its Use*, 20 WORLD TRADE REV. 73 (2021); Wolfgang Alschner, *The Impact of Investment Arbitration on Investment Treaty Design: Myth and Reality*, 42 YALE J. OF INT'L LAW 1 (2017); Clint Peinhardt & Rachel L. Wellhausen, *Withdrawing from Investment Treaties but Protecting Investments*, GLOBAL POL'Y (2016); Julia Calvert, *Constructing Investor Rights? Why Some States (Fail to) Terminate Bilateral Investment Treaties*, 25 REV. INT'L POL. ECON. 75 (2018).

37. Haftel and Thompson argue that states renegotiate when they learn new information about the consequences of their treaty commitments through investor-state arbitration. Yoram Z. Haftel & Alexander Thompson, *When Do States Renegotiate Investment Agreements? The Impact of Arbitration*, 13 REV. INT'L ORGS. 25 (2018). They find that states that are jointly involved in more ISDS cases are more likely to renegotiate their BITs, and that states appear unaffected by the ISDS experiences of other countries when they decide to renegotiate BITs. *Id.* In a follow-up study, these authors find that states that have been involved in more investment disputes are more likely to renegotiate or terminate international

exploring a related but more comprehensive mechanism and how it affects BIT termination events: the evolution of signatory preferences over BIT provisions (and the ability of a signatory to incorporate its preferences into the signed treaty text).³⁸

A country's evolving preferences are certainly related to its ISDS experience; increasing experience as a respondent in ISDS cases likely causes many countries to update their preferences regarding BIT provisions, which may then lead to the termination or renegotiation of existing BITs. However, ISDS experience is almost certainly not the sole driver of preference evolution. Other drivers may include, for example, shifts in domestic politics, either in favor of or against FDI, or a repositioning of a country as a capital exporter in addition to being a capital importer.³⁹ The evolving preferences mechanism is more comprehensive than the ISDS mechanism studied by prior literature, since it is able to capture multiple potential drivers of BIT termination events. It is also more nuanced; it is able to identify which countries are dissatisfied with their current BIT provisions and can be used to estimate the degree of that dissatisfaction.

In addition, the method we develop to disentangle each signatory's preferences from the negotiated BIT also allows us to measure a signatory's input in the negotiation of each BIT as well as their evolving bargaining position over time. These measures help explain the important variation within and among countries on BIT outcomes, which is not explained by prior literature.

B. Disentangling Preferences

In any legal instrument, the drafter must make choices, based on its preferences, of what to include and not include in the instrument. For a non-negotiated instrument, the document directly memorializes the preferences of the drafter. By contrast, a negotiated instrument, such as a BIT, is a reflection of each party's preferences, filtered through the lens of negotiation.⁴⁰ For example,

investment agreements to expand their regulatory space. See Alexander Thompson, Tomer Broude & Yoram Z. Haftel, *Once Bitten, Twice Shy? Investment Disputes, State Sovereignty, and Change in Treaty Design*, 73 INT'L ORG. 859, (2019). This effect is shown to be more salient when states have more experience as respondents in these investment disputes. The authors report mixed results regarding the effect of dispute outcomes on states' likelihood to expand their state regulatory space through treaty renegotiation or termination. See *id.*

38. The factors studied in this article may not be the only ones influencing BIT termination. For example, domestic politics may also affect BIT termination events. See e.g., Jide Nzelibe, *The Breakdown of International Treaties*, 93 NOTRE DAME L. REV. 1173 (2018).

39. Identifying and estimating the drivers of preference evolution in the investment treaty network is an important and distinct question. We therefore explore this question in a separate forthcoming project.

40. There is a robust theoretical literature on negotiation. See, e.g., Russell Korobkin, *A Positive Theory of Legal Negotiation*, 88 GEO. L.J. 1789 (2000). There is also an empirical literature that studies the content and evolution of standard form contracts that are drafted by a single party. See, e.g., Stephen Choi & Mitu Gulati, *Innovations in Boilerplate Contracts: An Empirical Examination of Sovereign Bonds*, 53 EMORY L.J. 929 (2004); see also Stephen J. Choi, Mitu Gulati & Eric A. Posner, *The Evolution of Contractual Terms in Sovereign Bonds*, 4 J. LEGAL ANALYSIS 131, 175 (2012); Stephen Choi, Mitu Gulati & Eric Posner, *The Dynamics of Contract Evolution*, 88 N.Y.U. L. REV. 1, 37 (2013); Florencia Marotta-Wurgler & Robert Taylor, *Set in Stone: Change and Innovation in Consumer Standard-Form Contracts*, 88 N.Y.U. L. REV. 240, 276 (2013). There has been little empirical work that studies the evolution of

the content of a signed BIT, which is observed, likely reflects the preferences of both signatories, which are often not observed. Disentangling these preferences is one of the primary challenges of studying negotiated instruments, such as BITs. The degree to which the signed BIT reflects a particular country's preferences depends on the amount of overlap between the two countries' preferences and the bargaining position of each country relative to its cosignatory. Thus, if it were possible to determine each country's preferences, it would be possible to estimate the input of each party to the observed instrument.

In this Article, we develop a method to disentangle each country's preferences (*i.e.* which protections and obligations each country would like to include in the treaty) from the negotiated BIT itself. Some countries publish model agreements (a non-negotiated outcome) that memorialize their true preferences over BIT provisions at a particular point in time. Most countries do not publish model agreements and, among the set of countries that do so, only a handful provide information on how preferences are updated over time by publishing more than one model.

In order to identify the evolving preferences of all countries, we consider the drafting history for each country over time. For example, in order to identify whether Germany had a preference in 1990 to include a non-expropriation obligation in its BITs, we examine all BITs signed by Germany prior to 1990 to see whether Germany's drafting history demonstrated a pattern of including a non-expropriation obligation. If such a pattern exists, we infer from that pattern that Germany had a preference to include this particular provision. Applying this method to all countries and all BIT provisions (118 in total) over time, we are able to estimate a complete set of preferences for each country in each year. We term this set of preferences a "synthetic model" for each country. We use actual model BITs as a quality check on the synthetic models we generate.

This method does not produce a perfect measure of true country preferences. In particular, anecdotal evidence discussed in Part I suggests that the inferred preferences of developing countries may more closely reflect consistency in the preferences of the more developed cosignatories than the true preferences of developing countries, particularly for earlier BITs. Recognizing this shortcoming, this approach remains a good first step at disentangling unobserved preferences from observed negotiated instruments and provides a useful approximation of country preferences. In order to mitigate this shortcoming, this Article's measures rely primarily on inferred preferences for more developed countries.

Using the estimated preferences of each country, we develop four different measures that may contribute to BIT termination events: (1) initial negotiation

observed negotiated instruments generally; even less has been done to disentangle unobserved *ex ante* preferences from observed *ex post* international agreements. One exception is Jones & Rao, *supra* note 19. That paper examines the drafting histories of all BIT signatories to identify which countries adopt new treaty provisions in the wake of controversial arbitration decisions. This paper builds on this prior work and introduces a new general methodology to disentangle unobserved preferences that helps to clarify the process that culminates in a negotiated outcome.

input, (2) evolving bargaining position, (3) preference formation, and (4) preference evolution. To measure the negotiation input of the less developed signatory, we compare the signed treaty provisions against its cosignatory's synthetic model BIT (which reflects the cosignatory's preferred provisions at the time of the treaty's 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.⁴¹ The extent of the 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.

With the initial negotiating input estimates in hand, we are able to construct a measure of the bargaining position of each less developed country by averaging their negotiation input across treaties. We hypothesize that, as the bargaining position of some less developed countries improves over time, BITs signed by these countries are more likely to be terminated or renegotiated as these signatories seek to leverage their improved bargaining position to create more balanced BITs.

Our third measure, preference formation, is also related to negotiation input. Having signed BITs largely based on a developed country's template, some developing countries may not have developed consistent preferences for BIT provisions at the time 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.⁴² 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 that initially preferred to have robust investment protections in its BITs may later develop preferences for more restrictions or carve-outs to such protections, as the country becomes a capital importer or as it becomes subject to more ISDS disputes. Conversely, for countries that 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,

41. It is possible for any pair of countries to sign a BIT. There can be 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, with 1,496 of the 2,667 BITs that entered into force prior to December 31, 2020 (56.1 percent) being among north-south pairings. See *IIA Navigator*. For this reason, we focus here on north-south BITs.

42. Missing 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.

failing that, unilaterally terminate these treaties. To measure a country's evolving preferences, we compare the signed treaty provisions against a signatory's synthetic model BIT in each year since the signed treaty entered into force (which reflects the country's evolving preferences). We again focus on less developed signatories and expect that a treaty is more likely to be terminated the more it deviates from the less developed signatory's current preferences.

The primary contribution of this Article is the innovative method we develop to infer parties' negotiation input, change in bargaining position, preference formation, and preference evolution, which may have relevant applications for the study of private contracts. In addition to this novel method, this Article presents evidence that points to the potential role that negotiation input, evolving bargaining positions, preference formation, and preference evolution play in the termination of BITs. These results reveal a nuanced explanation for BIT termination events: BITs are more likely to be unilaterally terminated when the less developed signatory signed the treaty with little influence over its content, when the less developed signatory obtains a stronger bargaining position, or when the treaty text falls out of sync with the less developed signatory's evolving preferences. BITs are more likely to be renegotiated when the less developed signatory signed the treaty with more influence over its content and, again, when the treaty text falls out of sync with the less developed signatory's evolving preferences. As some developing countries gain more leverage in their treaty negotiations, then, one can expect a continued reckoning for old, imbalanced BITs. The Article's findings suggest that more balanced negotiations and more assistance to developing countries in treaty drafting and preference formation can help increase the longevity of investment protections by raising the prospect of renegotiation and reducing the risk of unilateral termination.

I. NEGOTIATION INPUT, EVOLVING PREFERENCES, AND TREATY TERMINATION

There are four 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.⁴³ 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 (that is, bilateral

43. Different treaties may contain different rules on the specific conditions that need to be satisfied for a signatory to unilaterally terminate a BIT. Generally, there are two different types of termination clauses: One is known as the "tacit renewal" termination clause, which provides that, following the expiration of the initial term, a BIT is automatically renewed for a specified term unless either party decides to terminate it within a limited window of time. *See, e.g.*, Agreement between the Swiss Confederation and the Republic of Belarus on the Promotion and Reciprocal Protection of Investments art. 12.1, Belr.-Switz., May 28, 1993, *IIA Navigator* (providing for perpetual automatic renewal for two-year terms). The other is known as the fixed term termination clause, which provides that the BIT is renewed for an indefinite term upon the expiration of the initial term, but that either party may terminate the BIT at any time thereafter. *See, e.g.*, Agreement between Australia and Uruguay on the Promotion and Protection of Investments art. 15.1, Austl.-Uru., Sept. 3, 2001, *IIA Navigator*.

termination or termination by consent). Fourth, a BIT with a fixed duration and no renewal clause will simply expire at the end of its term (“expiration”). As more countries reevaluate their BIT programs, unilateral terminations and renegotiations have become more common in recent years.⁴⁴

While the existing literature largely focuses on the impact of ISDS on BIT termination, in this section we illustrate, through a series of case studies, how the signatories’ negotiation inputs, evolving bargaining position, and evolving preferences are also influencing BIT terminations. These case studies inspire the four measures we develop to explore potential explanations for variations within and among countries with respect to BIT outcomes.

The remainder of this section is organized as follows. First, we present an overall summary of BIT terminations by each method. Next, we present case studies of countries that have unilaterally terminated most of their BITs (India and Ecuador) or many of their BITs (Indonesia and South Africa). These case studies demonstrate how limited input from less developed countries during BIT formation, the shifting bargaining positions of these countries, and the incomplete and evolving preferences of these countries are partially driving unilateral terminations. We then present two case studies (Germany and China) that demonstrate the role that evolving preferences play in driving BIT renegotiations. Finally, for completeness, we discuss the motivating factor behind bilateral terminations and expirations that are less related to the factors studied in this article.

A. An Overview

A total of 2,667 BITs, involving 179 countries, have entered into force since 1959.⁴⁵ Of these, 351 BITs (13.2 percent), involving 121 countries, have been terminated. Table 1 presents summary statistics on the status of all BITs that have entered into force.⁴⁶

Table 1: Summary statistics

Treaty status	N	%
In force	2316	86.8%
Unilaterally terminated	165	6.2%
Renegotiated	121	4.5%
Bilaterally terminated	51	1.9%
Expired	14	0.5%
Total	2667	100%

Figure 1 plots a time series of BIT terminations by termination method. There is an incremental increase in renegotiations beginning in the mid-1990s, followed by a sharp surge in unilateral terminations after 2010. There is also a

44. See, e.g., Hafel & Thompson, *supra* note 37.

45. All statistics discussed in this paper are based on BITs that entered into force prior to December 31, 2020, and that either remain in force or were terminated on or before that same date.

46. See *IIA Navigator*, *supra* note 6. These figures were generated in May 2022.

gradual uptick in bilateral terminations starting in 2008, with a spike in 2020.

Figure 1: BIT terminations by type

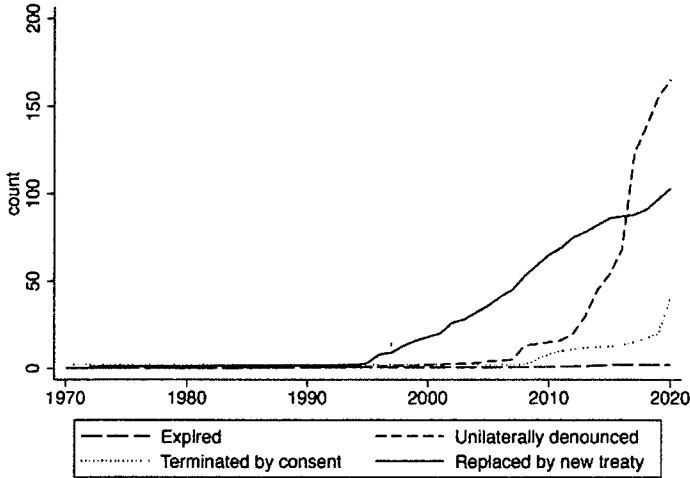


Figure 2 displays a global heat map of BIT termination events, with India the clear front-runner in terms of participating in BIT terminations.

Figure 2: BIT termination



Unilateral termination is the most common termination method. A total of 165 unilateral terminations represent 47.0 percent of all terminations.⁴⁷ A

47. See *id.*

summary of unilateral terminations by country is presented in Table 2.⁴⁸ Eleven countries have unilaterally terminated BITs, and countries such as India and Ecuador have terminated the vast majority of their BITs.⁴⁹ We classify these countries as “mass terminators.” The other nine countries, however, terminated fewer than half of their BITs. We classify these countries as “incremental terminators.”⁵⁰

Table 2: Unilateral terminators

Country	Terminated BIT Count	Total BIT Count	Percent
India	62	72	86.11%
Ecuador	20	22	90.91%
Indonesia	20	46	43.48%
Bolivia	10	21	47.62%
South Africa	9	22	40.91%
Poland	9	48	18.75%
Italy	4	78	5.13%
Malta	1	17	5.88%
Venezuela	1	26	3.85%
Hungary	1	55	1.82%
Netherlands	1	98	1.02%

Renegotiation is the second most common termination method (121 terminations), constituting 34.5 percent of all terminations.⁵¹ Sixty-two countries have participated in the renegotiation of BITs (Figure 3).⁵² Germany and China have renegotiated the most BITs (fourteen and twelve renegotiations, respectively), followed by Turkey and Romania (each with ten renegotiated

48. The UNCTAD IIA Database does not contain information on which one of the two signatories unilaterally terminated a BIT or initiated the renegotiation of a BIT. Secondary sources, including press releases and news articles, revealed which signatory initiated a unilateral termination for 138 of the 165 BITs being terminated by this method. The majority of them (72.5 percent) are the less developed of the two signatories.

49. See *IIA Navigator*, *supra* note 6. India has terminated sixty-two of seventy-two signed treaties; Ecuador has terminated twenty of twenty-two signed treaties. See *id.*

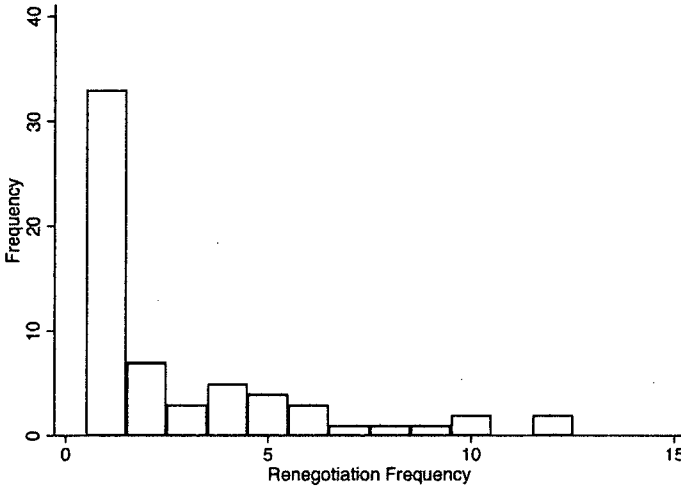
50. These nine countries are: Indonesia (twenty of forty-six BITs terminated); Bolivia (ten of twenty-one); Poland (nine of forty-eight); South Africa (nine of twenty-two); Italy (four of seventy-eight); Hungary (one of fifty-five); Malta (one of seventeen); the Netherlands (one of ninety-eight); and Venezuela (one of twenty-six). See *id.*

51. See *id.*

52. These countries are: Germany (fourteen renegotiations); China (twelve); Romania (ten); Turkey (ten); Republic of Korea (nine); Switzerland (eight); Finland (seven); BLEU (Belgium-Luxembourg Economic Union) (six); Egypt (six); France (six); Chile (five); Morocco (five); the Netherlands (five); Peru (five); Australia (four); Canada (four); Indonesia (four); Singapore (four); Tunisia (four); Czech Republic (three); Spain (three); Vietnam (three); Costa Rica (two); Jordan (two); Kuwait (two); Madagascar (two); Mexico (two); Slovakia (two); Sri Lanka (two); Argentina (one); Bangladesh (one); Belarus (one); Bolivia (one); Bulgaria (one); Colombia (one); Denmark (one); Gabon (one); Greece (one); Guinea (one); Hong Kong, China SAR (one); Iran (one); Iraq (one); Israel (one); Japan (one); Kazakhstan (one); Kyrgyzstan (one); Latvia (one); Libya (one); Mongolia (one); Oman (one); Pakistan (one); Panama (one); Philippines (one); Poland (one); Portugal (one); Syrian Arab Republic (one); Tanzania (one); Ukraine (one); United Kingdom (one); Uruguay (one); Uzbekistan (one); and Yemen (one). See *id.*

BITs).⁵³ Thirty-three of these countries have renegotiated only one BIT.⁵⁴

Figure 3: Distribution of countries' renegotiation frequency



Terminations by consent (fifty-one terminations, or 14.5 percent) and expiration (fourteen terminations, or 4.0 percent) account for the remaining BIT terminations.⁵⁵ The former, as discussed below, are almost exclusively between EU member states. The latter are primarily driven by the drafting practices of Italy.⁵⁶

B. Mass Terminators: India & Ecuador

India is the most prolific unilateral terminator, having terminated sixty-two of its seventy-two active BITs.⁵⁷ These terminations account for almost forty percent of all unilateral terminations.⁵⁸ In 2016, India sent a notice of termination of its existing BITs to at least fifty-eight countries.⁵⁹ This wave of terminations was preceded by an internal review of India's BIT program, which was prompted in part by a loss in an ISDS case against Australian investors in 2011.⁶⁰ During

53. *See id.*

54. *See IIA Navigator, supra* note 6.

55. *See id.*

56. Italy is a signatory to twelve of the fourteen BITs terminated by expiration. *See id.* Based on this pattern, we infer that these expirations are driven almost exclusively by Italy's drafting preferences.

57. *See id.*

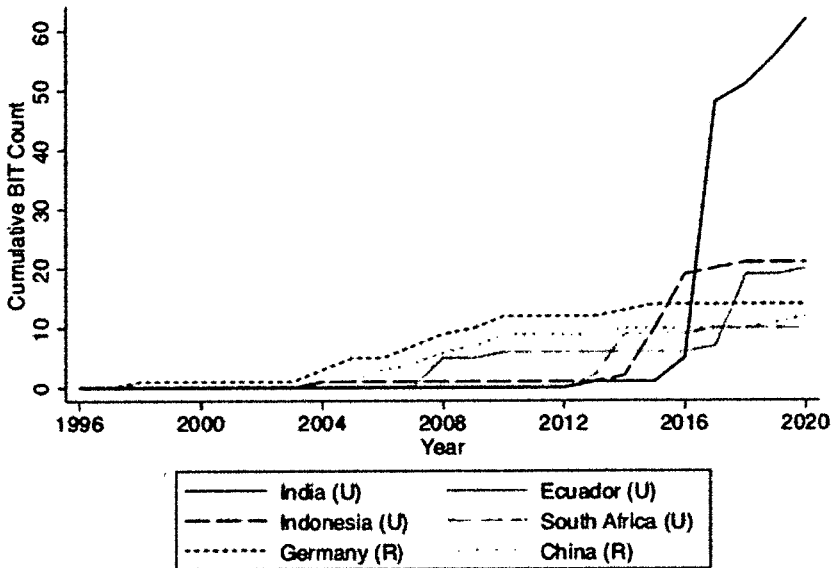
58. *See id.*

59. *See* Rian Matthews & Nandakumar Ponnaya, *Withdrawal from Investment Treaties: An Omen for Waning Investor Protection in AP?*, LEXOLOGY (May 12, 2017), <https://www.lexology.com/library/detail.aspx?g=4bdc087c-20f0-4729-9166-1d6de9b8d2de>.

60. *See id.* Figure 4 shows the trend of terminations for each country discussed in this section. India's first unilateral termination occurred in 2013, four BITs were terminated in 2016, and forty-three were terminated in 2017. There is some delay between notice of termination and termination, since the termination clause of the BIT specifies when a particular BIT is eligible for termination. Thus, notice may be given in 2016, but six-month notice may be required (leading to a wave of terminations in 2017): A duration clause (which states that a BIT will have an initial term of years) can also cause a delay between

this time, India introduced a new model BIT that sought to address India's concerns with the earlier generation of BITs by recalibrating the balance of interests between India's autonomy as the host state and the protections offered to foreign investors.⁶¹ India's 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,⁶² which are typical provisions that can be found in most BITs⁶³ and are often the basis for claims brought against host states in ISDS proceedings.⁶⁴ Since its release, India has negotiated (or renegotiated) at least four new BITs based on the text of the model BIT.⁶⁵ India's entry into these new BITs with reformed text suggests that these terminations (driven in part by India's recent exposure to liability under ISDS) reflect India's updated preferences regarding the protections that India is willing to offer and the liability that India is willing to assume under its investment treaty program.

Figure 4: Terminators (case studies)



notice of termination and actual termination. A duration clause prevents a BIT from being terminated until the end of the stated term. Thus, if the term has not yet run, termination does not occur at the time of notice, but when the term is complete.

61. See *id.*

62. See GOVERNMENT OF INDIA, DEPARTMENT OF ECONOMIC AFFAIRS, MODEL TEXT FOR THE INDIAN BILATERAL INVESTMENT TREATY (2016), https://dea.gov.in/sites/default/files/ModelBIT_Annex_0.pdf.

63. See *IIA Navigator*, *supra* note 6.

64. See *IDS Navigator*, *supra* note 7.

65. Abhishek Dwivedi, *India's Flawed Approach to Bilateral Investment Treaties*, DIPLOMAT (Dec. 4, 2020), <https://thediplomat.com/2020/12/indias-flawed-approach-to-bilateral-investment-treaties/>.

Ecuador is another country that has unilaterally terminated the vast majority of its BITs (twenty of its twenty-two BITs have been terminated). Its BIT terminations can be attributed to a lack of input at the negotiation stage. After an arbitral tribunal ordered the country to pay \$2.3 billion to the U.S. oil company Occidental in a high-profile ISDS case, Ecuador's then-president Rafael Correa formed an investment treaty audit committee to comprehensively examine Ecuador's investment treaty regime.⁶⁶ The committee found that none of the BITs that Ecuador signed had gone through a negotiation process.⁶⁷ In addition, most BITs were ratified by the Ecuadorian Congress without any debate about their merits.⁶⁸ The committee came to the conclusion that Ecuador signed these treaties without carefully considering their costs and benefits, which resulted in BIT provisions that overwhelmingly favored foreign investors.⁶⁹ On the committee's recommendation, Ecuador terminated most of its BITs in 2017.⁷⁰

C. Incremental Terminators: Indonesia & South Africa

Other countries have selectively terminated only a portion of their BITs. The most prominent of these incremental terminators are Indonesia and South Africa. Indonesia has terminated twenty of forty-six BITs that have entered into force, accounting for 12.3 percent of all unilateral terminations.⁷¹ Like India, Indonesia also attributes its termination decisions to changes in its preferences over BIT provisions. Indonesia's then-president, in explaining Indonesia's decision to terminate many of its BITs, stated that these BITs were "contracts with foreigners of twenty or thirty years ago [that] turn out to be inappropriate and unjust."⁷² Putting this shift of preferences into context, Indonesia's ambassador to Belgium stated that "[the 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 It should not come as a shock that Indonesia wants to update, modernize, and balance its BITs."⁷³ The ambassador also decried the egregious imbalance in the negotiation of one BIT that protected foreign investors in Indonesia, but withheld a reciprocal protection for Indonesian investors in the cosignatory state, calling it a "one-way street."⁷⁴

South Africa is the second-most prolific incremental terminator. Since 2009, South Africa has unilaterally terminated eleven BITs; all but one were

66. See Olivet, *supra* note 20.

67. See *id.*

68. See *id.*

69. See *id.*

70. See *Ecuador Denounces its Remaining 16 BITs and Publishes CAITISA Audit Report*, INV. TREATY NEWS (June 12, 2017), <https://www.iisd.org/itu/en/2017/06/12/ecuador-denounces-its-remaining-16-bits-and-publishes-caitisa-audit-report/>.

71. See *IIA Navigator*, *supra* note 6.

72. See Price, *supra* note 21.

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

74. See *id.*

signed with European countries.⁷⁵ This wave of terminations appears to have been spurred by a 2007 International Centre for Settlement of Investment Disputes (ICSID) case brought by Italian investors against South Africa's Black Economic Empowerment legislation.⁷⁶ This was the first time that a South African domestic policy was challenged before an investment arbitration tribunal.⁷⁷ On its face, this case caused the South African government to reconsider its investment treaty policies. At the same time, the decision to terminate BITs with EU member states (but not all other BITs) was driven by the recognition that these BITs—negotiated based on EU model text—represented an imbalance of interests between protected foreign investors and South Africa as the host state.⁷⁸

In reviewing South Africa's investment treaty practices, the country's Department of Trade and Industry issued a report, stating that "[e]xisting international investment agreements are based on a fifty-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."⁷⁹ 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 prominent legislation was challenged by foreign investors.⁸⁰ South Africa ultimately came to the conclusion that some of the provisions in these treaties imposed too great a restriction on the government's policymaking ability.⁸¹ In this sense, both the ISDS experience and South Africa's lack of negotiation input contributed to South Africa's termination decisions.

D. Renegotiators: Germany & China

Germany and China have participated in the most renegotiations (fourteen and twelve, respectively). Together, Germany and China account for 21.7 percent of all renegotiations. Dissatisfaction with existing treaty terms is an important driving factor behind these (and other) renegotiations. Germany, for example, has renegotiated some of its older BITs to expand the protection of

75. See *IIA Navigator*, *supra* note 6. The exception is the South Africa-Argentina BIT, which was terminated in 2017. See *id.* Eleven South African BITs remain in force. See *id.* The cosignatories are China, Cuba, Finland, Iran, South Korea, Mauritius, Nigeria, Russia, Senegal, Sweden, and Zimbabwe. See *id.*

76. See *Piero Foresti v. Republic of South Africa*, ICSID Case No. ARB(AF)/07/1, Award (Aug. 4, 2010).

77. See Mmiselo Freedom Qumba, *South Africa's Move Away from International Investor-state Dispute: A Breakthrough or Bad Omen for Investment in the Developing World?*, 52 DE JURE L.J. 358 (2019).

78. See Damon Vis-Dunbar, *South African Trade Department Critical of Approach Taken to BIT-Making*, INVESTMENT TREATY NEWS (July 15, 2009), <http://www.iisd.org/itm/2009/07/15/south-african-trade-department-critical-of-approach-taken-to-bit-making/>.

79. *Id.*

80. See *id.*

81. See Adam Green, *South Africa: BITs in Pieces*, FIN. TIMES (Oct. 19, 2012), <https://www.ft.com/content/b0eec497-5123-3939-92f7-a5fbc73dd33>.

foreign investments.⁸² These BITs were among the early generation of German BITs, which offered limited protection for foreign investments.⁸³ The renegotiated BITs expanded the scope of protection, including introducing strong ISDS provisions that the original BITs lacked.⁸⁴

Similarly, China, which historically took a restrictive approach with respect to both substantive protections and ISDS, has renegotiated some of its early BITs to remove these restrictions as it has shifted from being a predominantly capital-importing country to being a capital-exporting country.⁸⁵ For example, while China's earlier BITs included extremely restricted ISDS clauses, under which China's consent to arbitration was limited to disputes concerning the "amount of compensation for expropriation,"⁸⁶ China's renegotiated BITs in recent years have considerably broadened its consent to arbitration to "any disputes concerning an investment."⁸⁷ In the same vein, China has also enhanced substantive protections for foreign investments in its renegotiated BITs, most notably by including national treatment standards that it had refused to grant in earlier BITs.⁸⁸ These changes underscore China's shifting preferences as an emerging capital exporter, which likely prompted some of these renegotiations.

Renegotiations are not limited to developed or transitional economies such as Germany and China. Other less developed countries have also renegotiated their BITs. Indonesia, for example, renegotiated a few BITs to carve out more space for host states to regulate public policy matters. Before terminating some of its BITs, Indonesia successfully renegotiated a few BITs with more carve-outs and limitations on the protection of foreign investment. The BIT between Indonesia and Finland, which was renegotiated in 2006 and remains in force today, reserves Indonesia's right to maintain limited exceptions to the national treatment standard, a reservation that leaves space for state policymaking and was absent in the initial BIT between the two countries.⁸⁹ According to the Indonesian ambassador to Belgium, Indonesia was seeking to "update, modernize and balance its BITs" because its old BITs were based on Western

82. See Malcolm Langford, Daniel Behn & Ole Kristian Fauchald, *Backlash and State Strategies in International Investment Law*, in *THE CHANGING PRACTICES OF INTERNATIONAL LAW* (2018).

83. See *id.*

84. See Thompson, Broude, & Haftel, *supra* note 37, at 264.

85. See Julien Chaisse & Kehinde Folake Olaoye, *The Tired Dragon: Casting Doubts on China's Investment Treaty Practice*, 17 *BERKELEY BUS. L.J.* 134 (2020); see also Karl Sauvart & Michael Nolan, *China's Outward Foreign Direct Investment and International Investment Law*, 18 *J. INT'L ECON. L.* 893 (2015).

86. See, e.g. Agreement between the Government of the People's Republic of China and the Belgian-Luxembourg Economic Union on the Reciprocal Promotion of and Protection of Investments, Art. 10.3, Bel.-Chn., Jun. 4, 1984 [hereinafter Bel.-Chn. BIT 1984].

87. Agreement between the Belgium-Luxembourg Economic Union and the Government of the People's Republic of China on the Reciprocal Promotion and Protection of Investments, art. 8.2, Bel.-Chn., Jun. 6, 2005 [hereinafter Bel.-Chn. BIT 2005].

88. See Bel.-Chn. BIT 1984 *supra* note 86, arts. 3, 11 (including equitable treatment and most-favored-nation treatment, but excluding national treatment); cf. Bel.-Chn. BIT 2005 *supra* note 87, art. 3 (including national treatment).

89. Axel Berger & Jan Knörich, Friends or Foes? Interactions between Indonesia's International Investment Agreements and National Investment Law, 82 *STUDIES* 1, 67 (2014).

templates that represented corporate interests and lacked consistency.⁹⁰

E. Termination by Consent

Unlike unilateral terminations and renegotiations, terminations by consent are almost exclusively driven by intra-EU BITs; in forty-seven of the fifty-one BITs that have been terminated by consent, both signatories were EU member states (or aspiring EU member states) at the time of termination. Early terminations by consent were driven by new accessions to the European Union and a concern among some member states that intra-EU BITs were incompatible with EU law.⁹¹ Malta, for example, terminated its BIT with Switzerland in preparation for its accession to the European Union.⁹²

For a time, it was an open question whether intra-EU BITs were contrary to EU law.⁹³ This question was resolved in the affirmative in 2018 by the Court of Justice of the European Union decision in *Slovak Republic v. Achmea*, in which the court held that investor-state arbitration provisions in intra-EU BITs were incompatible with EU law.⁹⁴ Since then, several countries have terminated their intra-EU BITs. On May 5, 2020, twenty-three EU member countries signed the agreement for the termination of intra-EU BITs (the so-called “termination agreement”), which aims to terminate some 130 intra-EU BITs.⁹⁵

F. Expiration

Fourteen BITs have been terminated through expiration.⁹⁶ Twelve of these BITs were signed by Italy, suggesting that for at least some agreements, Italy likely preferred including sunset provisions to predetermine the expiration of the treaty.⁹⁷ This type of termination event is quite rare, accounting for only three percent of all termination events.⁹⁸

II. DATA AND METHODOLOGY

To explore how negotiation input, shifting bargaining positions, and the evolution of BIT provision preferences affect treaty termination, we use the United Nations Conference on Trade and Development (UNCTAD) International Investment Agreements (IIA) Database, created by one of us in

90. Oegroseno, *supra* note 73.

91. See Andreas Ziegler, *The New Competence of the European Union in the Area of Foreign Direct Investment (FDI): A Third Country Perspective*, in COMMON COMMERCIAL POLICY AFTER LISBON 237 (Marc Bungenberg & Christoph Herrmann eds., 2015).

92. See *id.*

93. See *id.*

94. Case C-284/16, *Slovak Republic v. Achmea BV*, 2018 E.C.R. 158, ¶¶ 56, 58.

95. See *EU Member States Sign an Agreement for the Termination of Intra-EU Bilateral Investment Treaties*, EUR. COMM. (May 5, 2020), https://ec.europa.eu/info/publications/200505-bilateral-investment-treaties-agreement_en. Signatories of the termination agreement include Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, and Spain.

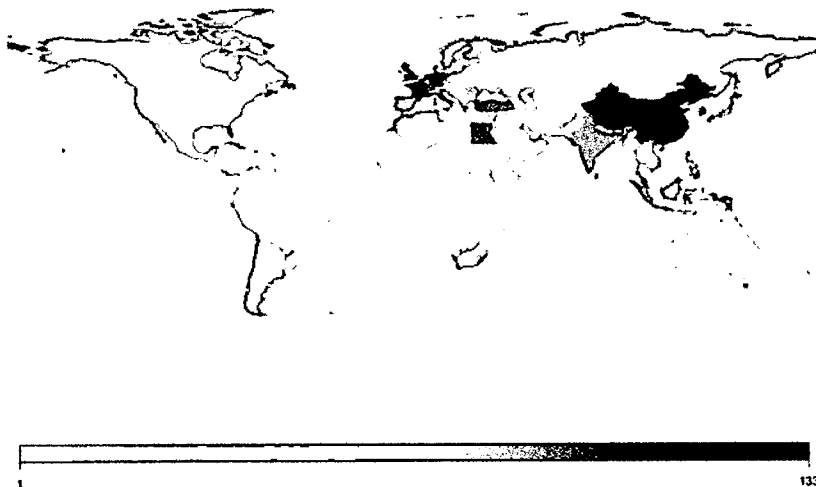
96. See *IIA Navigator*, *supra* note 6.

97. See *id.*

98. See *id.*

partnership with UNCTAD.⁹⁹ 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.¹⁰⁰ One hundred seventy-nine countries have a signed BIT recorded in the Database, sixty of which were low-income or lower-middle-income countries at the time of BIT signature. A global heat map of BIT signatories is presented in Figure 5.

Figure 5: BIT signatories



The Database contains detailed information on the inclusion and variation of 118 different treaty provisions.¹⁰¹ These include definitions;¹⁰² host state obligations;¹⁰³ procedural provisions on how to resolve disputes between a protected investor and a signatory;¹⁰⁴ and provisions on the mechanics of the treaty, such as treaty renewal, methods of treaty termination, and treaty duration.¹⁰⁵

99. Jones worked as lead consultant on the project for the IIA Section at UNCTAD from 2012 to 2016. As coordinator and manager, Jones oversaw the work of more than 550 law students at forty-two universities in twenty-two countries over a three-year period. See Jones, *supra* note 30, at 4-5.

100. See *IIA Navigator*, *supra* note 6.

101. See *id.*

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

103. Standard 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 (for example, through regulation that erodes the value of the protected investment).

104. These investor-state dispute settlement provisions include provisions on 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 ex ante consent by the host country to investor-state arbitration.

105. See *id.*

Using the Database, we examine drafting patterns in each country's signed BITs to generate a set of evolving preferences (which we call a "synthetic model") for every country. These synthetic models are our best approximation of the true preferences of each country participating in the investment treaty network. We use these synthetic models to estimate (1) a signatory's negotiation input; (2) a signatory's evolving bargaining position; (3) the level of preference incompleteness of a signatory at the time the treaty is signed; and (4) how much a signatory's current (evolving) preferences deviate from the signed agreement relative to that at the time the treaty was signed. We then explore the correlation of these measures with the risk of treaty termination.

Not all BIT provisions are identical in terms of their importance to investors and the constraints they impose on host countries. The main analysis in this paper uses a subset of these provisions, including all of the provisions that enable investors to bring enforcement proceedings against a host country and the primary protections most often invoked by investors in those proceedings.¹⁰⁶ All results are replicated using the full set of BIT provisions in the Appendix.¹⁰⁷

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 during that 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 (until that happens, preference for such provisions is recorded as missing). Once a preference is inferred, if four out of five treaties contain a different version of the provision during a subsequent window, we infer that there is a shift in the country's preference from the original provision language to the new provision language. We backdate 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 that the country signed its first BIT through the end of 2020. These synthetic model BITs reflect a country's complete set of evolving preferences over all BIT provisions.

106. The UNCTAD IIA Database includes a total of forty-seven primary provisions and seventy-one secondary provisions for a total of 118 provisions. For example, the Database documents whether each BIT includes a primary provision barring expropriation of protected investments along with three secondary provisions that modify the dimensions of the expropriation protection. Our measures and analysis are based on eighteen of the forty-seven primary provisions, including fifty-five of the secondary provisions associated with the eighteen included primary provisions. These eighteen primary provisions consist of all investor-state dispute settlement (ISDS) provisions and all provisions that comprise the protections that typically give rise to claims in ISDS proceedings. These protections (each of which include multiple secondary provisions) include: (1) the definition of investor, (2) the definition of investment, (3) fair and equitable treatment, (4) most-favored-nation treatment, (5) national treatment, (6) direct and indirect expropriation, and (7) full protection and security. In the Appendix, we use the full set of primary and secondary provisions to replicate our analysis.

107. As explained in detail in Section IV.F.1, the only place where we find inconsistent results in our replication is the relationship between negotiation input and unilateral termination risk.

Some countries publish actual model agreements that document their true BIT preferences. Unfortunately, most countries do not have published models. Among countries that do have published models, many have also signed BITs that predate 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 forty-nine countries in the database (Figure 6). For each country with a published model BIT, we compare its 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 7.¹⁰⁸ In Figure 8, we generate two separate distributions based on the countries' income levels. 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 eighty-nine percent.

Figure 6: Model BITs



108. Two of the outliers with a low match shares in the figure are the U.S. model BIT from 2012 and the Canada model agreement released in 2004. These outliers are the result of 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, 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 have considered different ways to address this. One option is to include investment chapters in FTAs, which would give 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, so stronger assumptions are required in order to make inferences about the preferences of a single signatory. Another option we considered 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 option 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 the methodology we ultimately are using does, however, gives us at least a conservative estimate of shifting preferences for each signatory.

Figure 7: Match share between actual model BITs and synthetic model BITs

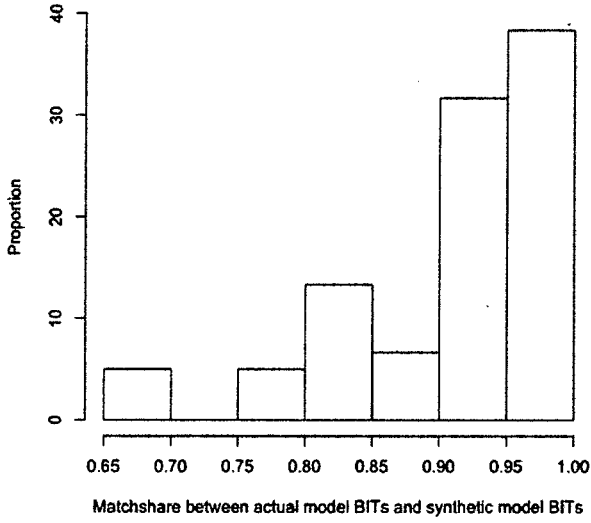
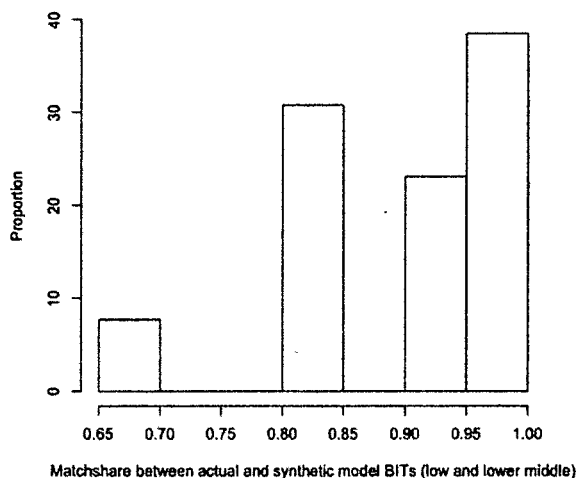
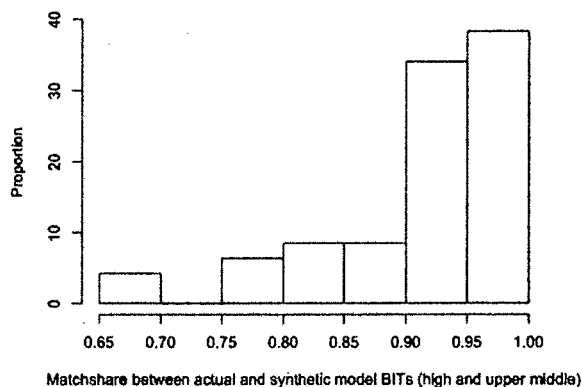


Figure 8: Match share between actual model BITs and synthetic model BITs by income group



We use these synthetic models to estimate four new measures. The first is an estimate of a signatory's input in the treaty negotiation, based on how much the signed treaty deviates from the cosignatory's synthetic model at the time the treaty was signed. The second measure is an estimate of a signatory's evolving bargaining position based on the number of concessions it was able to obtain from cosignatory in prior treaty negotiations. The third measure is an estimate of the number of provisions for which a country has not formed preferences at the time of treaty signature. The fourth measure is an estimate of how much a country's current (evolving) preferences deviate from the signed treaty relative to that at the time when the treaty was signed. Because qualitative data and anecdotal evidence suggests that it is mostly the less developed signatory who has little input in BIT negotiation and later becomes dissatisfied with the signed

treaty, in our main analysis, which is done at the treaty level, we explore whether and how BIT termination events are correlated with the *less developed* signatory's negotiation input, evolving bargaining position, incomplete preferences, and evolving preferences.¹⁰⁹ We then conduct country-level analysis that explores whether and how each of these four measures of either cosignatory is correlated with the BIT termination events.

B. *Estimating Negotiation Input*

In order to estimate a signatory's input in the negotiation of each treaty, we compare the signed treaty with the synthetic model (in the year the BIT is signed) of its cosignatory and calculate the share of the provisions that match across the two treaties (the "cosignatory match share"). We exclude missing preferences from the calculation of the cosignatory match share.

There are a total of 118 coded treaty provisions. Suppose, for simplicity, that the synthetic model for the cosignatory B has data for 100 of these provisions and that the signed treaty between A and B matches B's synthetic model on ninety of these provisions. In such a case, signatory A's cosignatory match share would be ninety out of 100. We infer from this data that signatory A was able to negotiate concessions from signatory B on the drafting of the ten provisions that do not match B's synthetic model.

A higher cosignatory match share means that there is less deviation from the cosignatory's synthetic model, suggesting less negotiation input from a signatory. A lower cosignatory match share means that there is more deviation from the cosignatory's synthetic model, suggesting a greater degree of negotiation input from a signatory.

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.¹¹⁰ This is consistent with our finding, detailed below, that lower income countries have more variation in their signed treaties, which leads to more missing provisions in their synthetic models. Hence, we are more confident with our cosignatory match share measure based on the more developed signatory's synthetic model (measuring the less developed signatory's negotiation input), which is also the variable we used in our main analysis.

Negotiation input from the less developed signatory is an output of at least three different inputs. The first input is the preferences of the less developed signatory (and the degree to which those preferences deviate from the preferences of its more developed cosignatory). 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

109. Relative 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 cosignatory if the signatory is categorized in a higher income grouping relative to its cosignatory.

110. See, e.g., Poulsen & Vis-Dunbar, *supra* note 12.

cosignatory match share) indicates that (1) the less developed signatory formed its own preferences over more treaty provisions (and that these preferences deviated from the preferences of its more developed cosignatory);¹¹¹ (2) the less developed signatory pushed for the inclusion of its preferences in the treaty; and (3) the more developed signatory was willing to make concessions to include new provisions that deviated from its own preferences.

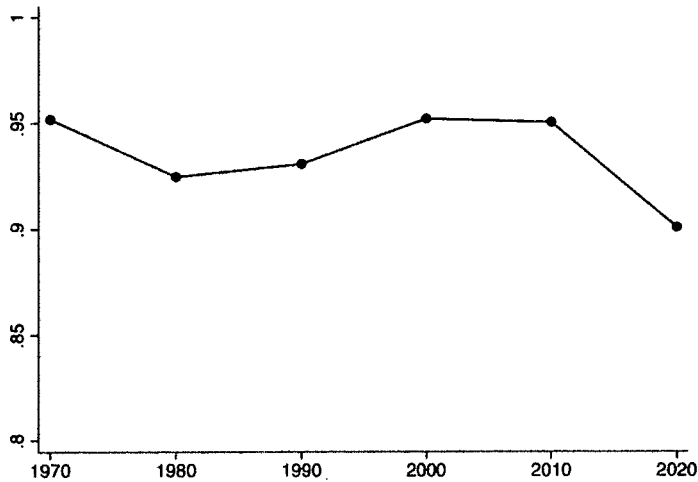
By the same logic, less input from the less developed signatory (resulting in a higher cosignatory match share) may reflect the breakdown of one or more of these inputs. For example, less input from the less developed signatory may have been caused by a failure on the part of the less developed signatory 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 worked to develop its own set of preferred provisions and pushed hard in negotiations for the inclusion of those preferences in the treaty, a high cosignatory match share (that is, a score reflecting low input from the less developed signatory) may still result if the less developed signatory's negotiation position was weak relative to its more developed cosignatory, and if the cosignatory decided to steamroll the negotiations.

Since the cosignatory match share is calculated using the fixed preference of the more developed cosignatory in the year the BIT was signed, the negotiation input measure is constant across time for each BIT. Using this measure, we are able to explore the correlation between negotiation input and BIT termination.

The time-trend of the less developed signatory's mean cosignatory match share is presented in Figure 9. The mean cosignatory match share fluctuates between 95.2 percent and 92.5 percent from 1970 through 2000. From 2000 to 2020, the mean cosignatory match share falls from 95.2 percent to 90.1 percent. This drop suggests that input from the less developed signatory has approximately doubled (from concessions in 4.8 percent of provisions to concessions in 9.9 percent of provisions) in recent BITs relative to earlier BITs.

111. Although 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.

Figure 9: Cosignatory match share trend

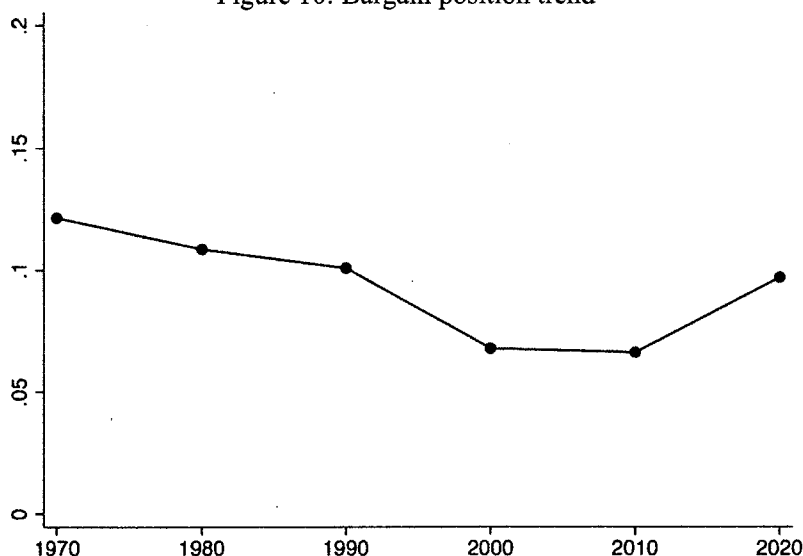


C. *Estimating Bargaining Position*

After estimating the cosignatory match share, we used those estimates to calculate a signatory's evolving bargaining position during the course of each of their signed BITs. We do this by subtracting cosignatory match share from one, revealing the estimated share of provisions for which a signatory was able to secure concessions from its cosignatory. We then take the average of these concessions in a five-treaty rolling window to estimate how each country's bargaining position has changed over time (a measure that we call the "evolving bargaining position"). This moving average reflects a country's average ability to secure concessions from its cosignatory, which can serve as a proxy for the country's evolving bargaining position. If a country is able to consistently secure higher concessions in new BIT negotiations, this change will be reflected as an increase in the country's evolving bargaining position. However, if a country is only able to occasionally secure higher concessions in new BIT negotiations, then we will not observe an increase in the evolving bargaining position measure.

In our main analysis, we focus on the correlation between BIT termination events and the evolving bargaining position of the less developed signatory. The time-trend of the less developed signatory's evolving bargaining position is presented in Figure 10. As seen in the figure, the less developed signatory's bargaining position decreases on average from 1970 to 2000, which is also the period that sees the exponential growth in the number of newly-signed BITs. However, the bargaining position measure has been trending up after 2010, as less developed signatories managed to secure more concessions in recent BITs.

Figure 10: Bargain position trend



D. Estimating Incomplete Preferences

Some countries may not have developed consistent BIT provision preferences until they had signed enough BITs to learn more about the consequences of those BITs. This phenomenon is reflected in a country's synthetic model as missing provisions.¹¹² We use these missing provisions as a measure of preference completeness which may, itself, be another driver of treaty termination.

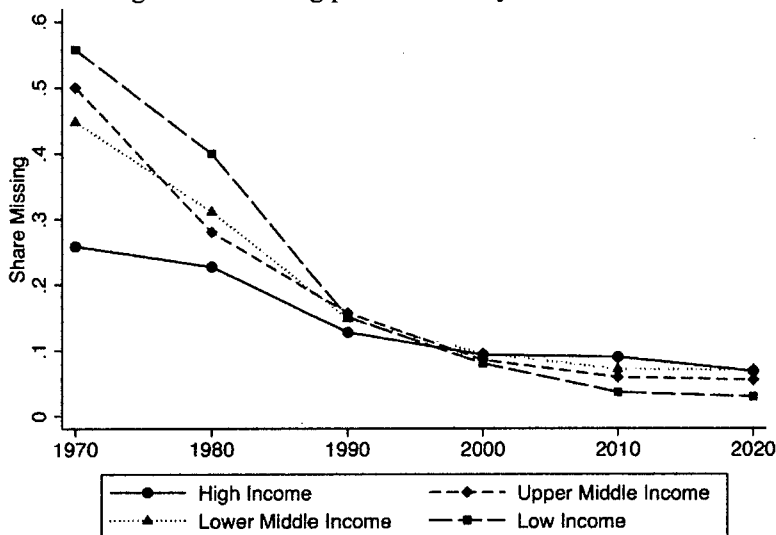
We calculate the measure we call the “share missing” by taking the number of missing provisions in the synthetic model of a signatory and dividing that number by the total number of possible coded provisions in the BIT. Thus, a higher share missing measure suggests that the signatory has not yet formed an observable and consistent preference for a higher number of investment treaty provisions.

Figure 11 breaks down the share of missing provisions in synthetic models by a country's income level over time. For countries that signed BITs in 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 55.7 percent of provisions missing. Preferences for high income countries are the most complete, with 25.9 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 ninety percent from 2000

112. 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 threshold.

through 2020. This finding suggests that countries are gradually forming preferences about BIT provisions, with low-income countries doing more catching-up relative to countries of other income levels.

Figure 11: Missing provisions in synthetic models



E. 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 reality 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 "preference match share" for each cosignatory by comparing the signed BIT with the current preferences of each cosignatory, as reflected in their respective synthetic models. Since the preference match share is calculated using the evolving preference of each signatory, the preference match share may change across the panel, and it 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 preference match share is broken down by income level in Figure 12. As can be seen in the figure, preference match shares are initially quite dispersed: Low-income countries have a mean preference match share of 83.6 percent and upper-middle-income countries have a mean preference match share of 97.1 percent. There is a convergence over time, however: By 2020, all income levels have a preference match share between 85.2 percent (for low-income countries) and 89.5 percent (for high-income countries). The data used to generate this figure includes all BITs that were 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.

Figure 12: Evolving preferences by income level

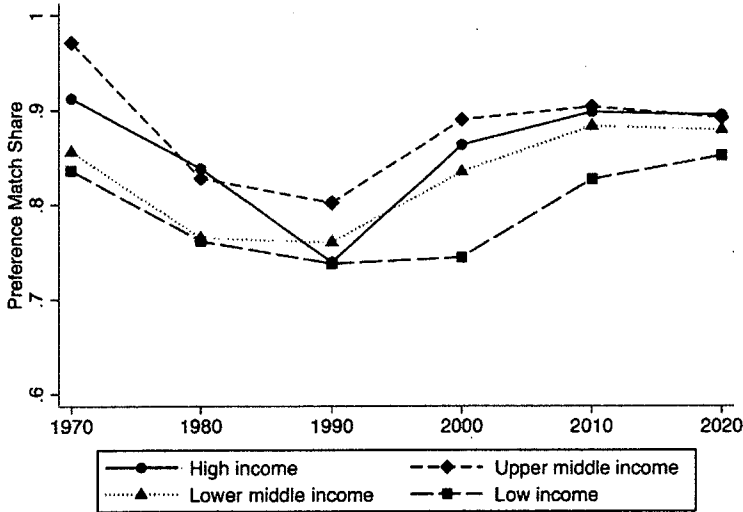
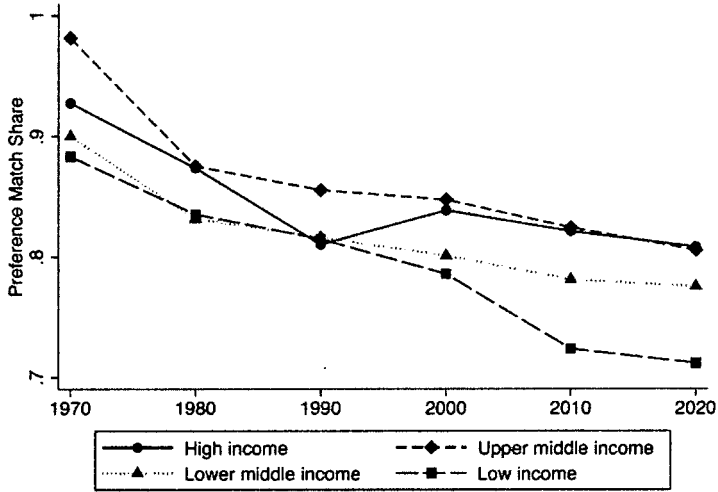


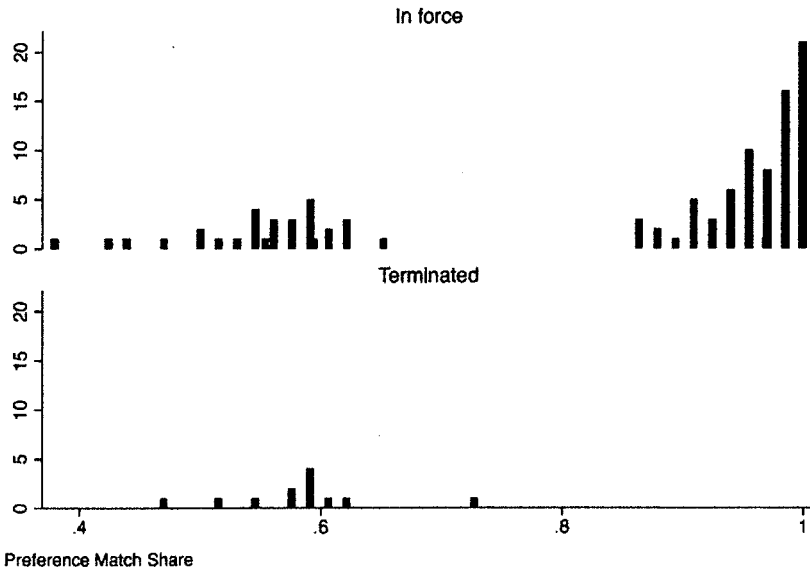
Figure 13 largely replicates Figure 12, but it uses a stable set of BITs signed before 1990 instead of a constantly evolving set of BITs that enter and exit throughout the panel. As Figure 13 shows, there is an overall downward trend in preference match share across all income groups. Low-income countries in particular experience a decrease of around twenty percent in the proportion of signed BIT provisions that match their current preferences. This reflects the larger shift in preferences experienced by low-income countries, which likely resulted from lagged preference formation codified in their early BITs. In addition, high-income countries and upper-middle-income countries, which started with higher evolving match shares in the 1970s, also have higher preference match shares in 2020 relative 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 than do the current preferences of less developed countries. Figure 13:

Figure 13: Evolving preferences by income level (pre-1990 BITs)



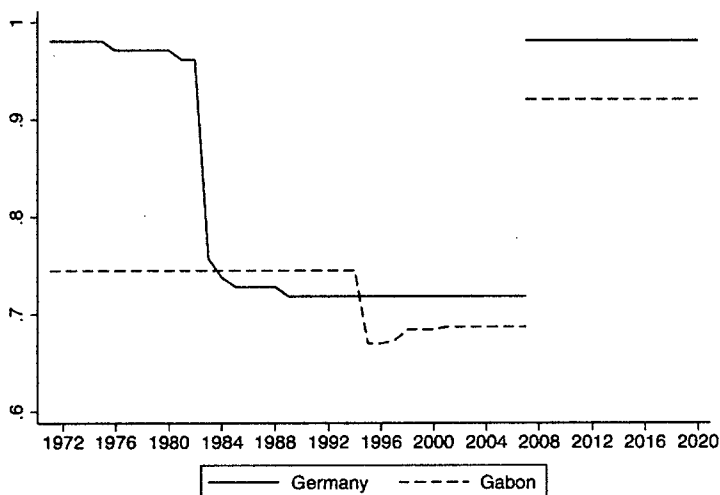
A renegotiated treaty should be closer to the signatories' current preferences as compared to the original treaty. As an example, Figure 14 presents the preference match share distributions for all German BITs that remain in force and for all German BITs that have been renegotiated. This granular depiction demonstrates that, while there are many German BITs with a low preference match share that remain in force, all renegotiated German BITs had a relatively low preference match share at the time of renegotiation.

Figure 14: Comparing distributions - Germany



The data also allows us to focus on the treaty level to see how the preference match share has evolved over time for terminated BITs and to examine how the preference match share of a renegotiated BIT at the time of termination compares to the preference match share of the new BIT at the time it enters into force. Figure 15 plots the evolution of the preference match share for both Germany and Gabon under the Germany-Gabon BIT, which was renegotiated and replaced in 2007.

Figure 15: Renegotiations and preferences – Germany



As seen in the figure, Germany's initial preference match share was close to ninety-eight percent when the original BIT enters into force. In 1983, Germany updated many of its preferences, particularly with regards to the inclusion of ISDS provisions. This shift in preferences led to a precipitous decline in Germany's preference match share (to approximately seventy-two percent), which persisted until the treaty was replaced in 2007, leading to a preference match share that was, again, about ninety-eight percent.

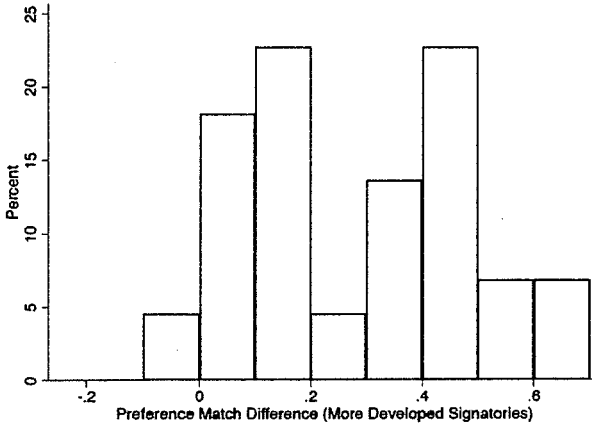
Although it began with a much smaller preference match share (seventy-five percent), Gabon also updated its preferences during the lifecycle of the BIT. This updating led to a decline in Gabon's preference match share in 1995 to below seventy percent, which persisted until the BIT was renegotiated in 2007. At renegotiation, Gabon's preference match share achieved an all-time high of ninety-two percent, resulting in a win-win for both signatories.

We further investigate whether renegotiation results in a new treaty with provisions that are closer to the signatories' current preferences than were the provisions of the old treaty. To do so, for each treaty that was renegotiated and replaced by a new one, we compare preference match share at the time the old treaty was terminated against preference match share at the time the new treaty was signed. We then plot the distribution of the difference (the preference match

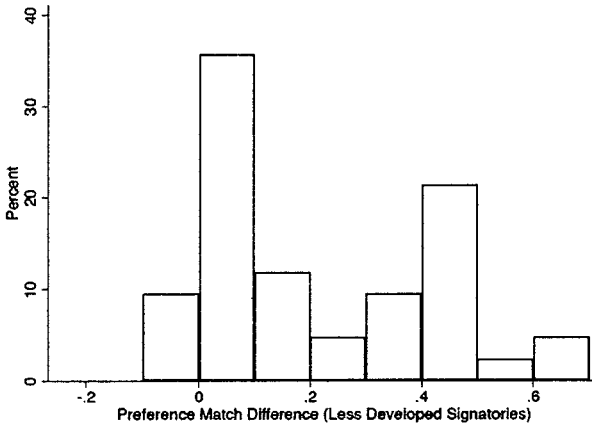
difference) for three groups of signatories: more developed cosignatories, less developed cosignatories, and cosignatories at the same development level.¹¹³ A positive preference match difference indicates that the renegotiation moves treaty provisions closer to the cosignatory's current preferences. A negative preference match difference indicates that the renegotiation moves treaty provisions further away from the cosignatory's current preferences. As Figure 16 shows, for BITs with cosignatories of different development levels, the vast majority of renegotiated BITs improve on the match rate with both signatories' current preferences. Overall, the more developed cosignatory appears to benefit more from the renegotiation, with an average of 27.4 percent of treaty provisions being revised to match with its current preferences, which is higher than the figure for the less developed cosignatory (20.4 percent). As for BITs with cosignatories at the same development level, over 34.6 percent of renegotiated BITs are in fact more distanced from either cosignatory's current preferences than the original BIT. This trend may be explained by contributions both parties make to the renegotiation process and compromises made as a result of their equal bargaining power.

113. To reduce noise caused by countries with stale preferences, we only include in the sample renegotiated treaties which are not one of the last three treaties that a country signed.

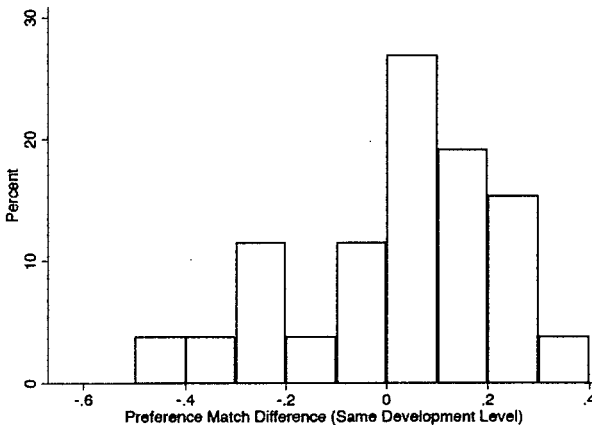
Figure 16: Comparison between renegotiated and original BITs



(a) More Developed Signatories



(b) Less Developed Signatories



(c) Signatories of Same Development Level

III. ANALYSIS

In this section we explore the correlation between three BIT outcome variables,¹¹⁴ (1) unilateral termination, (2) renegotiation, and (3) bilateral termination, and four covariates, (1) the negotiation input of the less developed signatory, measured by the cosignatory match share; (2) the evolving bargaining position of the less developed signatory; (3) incomplete preferences, or share missing, measured by the number of missing provisions in the synthetic model of the less developed signatory at the time the treaty was signed; and (4) evolving preferences, measured by the change in the preference match share of the less developed 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 that entered into force on August 11, 2001. It was then replaced by a new treaty on March 1, 2009. The Chile-Peru BIT therefore 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 entered into force through the end of the panel in 2020.

Using this data set, we test the following hypotheses. In each case, termination includes unilateral termination and renegotiation.

Hypothesis 1: BITs are more likely to be terminated when the less developed signatory has lower negotiation input.¹¹⁵

Hypothesis 2: BITs are more likely to be terminated when the less developed signatory has a higher bargaining position.

Hypothesis 3: BITs are more likely to be terminated when the less developed signatory has more incomplete preferences at the time the BIT was signed.

Hypothesis 4: BITs are more likely to be terminated when they fall more out of sync with the less developed signatory's evolving preferences.

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.¹¹⁶ In our analysis, we estimate the correlation between BIT termination and the less

114. Termination 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.

115. Prior to undertaking our analysis, we expected, consistent with the discussion in Section III, that bilateral terminations would be 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.

116. This 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: $h_{ij}(t) = h_0(t)e^{\beta_1 \text{Share}X_{ij} + \delta X_{ij} + \epsilon_{ij}}$

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 cosignatory match share, bargain position, share missing, or evolving match share); and X_{ij} is the vector of control variables.

developed signatory's (1) cosignatory match share, (2) evolving bargaining position, (3) share missing, and (4) change in preference match share.¹¹⁷ For each of these four measures, we first do a general analysis with the outcome variable being termination by any means. We then run separate regressions based on different termination type.

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

Second, we control for the difference in the two signatories' income level as determined by the World Bank (the "difference in income level").¹¹⁸ BIT termination decisions may vary depending on the relative power of the cosignatory. We anticipate that, if BIT signatories have the same income level, the BIT is more likely to be renegotiated rather than terminated, because there is a more level playing field for treaty negotiations. If BIT signatories have a greater difference in their income levels, we expect that the BIT is more likely to be unilaterally terminated, since, in these pairings, there may be a greater divergence between each country's 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 (that is, when the BIT is considered a "paper BIT"). Under a paper BIT, there are no protected investors. Thus, the expected cost of future litigation under the BIT is approximately zero.¹¹⁹ We therefore anticipate that paper BITs are less likely to be terminated than BITs that are protecting active investments.

We also include two different measures reflecting the arbitration history of the signatories. One is the cumulative number of ISDS cases brought against either signatory (which we call the "cumulative number of cases"). The other is the number of ISDS cases brought against either signatory in the previous year (which we call the "number of cases"). Informed by the findings of Haftel and Thompson¹²⁰ and Thompson, Broude, and Haftel,¹²¹ we anticipate a positive correlation between ISDS history of the signatories and BIT termination.

Finally, we include a control variable that is equal to one for intra-EU BITs in any year after the *Achmea* decision and zero otherwise. As discussed earlier, the *Achmea* decision held that arbitration provisions in intra-EU BITs were

117. All regressions in this section use covariate measures calculated using the most consequential BIT provisions, as discussed *supra* note 106. Tables A1-A9 in the appendix replicate the regressions in Tables 4-12 using the full set of 118 BIT provisions. These tables demonstrate that the majority of the findings are robust to using the full set of BIT provisions to calculate each of the treatment measures.

118. There 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.

119. Although there are no current protected investments under a paper BIT, the future litigation risk is not precisely zero because there is always a possibility that protected investments may enter in the future.

120. See Haftel & Thompson, *supra* note 36.

121. See Thompson, Broude, & Haftel, *supra* note 36.

incompatible with EU law.¹²² Ninety-five percent of BITs that are terminated by consent have been between intra-EU countries.¹²³ Thus, we anticipate the Achmea variable, as we call it, 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 (from the less developed signatory) is correlated with a higher rate of termination, we begin with a simple regression that estimates the coefficient for the less developed signatory's cosignatory match share when the outcome variable is termination by any means, as reported in the first column in Table 3. We then add control variables one at a time to the model specification in columns 2 through 7.

Table 3: Negotiation input and termination risk

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)
Cosignatory Match Share (less developed)	-1.338 (0.927)	-1.635* (0.951)	-1.303 (0.968)	-1.113 (0.974)	-1.070 (0.986)	-0.971 (0.998)	-0.992 (0.986)
Year of signature		0.0460*** (0.0108)	0.0400*** (0.0112)	0.0318*** (0.0111)	0.0298*** (0.0110)	0.0211* (0.0113)	0.0251** (0.0112)
Difference in income level			-0.314** (0.126)	-0.284** (0.126)	-0.262** (0.127)	-0.204 (0.129)	-0.233* (0.128)
Paper BIT				-0.721*** (0.279)	-0.720*** (0.279)	-0.674** (0.279)	-0.688** (0.279)
Achmea					1.279*** (0.428)	1.264*** (0.427)	1.271*** (0.427)
Cumulative number of cases (cosignatories)						0.0144*** (0.00423)	
Number of cases (cosignatories)							0.103*** (0.0217)
Observations	34110	34110	33949	33949	33949	32388	32388

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

Contrary to Hypothesis 1, we find a negative correlation between cosignatory match share and treaty termination, though only the estimate in column 2 is statistically significant. This means that the more the signed BIT incorporates the preferences of the more developed signatory and omits the preferences of the less developed signatory, the lower the risk that the BIT will be terminated.

In Table 4, we run separate regressions by termination type using the

122. See Case C-284/16, *Slovak Republic v. Achmea BV*, 2018 E.C.R. 158.

123. See *IIA Navigator*, *supra* note 6.

preferred model specification.¹²⁴ The estimates in columns 3 and 4 in Table 4 suggest that the negative correlation in Table 3 is driven by BITs that are terminated through renegotiation. Doing a bit of math, we are able to determine from the coefficient estimate that increasing the less developed signatory's cosignatory match share (thus decreasing developed signatory concessions) by ten percent decreases the risk of renegotiation by 27.2 percent.¹²⁵

Table 4: Negotiation input and termination risk by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Cosignatory Match Share (less developed)	1.698 (1.246)	1.566 (1.206)	-2.413* (1.312)	-2.435* (1.310)	1.227 (4.592)	1.397 (4.992)
Year of signature	0.0883*** (0.0143)	0.0997*** (0.0157)	-0.0430*** (0.00988)	-0.0460*** (0.00999)	0.0693 (0.0490)	0.0768 (0.0511)
Difference in income level	0.115 (0.152)	0.0331 (0.148)	-0.648*** (0.183)	-0.637*** (0.183)	-1.255 (0.867)	-1.210 (0.851)
Paper BIT	-1.099** (0.514)	-1.135** (0.513)	-0.453 (0.344)	-0.431 (0.345)	1.660 (1.354)	1.548 (1.378)
Achmea	-17.73*** (0.323)	-17.16*** (0.285)	-21.02*** (0.347)	-17.03*** (0.338)	4.616*** (0.649)	4.670*** (0.595)
Cumulative number of cases (cosignatories)	0.0248*** (0.00389)		-0.0120 (0.0109)		-0.00908 (0.0203)	
Number of cases (cosignatories)		0.142*** (0.0163)		-0.0617 (0.0984)		-0.489 (0.317)
Observations	32388	32388	32388	32388	32388	32388

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

By contrast, we find a positive (though not statistically significant) correlation between cosignatory match share of the less developed signatory and the risk of unilateral termination. To be precise, we find that a ten percent increase in the cosignatory match share (that is, a ten percent reduction in

124. 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).

125. The coefficient estimate in a Cox Hazard Model is interpreted by recovering the hazard ratio (*i.e.* the ratio of the termination likelihood of a BIT with no concessions relative to the termination likelihood of a BIT with full concessions). To recover the hazard ratio, take the exponential of the coefficient estimate. For example, in column 3 of Table 4 the coefficient estimate is 2.413. The hazard ratio is equal to $e^{-2.413} = 0.0895$. This means that the risk a BIT with no concessions (*i.e.* Cosignatory Match Share = 1) is renegotiated is 8.95 percent as large as the risk a BIT with full concessions (*i.e.* Cosignatory Match Share = 0) is renegotiated. So, a BIT with full concessions is 1/0.0895 or 11.17 times more likely to be renegotiated relative to a BIT with no concessions. To scale the hazard ratio by a percent change in the Cosignatory Match Share, multiply the coefficient by the percent change (*i.e.* 0.1 or 10 percent) and then take the exponential. For example, a ten percent increase in cosignatory match share (*i.e.* a ten percent reduction in concessions) would yield a hazard ratio of $e^{-2.413 \cdot 0.1} = 0.786$. So, a BIT with seven (ten percent more) concessions is 1/0.786 = 1.272 times as likely to be renegotiated relative to a BIT with no concessions. So, a ten percent increase in concessions increases the probability of renegotiation by 27.2 percent.

concessions) is correlated with an 18.5 percent increase in the risk of unilateral termination.¹²⁶ The direction of this coefficient estimate is consistent with our hypothesis that BITs with lower negotiation input from the less developed signatory are at greater risk of unilateral termination.

One plausible explanation for the negative correlation between cosignatory match share and renegotiation is that with more input in the negotiation of the original treaty, the less developed signatory has more incentive to spend time and effort renegotiating the treaty with its cosignatory. Similarly, having granted more concessions in the original negotiation to get the treaty signed, the more developed cosignatory also has more incentive to salvage the deal by agreeing to renegotiation. This would lead to a negative relationship between renegotiation and the original cosignatory match share of the less developed signatory.

To examine our theory as to the negative correlation between cosignatory match share and treaty renegotiation, we further explore whether this relationship is different for BITs signed before and after 2000. Prior to 2000, there was little information about how arbitration tribunals would interpret or enforce BIT provisions. It is generally understood that countries became aware of their potential exposure to litigation and damages under a BIT only after the resolution and publication of a series of highly influential ISDS awards around 2000.¹²⁷ Hence, countries had more complete information about the costs of BITs signed after 2000 and may have considered those costs at the time of signing. The fact that countries still entered into these treaties, aware of their costs, suggests that these BITs may be of higher value to the signatories than pre-2000 BITs. That being the case, if our theory is correct, we will observe a stronger negative correlation between cosignatory match share and treaty renegotiation for post-2000 BITs than pre-2000 BITs.

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 4 for these two subsets of treaties. Table 5 presents the results. The first two columns replicate columns 3 and 4 of Table 4 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.

126. This number is calculated using the coefficient estimate in column 1 of Table 5.

127. See Jones & Rao, *supra* note 19, at 357. Following three controversial ISDS decisions, *Pope & Talbot*, *Metalclad*, and *Maffezini*, all of which expansively interpreted host states' investment protection obligations, a number of countries adopted new provisions to add restrictions or carve-outs to their obligations under new BITs they signed. See *Pope & Talbot Inc. v. Government of Canada*, Award on the Merits of Phase 2, (Apr. 10, 2001) 41 I.L.M. 1347 (2002); *Metalclad Corps. v. the United Mexican States*, ICSID Case No. ARB(AF)/97/1, Award (Aug. 30, 2000) 5 ICSID Rep. 209 (2002); *Emilio Agustín Maffezini v. The Kingdom of Spain*, ICSID Case No. ARB/97/7, Award (Nov. 13, 2000) 16 ICSID Rev. 1 (2001).

Table 5: Negotiation input and renegotiation risk (pre- vs. post-2000)

	(1)	(2)	(3)	(4)	(5)	(6)
	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate
Cosignatory Match Share (less developed)	-2.413* (1.312)	-2.435* (1.310)	-1.376 (1.304)	-1.408 (1.308)	-14.72*** (5.193)	-14.75*** (5.092)
Year of signature	-0.0430*** (0.00988)	-0.0460*** (0.00999)	-0.0454*** (0.0104)	-0.0500*** (0.0102)	-0.271 (0.211)	-0.267 (0.212)
Difference in income level	-0.648*** (0.183)	-0.637*** (0.183)	-0.671*** (0.188)	-0.658*** (0.189)	-0.662 (0.709)	-0.689 (0.732)
Paper BIT	-0.453 (0.344)	-0.431 (0.345)	-0.438 (0.346)	-0.407 (0.348)	-15.96*** (0.856)	-15.92*** (0.876)
Achmea	-21.02*** (0.347)	-17.03*** (0.338)	-20.97*** (0.367)	-17.00*** (0.351)	-14.29*** (0.853)	-14.52*** (0.855)
Cumulative number of cases (cosignatories)	-0.0120 (0.0109)		-0.0153 (0.0124)		-0.00387 (0.0173)	
Number of cases (cosignatories)		-0.0617 (0.0984)		-0.0562 (0.103)		-0.156 (0.264)
All BITs	Yes	Yes				
Pre-2000 BITs			Yes	Yes		
Post-2000 BITs					Yes	Yes
Observations	32388	32388	26293	26293	6095	6095

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

Consistent with our prediction, we find a negative and statistically significant correlation between the less developed signatory's cosignatory match share and renegotiation for the set of BITs signed after 2000. The coefficient on cosignatory match share for pre-2000 BITs is much lower in magnitude and is not statistically significant. This is consistent with our theory that with greater value to both signatories, the signatories have a greater interest in salvaging post-2000 BITs through renegotiation, particularly when one signatory has secured, and the other has granted, more concessions during BIT negotiation. Hence, BITs with more negotiation input from the less developed signatory are more likely to be renegotiated.

B. Evolving Bargaining Position

To test our second hypothesis, which is that BITs with a higher bargaining position of the less developed signatory are more at risk of termination, we follow the same approach used for the cosignatory match share measures. In Table 6 we find a positive and statistically significant relationship between the evolving bargaining position of the less developed signatory and the risk of termination. In the preferred model specification (column 7) our estimates suggest that, if bargaining position, in the form of the average number of concessions secured, increase by seven (or approximately ten percent of seventy-three total provisions), the probability of BIT termination increases by 41.9 percent.

Table 6: Bargaining position and termination risk

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Bargain position (less developed)	4.181*** (0.989)	3.714*** (1.031)	3.619*** (1.015)	3.509*** (1.018)	3.682*** (1.022)	3.707*** (1.023)	3.498*** (1.018)
Year of signature		0.0336*** (0.0110)	0.0299*** (0.0112)	0.0246** (0.0111)	0.0223** (0.0110)	0.0136 (0.0113)	0.0177 (0.0112)
Difference in income level			-0.249* (0.131)	-0.225* (0.131)	-0.198 (0.131)	-0.144 (0.134)	-0.168 (0.132)
Paper BIT				-0.555** (0.278)	-0.549** (0.279)	-0.499* (0.279)	-0.518* (0.279)
Achmea					1.401*** (0.430)	1.383*** (0.429)	1.387*** (0.430)
Cumulative number of cases (cosignatories)						0.0142*** (0.00441)	
Number of cases (cosignatories)							0.102*** (0.0224)
Observations	30634	30634	30462	30462	30462	29097	29097

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

In Table 7, we run separate regressions on each of the three termination events. The estimates in columns 1 and 2 in Table 7 suggest that the positive correlation in Table 6 is being driven by BITs that are terminated through unilateral termination. BITs become more likely to be unilaterally terminated as the less developed signatory obtains stronger bargaining position over time. Specifically, we find that if bargaining position, in the form of the average number of concessions secured, increase by seven, the probability of unilateral termination increases by 57.6 percent.¹²⁸ There is also a positive but statistically insignificant relationship between renegotiation and an increase in the bargaining position of the less developed signatory.

128. This number is calculated using the coefficient estimate in column 1 of Table 7.

Table 7: Bargaining position and termination risk by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Bargain position (less developed)	4.547*** (1.120)	4.031*** (1.078)	2.511 (2.033)	2.533 (2.029)	-41.34*** (9.787)	-38.95*** (9.349)
Year of signature	0.0784*** (0.0134)	0.0915*** (0.0150)	-0.0445*** (0.00952)	-0.0474*** (0.00967)	0.113* (0.0640)	0.112* (0.0636)
Difference in income level	0.145 (0.160)	0.0752 (0.156)	-0.531*** (0.200)	-0.519*** (0.200)	-0.875 (0.930)	-0.900 (0.922)
Paper BIT	-0.919* (0.515)	-0.969* (0.514)	-0.326 (0.339)	-0.303 (0.340)	1.947 (1.439)	1.827 (1.388)
Achmea	-17.60*** (0.314)	-15.00*** (0.285)	-20.80*** (0.346)	-16.82*** (0.336)	4.701*** (0.731)	4.598*** (0.722)
Cumulative number of cases (cosignatories)	0.0247*** (0.00424)		-0.0136 (0.0118)		-0.00908 (0.0183)	
Number of cases (cosignatories)		0.140*** (0.0170)		-0.0802 (0.107)		-0.350 (0.345)
Observations	29097	29097	29097	29097	29097	29097

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

C. Incomplete Preferences

To test our third hypothesis—that BITs that were signed at a time when the less developed signatory had more incomplete preferences are more likely to be terminated—we follow the same approach used for the prior two measures. Table 8 shows a positive and statistically significant correlation between the less developed signatory's share missing and termination risk in all but the most basic model specification (columns 2 through 7). In the preferred model specification (column 7) our estimates suggest that, if the number of missing preferences increases by seven (or approximately ten percent of seventy-three total provisions), the probability of BIT termination increases by 25.4 percent. This result is statistically significant at the 0.01 level.

Table 8: Preference formation and termination risk

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)
Share Missing (less developed)	-0.320 (0.505)	2.147*** (0.732)	2.295*** (0.734)	2.320*** (0.738)	2.244*** (0.738)	2.351*** (0.740)	2.262*** (0.742)
Year of signature		0.0669*** (0.0140)	0.0628*** (0.0141)	0.0559*** (0.0140)	0.0530*** (0.0140)	0.0452*** (0.0141)	0.0486*** (0.0141)
Difference in income level			-0.324** (0.127)	-0.292** (0.127)	-0.268** (0.128)	-0.213 (0.130)	-0.241* (0.129)
Paper BIT				-0.689** (0.278)	-0.686** (0.278)	-0.638** (0.279)	-0.654** (0.279)
Achmea					1.216*** (0.428)	1.192*** (0.427)	1.209*** (0.428)
Cumulative number of cases (cosignatories)						0.0153*** (0.00428)	
Number of cases (cosignatories)							0.104*** (0.0218)
Observations	33041	33041	32856	32856	32856	31329	31329

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

In Table 9, we show that this positive correlation is driven by unilateral terminations. We estimate that an increase of seven missing provision preferences is correlated with an increase in the risk of a unilateral termination by 54.4 percent.¹²⁹ This result is statistically significant at the 0.01 level and is consistent with our hypothesis that a BIT has a higher risk of termination if the less developed signatory has more incomplete preferences at the time the BIT is signed.

129. This number is calculated using the coefficient estimate in column 1 of Table 9.

Table 9: Preference formation and termination risk by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Share Missing (less developed)	4.342*** (1.214)	4.232*** (1.294)	0.668 (0.938)	0.684 (0.940)	-2.072 (2.541)	-1.567 (2.312)
Year of signature	0.123*** (0.0210)	0.134*** (0.0233)	-0.0368** (0.0165)	-0.0394** (0.0167)	0.0485 (0.0640)	0.0603 (0.0687)
Difference in income level	0.0937 (0.150)	0.0201 (0.147)	-0.630*** (0.189)	-0.620*** (0.190)	-1.263 (0.919)	-1.221 (0.895)
Paper BIT	-1.043** (0.515)	-1.086** (0.514)	-0.432 (0.344)	-0.412 (0.346)	1.703 (1.374)	1.602 (1.403)
Achmea	-17.82*** (0.295)	-15.23*** (0.276)	-20.93*** (0.365)	-16.95*** (0.357)	4.619*** (0.648)	4.649*** (0.598)
Cumulative number of cases (cosignatories)	0.0257*** (0.00398)		-0.0120 (0.0109)		-0.00937 (0.0196)	
Number of cases (cosignatories)		0.142*** (0.0167)		-0.0651 (0.0991)		-0.489 (0.322)
Observations	31329	31329	31329	31329	31329	31329

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

We do not find a similar result for BIT renegotiation, however. This null result between share missing and renegotiation may be explained by a lack of resources to entice the cosignatory to revisit the treaty. That is, countries lacking resources to form consistent preferences in early BIT negotiations may also have fewer resources to use to induce their cosignatory to return to the negotiating table. Barring renegotiation, these countries may decide their second-best option is unilateral termination.

D. Evolving Preferences

To test our fourth hypothesis—that BITs that fall more out of sync with the less developed signatory's evolving preferences are more likely to be terminated—we again begin with a simple regression to calculate the coefficient on the change in preference match share of the less developed signatory. This estimate is reported in column 1 of Table 10. In columns 2 through 7, we add control variables one at a time to the model specification.

Table 10: Evolving preference and termination risk

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Change in Preference	-0.344	-2.667***	-2.602***	-2.645***	-2.538***	-2.676***	-2.600***
Match Share (Less Developed)	(0.527)	(0.717)	(0.716)	(0.721)	(0.722)	(0.721)	(0.724)
Year of signature		0.0687*** (0.0135)	0.0630*** (0.0137)	0.0558*** (0.0136)	0.0530*** (0.0136)	0.0452*** (0.0137)	0.0491*** (0.0137)
Difference in income level			-0.318** (0.128)	-0.286** (0.128)	-0.268** (0.129)	-0.201 (0.131)	-0.236* (0.130)
Paper BIT				-0.677** (0.279)	-0.674** (0.279)	-0.627** (0.280)	-0.642** (0.280)
Achmea					0.983** (0.467)	0.939** (0.467)	0.968** (0.467)
Cumulative number of cases (cosignatories)						0.0158*** (0.00436)	
Number of cases (cosignatories)							0.103*** (0.0221)
Observations	32449	32449	32264	32264	32264	30737	30737

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

Table 10 shows a negative and statistically significant correlation between change in the less developed signatory's preference match share and the risk of termination in columns 2 through 7. This finding is consistent with Hypothesis 3: A treaty is more likely to be terminated as the signatories' BIT preferences evolve and move further away from the treaty text. That is, as the preference match share goes down relative to the original preference match share, the probability of treaty termination goes up. On average, a preference match on seven additional provisions is correlated with a 29.7 percent decrease in the risk that the BIT will eventually be terminated.

In Table 11, we again run separate regressions by termination type using the preferred model specification.¹³⁰ We find a negative and statistically significant correlation between change in the less developed signatory's preference match share and the risks of unilateral termination and renegotiation. That is, as the distance between a signed BIT and the less developed signatory's current preferences increases, the risk that the BIT will be unilaterally terminated or replaced by a new treaty also increases. A preference match on seven additional provisions (or a ten percent increase) is correlated with a 38.7 percent decrease in the risk the BIT will be unilaterally terminated and a 17.8 percent decrease in the risk the BIT will be renegotiated.¹³¹

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

131. These numbers are calculated using the coefficient estimates in columns 1 and 3, respectively, of Table 11.

Table 11: Evolving preference and termination risk by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Change in Preference Match Share (Less Developed)	-3.273*** (0.962)	-3.085*** (0.983)	-1.637 (1.014)	-1.666* (1.007)	2.438 (2.396)	2.109 (2.266)
Year of signature	0.107*** (0.0168)	0.118*** (0.0184)	-0.0267 (0.0163)	-0.0285* (0.0167)	0.0413 (0.0436)	0.0526 (0.0465)
Difference in income level	0.116 (0.156)	0.0251 (0.151)	-0.615*** (0.194)	-0.605*** (0.194)	-1.305 (0.893)	-1.263 (0.875)
Paper BIT	-1.017** (0.516)	-1.056** (0.515)	-0.438 (0.350)	-0.424 (0.352)	1.666 (1.310)	1.596 (1.345)
Achmea	-17.93*** (0.312)	-15.33*** (0.283)	-21.04*** (0.384)	-17.06*** (0.377)	4.620*** (0.765)	4.629*** (0.735)
Cumulative number of cases (cosignatories)	0.0256*** (0.00408)		-0.00950 (0.0107)		-0.00759 (0.0195)	
Number of cases (cosignatories)		0.139*** (0.0174)		-0.0540 (0.0944)		-0.419 (0.320)
Observations	30737	30737	30737	30737	30737	30737

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

E. Control Variables

Throughout our analyses, we also calculate coefficient estimates of the correlation between BIT termination events and six control variables that may also be driving termination. When looking at terminations by any method (as seen in Tables 3, 6, 8, and 10) some of the estimates are consistent with our expectations: BITs that govern no FDI are less likely to be terminated, and the more often the cosignatories 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 4, 7, 9, and 11), 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 columns 5 and 6 of each table is positive and highly statistically significant. For example, we find in column 5 of Table 4 that intra-EU BITs in the years following the *Achmea* decision are almost 100 times more likely to be bilaterally terminated relative to all other BITs in all other years.

As we expected, we find a negative and statistically significant correlation between BIT termination by renegotiation and the difference in income levels of the BIT signatories, as seen in columns 3 and 4 of Tables 4, 7, 9, and 11. That is, if there is a large difference between the signatories' income level, the BIT is less likely to be renegotiated. At the same time, while direction of the relationship between the difference in income level and unilateral termination risk is consistent with our prediction, suggesting that BITs are more likely to be unilaterally terminated when the signatories are of more diverging income level, the results are not statistically significant.

Interestingly, we find that *newer* BITs are more likely to be unilaterally terminated (as seen in columns 1 and 2 in Tables 4, 7, 9, and 11), but that *older* BITs are more likely to be renegotiated (as seen in columns 3 and 4 in Tables 4, 7, 9, and 11).

Finally, our estimates suggest that the positive correlation between the ISDS history of the signatories and BIT termination is driven exclusively by unilateral terminations (see columns 1 and 2 in Tables 4, 7, 9, and 11). Contrary to Haftel and Thompson¹³² and Thompson, Broude, and Haftel,¹³³ we do not find a positive correlation between ISDS history and renegotiation (as seen in columns 3 and 4 in Tables 4, 9, and 11).¹³⁴

F. Robustness Checks

Next, we explore whether or not our estimates become more or less pronounced when we modify the data along four different dimensions. The first dimension explores whether or not our results hold if we consider the full set of BIT provisions rather than the subset of provisions that are the most consequential. The second dimension explores whether the relationship between our measures and unilateral termination events change when we only include observations that occur in a year in which a BIT is eligible for unilateral termination according to the terms of the agreement. The third dimension takes into account bargaining position in estimating the correlation between negotiation input and termination risk. The final dimension explores whether or not our results are more pronounced when we only include BITs signed by countries that have either participated in a renegotiation or initiated a unilateral termination.

1. Using All BIT Provisions

As discussed in Part III, all data analysis presented thus far is based on a subset of BIT provisions that includes eighteen of the forty-seven primary provisions, along with the corresponding fifty-five secondary provisions that are associated with those eighteen primary provisions. Recall that these eighteen provisions and their corresponding secondary provisions include all provisions that enable investors to bring enforcement proceedings against a host country and the primary protections most often invoked by investors in those proceedings. In the appendix, we replicate all of the regression estimates using the complete set of forty-seven primary provisions and their corresponding

132. See Haftel & Thompson, *supra* note 37.

133. See Thompson, Broude, & Haftel, *supra* note 37.

134. More work needs to be done to determine what is driving the difference in our estimates, though we posit three possible explanations here. First, our data set 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 amendments as renegotiation events. Finally, it may be the case that, in the context of renegotiation, preference formation and evolution erode the correlation between renegotiation and the ISDS history of the signatories.

seventy-one secondary provisions (Tables A1-A9). These results are largely consistent with those already discussed with one notable exception: the relationship between cosignatory match share and unilateral termination.

In the main analysis, we find a positive (though not statistically significant) relationship between the less developed signatory's cosignatory match share and the risk of unilateral termination (see columns 1 and 2 in Table 4). This estimate suggests that BITs that include less input from the less developed signatory are at a higher risk of unilateral termination. By contrast, we find a negative and statistically significant relationship between the less developed signatory's cosignatory match share and the risk of unilateral termination when we consider the full set of BIT provisions (see columns 1 and 2 in Table A2). This estimate suggests the opposite conclusion: BITs that include less input from the less developed signatory are at a lower risk of unilateral termination.

One potential explanation for these conflicting estimates is that the cosignatory match share calculated using the full set of provisions captures, to some degree, the bargaining position of the less developed signatory. More concretely, a BIT with a high cosignatory match share that was estimated using the most important provisions and a lower cosignatory match share that was estimated using the full set of provisions suggests that the less developed signatory has at least some bargaining leverage in the bilateral relationship, even if it is only able to secure concessions on less consequential provisions. If this signatory becomes dissatisfied with the consequential provisions, they may be more likely to unilaterally terminate relative to a less developed signatory that is not able to achieve concessions on the less consequential provisions.

2. *Unilateral Termination Conditions*

In the main analysis, we include an observation for each BIT in each year in which the BIT is in force. However, structuring the data set in this way ignores an important nuance, which is that most BITs are not eligible for unilateral termination every year. Rather, different treaties may contain different rules on the specific conditions that must be satisfied for a signatory to unilaterally terminate a BIT.

Generally, there are two types of termination clauses. One type, which is known as the "tacit renewal" termination clause, provides that following the expiration of the initial term, a BIT is automatically renewed for a specified term, unless either party decides to terminate it within a limited period.¹³⁵ The other is known as the fixed-term termination clause, which provides that the BIT is renewed for an indefinite term upon the expiration of the initial term, but that either party can terminate the BIT at any time thereafter.¹³⁶ Our data set has

135. See, e.g., Art. 12.1 of the Belarus-Switzerland BIT (1993), *supra* note 43, provides that "[t]he present Treaty shall enter into force on the day when the two Contracting Parties have notified each other that the constitutional formalities required for the conclusion and entry into force of international agreements have been accomplished; it will remain into force for a period of ten years. If the Treaty has not been denounced in writing six months before the expiration of this period it will be considered as renewed under the same conditions for a period of two years, and so forth."

136. See, e.g., Art. 15.1 of the Australia-Uruguay BIT (2001), *supra* note 43, provides that "[t]his

information on the details of these termination clauses, as well as information on the length of each BIT's initial term.¹³⁷ Hence, we use this information to generate a variable denoting whether a BIT is eligible for unilateral termination in a given year.

We then run the same set of regressions as those that appear in the main analysis (for unilateral termination), using a subset of observations where a BIT is eligible for unilateral termination according to the rules provided in the treaty. As Table A10 shows, the results are qualitatively similar to the original findings. Specifically, consistent with our earlier results, we find a positive and statistically significant relationship between bargaining position and the risk of unilateral termination, a positive and statistically significant relationship between share missing and the risk of unilateral termination, and a negative and statistically significant relationship between the change in preference match share and the risk of unilateral termination. However, the magnitude of most of these relationships is much larger when the estimates are calculated using only the observations that occur in a year in which each BIT is eligible for unilateral termination. We find that a ten percent increase in bargaining position of the less developed signatory is correlated with an 89.4 percent increase in the risk of unilateral termination when only eligible years are included,¹³⁸ compared to a 57.6 percent increase when all years are included. We also find that a ten percent increase in share missing is correlated with a 59.4 percent increase in the risk of unilateral termination when only eligible years are included,¹³⁹ compared to a 54.4 percent increase when all years are included. Similarly, a ten percent increase in the change in preference match share decreases the risk of unilateral termination by 64.7 percent when only eligible years are included,¹⁴⁰ compared to a 38.7 percent decrease when all years are included. The amplification of these estimates is unsurprising, given the constraint that BITs may not be unilateral terminated outside of the termination window specified by the provisions of the agreement.

3. *Controlling for Bargaining Position*

As discussed earlier, less negotiation input from the less developed signatory may reflect the signatory's weaker bargaining position. At the same time, a signatory's evolving bargaining position may also be correlated with its likelihood to unilaterally terminate a BIT, as we see in Table 7. Hence, in alternative specifications, we conduct the same set of regression analyses as those that appear in Table 4 after adding the less developed signatory's evolving bargaining position as a control variable. The results reveal the correlation

Agreement shall enter into force thirty days after the date on which the Parties have notified each other through diplomatic channels that their constitutional requirements for the entry into force of this Agreement have been fulfilled. It shall remain in force for a period of fifteen years and thereafter shall remain in force indefinitely, unless terminated in accordance with paragraph 2 of this Article."

137. See *IIA Navigator*, *supra* note 6.

138. This number is calculated using the coefficient estimate in column 3 of Table A10.

139. This number is calculated using the coefficient estimate in column 5 of Table A10.

140. This number is calculated using the coefficient estimate in column 7 of Table A10.

between the less developed signatory's input in BIT negotiation and unilateral termination likelihood after holding constant the less developed signatory's evolving bargaining position.

Table A11 presents the results. In columns 3 and 4, we add alternative specifications which use a subset of observation years where a BIT is eligible for unilateral termination, as we did in the previous subsection. While the coefficient estimate for the less developed signatory's cosignatory match share remains positive and statistically insignificant in columns 1 and 2, it becomes statistically significant at the ten percent level when we exclude observations in years in which a BIT is ineligible for unilateral termination. Specifically, we find that a ten percent increase in the cosignatory match share of the less developed cosignatory is correlated with a 38.7 percent increase in the risk of unilateral termination, after controlling for the current bargaining position of the less developed signatory and limiting the data to only include years in which the BIT is eligible for unilateral termination.¹⁴¹ Taken together, the results seem to suggest that holding constant the less developed signatory's evolving bargaining position, BITs with less negotiation input from the less developed signatory are more likely to be unilaterally terminated.

4. *Country-level Analysis*

Finally, to explore the drivers of within-country variation in BIT termination decisions, we conduct a final set of regressions on two different subsets of the data: (1) BITs signed by countries that have initiated a unilateral termination (mass terminators and incremental terminators), and (2) BITs signed by countries that have participated in a renegotiation. To create these subsets, we first reorganize the data to include one BIT-year observation for each of the signatories to the BIT. The dependent variable becomes whether a country unilaterally terminated or renegotiated a BIT in a given year. For unilateral termination, we collect information on which signatory unilaterally terminated a BIT in order to attribute the termination event to one of the two signatories of the treaty. For renegotiation, we consider both signatories to be responsible for the return to the negotiating table. Using this modified data set, we run regressions similar to those that appear in the main analysis. To account for country-specific heterogeneity that may affect the hazard rate, we include a country-specific frailty parameter.¹⁴²

The four independent variables of interest in these regressions are the same as those used in the main analysis. We estimate the relationship between each of these measures and unilateral termination for both mass terminators and incremental terminators in Table A12, and for incremental terminators only in Table A13. We then estimate relationships between each of these measures and

141. This number is calculated using the coefficient estimate in column 3 of Table A11.

142. Recent work in the investment treaty literature has used such shared-frailty parameter for each country to account for country heterogeneity in cox proportional hazard models. See Soumajit Mazumder, *Can I Stay a BIT Longer? The Effect of Bilateral Investment Treaties on Political Survival*, 11 REV. INT'L ORGS. 477 (2016). In untabulated results, we also used state-fixed effects and find similar results.

renegotiation in Table A14.

Columns 3 and 4 in Table A12 report a positive and statistically significant relationship between evolving bargaining position and risk of unilateral termination. The direction of the coefficient estimates for the other three measures is consistent with what we find in the treaty-level analysis, but the results are not statistically significant. When we exclude the two mass terminators (India and Ecuador) from the data set, however, the coefficient for cosignatory match share becomes statistically significant, whereas the coefficient for evolving bargaining position becomes negative and statistically significant. Taken together, the results seem to suggest that negotiation input helps explain the unilateral termination decisions of incremental terminators. That is, these countries chose to unilaterally terminate those BITs in which they lacked input at the negotiation stage but keep the other BITs in which they contributed more to the negotiation of the text. On the other hand, the unilateral termination decisions of mass terminators (India and Ecuador) appear to be driven largely by an increase in bargaining position.

Consistent with the estimates in the main analysis, columns 1 and 2 in Table A14 report a negative and statistically significant relationship between the cosignatory's match share and the risk of renegotiation. Columns 3 and 4 in Table A14 report a positive and statistically significant relationship between the evolving bargaining position and the risk of renegotiation. Finally, columns 7 and 8 in Table A14 report a negative and statistically significant relationship between the change in preference match share and the risk of renegotiation.

CONCLUSION

This paper explores the relationship between BIT termination events and four BIT-specific measures: (1) the degree to which a signed BIT incorporates the preferences of the more developed signatory; (2) the less developed signatory's bargaining position; (3) how under-developed the preferences are of the less developed signatory at the time a BIT enters into force; and (4) how closely an active BIT's provisions reflect the updated, current preferences of the less developed signatory relative to its original preference match share.

One of the primary obstacles to studying these relationships is determining how to disentangle individual countries' preferences from the content of negotiated instruments. One of the primary contributions of this paper is the development of an intuitive and general methodology to do precisely this. The key to this method is to leverage the entire treaty history of each country. The first step is to look, at the individual country level, for consistency in drafting patterns in early BITs. 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 our four primary treatments measures.

In our initial descriptive statistics, we present evidence that, compared to earlier BITs, BITs signed in the last decade are more balanced in terms of

incorporating provisions that deviate from the preferred provisions of the more developed signatory (Figure 9). We also suggest that in the last decade, less developed signatories have, on average, experienced improvement in their bargaining position (Figure 10); that all countries, and especially low-income countries, have developed more consistent preferences over time (Figure 11); and that these preferences are being updated in ways that have led to some signed BITs falling out of sync with the current preference of its signatories (Figures 12 and 13).

Our statistical analysis explores how these factors may have contributed to unilateral treaty terminations and renegotiations. We present several findings. First, we find some evidence that more input from the less developed signatory is correlated with a lower risk of unilateral termination (Finding 1). Results from country-level analysis suggest that the lack of negotiation input better explains unilateral termination decisions of incremental terminators which selectively terminated some, but not all of their BITs. On the other hand, more input from the less developed signatory is correlated with a higher risk of renegotiation (Finding 2). Our theory is that both signatories have more incentives to salvage a deal when they have invested more in the original negotiation. Next, we find that an increase in the bargaining position of the less developed signatory is correlated with a higher risk of unilateral termination (Finding 3). Results from country-level analysis suggest that an increase in bargaining position better explains unilateral termination decisions of mass terminators. We find that more incomplete preferences for the less developed signatory at the time of entry into force is correlated with a higher risk of unilateral termination (Finding 4). We also find that a decrease in the preference match share of the less developed signatory relative to its original preference match share is correlated with a higher risk of both unilateral termination and renegotiation (Finding 5).

These findings have a number of practical implications. Finding 1 suggests that more balanced negotiations may increase the stability of investor protections. Finding 2 suggests that the fewer concessions a developing country is able to secure from the more developed cosignatory during the original BIT negotiation, the harder it may be to get the cosignatory to revise the treaty through renegotiation. Finding 3 suggests that shifting bargaining positions may continue to play a role in unilateral termination events, particularly those that happen on a mass scale, as more countries experience improvements in their relative bargaining positions. Finding 4 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 the stability of those protections in the long run. Providing more assistance to developing countries to inform them of available drafting options and to help them form preferences may increase the overall stability of new treaties. Finally, Finding 5 suggests that, as countries become more sophisticated and update their preferences, we can expect to see more turnover in the investment treaty network. To the extent that both signatories have provisions that they would like to change, we anticipate that these are likely to result in a new treaty that better reflects the collective preferences of the signatories.

This Article has 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. It has also shown that, over time, less developed and capital-importing countries updated their preferences in ways that have contributed to recent and seismic shifts in the investment treaty network. As this process plays out over the coming years, more turnover should be expected. To the extent that capital-exporting countries value long-term stability and longevity of investment protections, they would do well to pursue a more balanced and equitable approach when negotiating with their capital-importing counterparts.

APPENDIX

Table A1: Negotiation input and termination risk

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)
Cosignatory Match	-3.968***	-4.129***	-3.768***	-3.511***	-3.452***	-3.268***	-3.326***
Share (less developed)	(1.170)	(1.191)	(1.207)	(1.216)	(1.228)	(1.243)	(1.230)
Year of signature		0.0453*** (0.0108)	0.0398*** (0.0111)	0.0321*** (0.0110)	0.0301*** (0.0110)	0.0214* (0.0113)	0.0254** (0.0111)
Difference in income level			-0.296** (0.126)	-0.266** (0.126)	-0.245* (0.126)	-0.189 (0.129)	-0.217* (0.127)
Paper BIT				-0.691** (0.279)	-0.691** (0.279)	-0.648** (0.280)	-0.661** (0.279)
Achmea					1.250*** (0.428)	1.239*** (0.427)	1.246*** (0.428)
Cumulative number of cases (cosignatories)						0.0141*** (0.00426)	
Number of cases (cosignatories)							0.103*** (0.0219)
Observations	34102	34102	33941	33941	33941	32381	32381

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

Table A2: Negotiation input and termination risk by termination type

	(1)	(2)	(3)	(4)	(5)	(6)
	Unilaterally terminate	Unilaterally terminate	Renegotiate	Renegotiate	Bilaterally terminate	Bilaterally terminate
Cosignatory Match	-2.322*	-2.452*	-3.561*	-3.564*	1.201	1.909
Share (less developed)	(1.344)	(1.316)	(1.992)	(1.991)	(5.708)	(5.654)
Year of signature	0.0859*** (0.0135)	0.0969*** (0.0149)	-0.0437*** (0.00983)	-0.0469*** (0.00992)	0.0704 (0.0498)	0.0785 (0.0528)
Difference in income level	0.160 (0.156)	0.0755 (0.151)	-0.661*** (0.181)	-0.650*** (0.181)	-1.246 (0.866)	-1.203 (0.853)
Paper BIT	-1.071** (0.515)	-1.106** (0.515)	-0.450 (0.344)	-0.427 (0.345)	1.669 (1.358)	1.552 (1.381)
Achmea	-15.80*** (3.315)	-15.22*** (2.282)	-21.02*** (3.346)	-17.04*** (3.337)	4.618*** (0.644)	4.694*** (0.579)
Cumulative number of cases (cosignatories)	0.0243*** (0.00390)		-0.0127 (0.0111)		-0.00911 (0.0202)	
Number of cases (cosignatories)		0.140*** (0.0163)		-0.0657 (0.0999)		-0.494 (0.320)
Observations	32381	32381	32381	32381	32381	32381

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

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

	(1)	(2)	(3)	(4)	(5)	(6)
	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate	Renegotiate
Cosignatory Match Share (less developed)	-3.561* (1.992)	-3.564* (1.991)	-2.022 (1.979)	-2.015 (1.983)	-15.91** (6.369)	-16.11** (6.955)
Year of signature	-0.0437*** (0.00983)	-0.0469*** (0.00992)	-0.0456*** (0.0104)	-0.0504*** (0.0103)	-0.271 (0.221)	-0.262 (0.234)
Difference in income level	-0.661*** (0.181)	-0.650*** (0.181)	-0.679*** (0.186)	-0.666*** (0.187)	-0.680 (0.761)	-0.724 (0.775)
Paper BIT	-0.450 (0.344)	-0.427 (0.345)	-0.437 (0.345)	-0.405 (0.348)	-17.47*** (0.720)	-15.71*** (0.711)
Achmea	-21.02*** (0.346)	-17.04*** (0.337)	-20.98*** (0.366)	-17.01*** (0.350)	-16.55*** (0.980)	-14.64*** (0.958)
Cumulative number of cases (cosignatories)	-0.0127 (0.0111)		-0.0157 (0.0126)		0.0115 (0.0187)	
Number of cases (cosignatories)		-0.0657 (0.0999)		-0.0585 (0.104)		-0.0769 (0.267)
All BITs	Yes	Yes				
Pre-2000 BITs			Yes	Yes		
Post-2000 BITs					Yes	Yes
Observations	32381	32381	26293	26293	6088	6088

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

Table A4: Bargaining position and termination risk

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)
Bargain position (less developed)	5.033*** (1.027)	4.512*** (1.075)	4.448*** (1.056)	4.342*** (1.059)	4.637*** (1.061)	4.591*** (1.068)	4.403*** (1.061)
Year of signature		0.0317*** (0.0109)	0.0279** (0.0112)	0.0226** (0.0111)	0.0201* (0.0110)	0.0118 (0.0113)	0.0157 (0.0112)
Difference in income level			-0.258** (0.130)	-0.235* (0.131)	-0.207 (0.131)	-0.157 (0.133)	-0.177 (0.132)
Paper BIT				-0.551** (0.278)	-0.544* (0.279)	-0.496* (0.279)	-0.514* (0.279)
Achmea					1.514*** (0.433)	1.494*** (0.432)	1.495*** (0.432)
Cumulative number of cases (cosignatories)						0.0138*** (0.00444)	
Number of cases (cosignatories)							0.101*** (0.0226)
Observations	30634	30634	30462	30462	30462	29097	29097

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

Table A5: Bargaining position and termination risk by termination type

	(1)	(2)	(3)	(4)	(5)	(6)
	Unilaterally terminate	Unilaterally terminate	Renegotiate	Renegotiate	Bilaterally terminate	Bilaterally terminate
Bargain position (less developed)	6.097*** (1.134)	5.598*** (1.094)	2.159 (2.298)	2.132 (2.301)	-66.66*** (11.81)	-63.44*** (11.74)
Year of signature	0.0746*** (0.0133)	0.0873*** (0.0148)	-0.0447*** (0.00944)	-0.0477*** (0.00960)	0.118** (0.0589)	0.118** (0.0574)
Difference in income level	0.124 (0.158)	0.0628 (0.155)	-0.529*** (0.199)	-0.516*** (0.200)	-0.996 (0.980)	-1.020 (0.968)
Paper BIT	-0.906* (0.515)	-0.959* (0.513)	-0.334 (0.339)	-0.311 (0.340)	1.758 (1.386)	1.607 (1.334)
Achmea	-17.51*** (0.315)	-14.85*** (0.288)	-20.77*** (0.356)	-16.79*** (0.343)	4.015*** (0.674)	3.948*** (0.677)
Cumulative number of cases (cosignatories)	0.0245*** (0.00425)		-0.0138 (0.0119)		-0.00462 (0.0185)	
Number of cases (cosignatories)		0.139*** (0.0174)		-0.0791 (0.107)		-0.307 (0.359)
Observations	29097	29097	29097	29097	29097	29097

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

Table A6: Preference formation and termination risk

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)	Terminate (any)
Share Missing (less developed)	0.133 (0.645)	3.842*** (0.937)	4.031*** (0.942)	4.042*** (0.944)	4.007*** (0.948)	4.072*** (0.946)	3.931*** (0.951)
Year of signature		0.0758*** (0.0138)	0.0715*** (0.0139)	0.0644*** (0.0138)	0.0621*** (0.0138)	0.0534*** (0.0139)	0.0567*** (0.0139)
Difference in income level			-0.335*** (0.127)	-0.304** (0.127)	-0.280** (0.127)	-0.228* (0.130)	-0.255** (0.128)
Paper BIT				-0.683** (0.278)	-0.681** (0.278)	-0.634** (0.279)	-0.650** (0.279)
Achmea					1.243*** (0.427)	1.222*** (0.427)	1.240*** (0.427)
Cumulative number of cases (cosignatories)						0.0153*** (0.00430)	
Number of cases (cosignatories)							0.101*** (0.0220)
Observations	33033	33033	32848	32848	32848	31322	31322

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

Table A7: Preference formation and termination risk by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Share Missing (less developed)	6.868*** (1.382)	6.805*** (1.467)	1.201 (1.297)	1.229 (1.300)	-2.994 (3.804)	-2.324 (3.612)
Year of signature	0.132*** (0.0195)	0.145*** (0.0218)	-0.0339** (0.0167)	-0.0365** (0.0168)	0.0463 (0.0684)	0.0579 (0.0741)
Difference in income level	0.0620 (0.150)	-0.00770 (0.147)	-0.629*** (0.188)	-0.619*** (0.188)	-1.277 (0.941)	-1.233 (0.922)
Paper BIT	-1.047** (0.515)	-1.087** (0.514)	-0.434 (0.344)	-0.413 (0.346)	1.703 (1.376)	1.596 (1.419)
Achmea	-17.76*** (0.301)	-17.17*** (0.283)	-20.93*** (0.364)	-16.95*** (0.358)	4.595*** (0.640)	4.638*** (0.584)
Cumulative number of cases (cosignatories)	0.0252*** (0.00394)		-0.0122 (0.0110)		-0.00930 (0.0196)	
Number of cases (cosignatories)		0.138*** (0.0169)		-0.0676 (0.0999)		-0.489 (0.322)
Observations	31322	31322	31322	31322	31322	31322

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

Table A8: Evolving preference and termination risk

	(1) Terminate (any)	(2) Terminate (any)	(3) Terminate (any)	(4) Terminate (any)	(5) Terminate (any)	(6) Terminate (any)	(7) Terminate (any)
Change in Preference Match Share (Less Developed)	-0.181 (0.755)	-2.757*** (0.950)	-2.632*** (0.950)	-2.700*** (0.957)	-2.513*** (0.956)	-2.787*** (0.954)	-2.561*** (0.956)
Year of signature		0.0606*** (0.0130)	0.0547*** (0.0132)	0.0475*** (0.0131)	0.0446*** (0.0131)	0.0372*** (0.0132)	0.0405*** (0.0132)
Difference in income level			-0.313** (0.128)	-0.279** (0.128)	-0.263** (0.129)	-0.193 (0.132)	-0.231* (0.130)
Paper BIT				-0.676** (0.279)	-0.673** (0.279)	-0.627** (0.280)	-0.641** (0.280)
Achmea					0.994** (0.469)	0.935** (0.470)	0.977** (0.469)
Cumulative number of cases (cosignatories)						0.0160*** (0.00438)	
Number of cases (cosignatories)							0.102*** (0.0221)
Observations	32441	32441	32256	32256	32256	30730	30730

Standard errors in parentheses

Coefficient estimates from Cox proportional hazards model.

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

Table A9: Evolving preference and termination risk by termination type

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Renegotiate	(4) Renegotiate	(5) Bilaterally terminate	(6) Bilaterally terminate
Change in Preference Match Share (Less Developed)	-2.064* (1.139)	-1.237 (1.149)	-2.707* (1.496)	-2.751* (1.482)	4.694 (3.174)	4.208 (3.253)
Year of signature	0.0956*** (0.0153)	0.104*** (0.0167)	-0.0246 (0.0163)	-0.0263 (0.0167)	0.0321 (0.0458)	0.0443 (0.0495)
Difference in income level	0.121 (0.157)	0.0256 (0.153)	-0.602*** (0.195)	-0.593*** (0.194)	-1.337 (0.894)	-1.290 (0.876)
Paper BIT	-1.033** (0.515)	-1.075** (0.514)	-0.459 (0.355)	-0.446 (0.358)	1.631 (1.312)	1.579 (1.342)
Achmea	-17.85*** (0.318)	-15.23*** (0.286)	-21.08*** (0.385)	-17.09*** (0.377)	4.706*** (0.777)	4.698*** (0.761)
Cumulative number of cases (cosignatories)	0.0254*** (0.00413)		-0.00912 (0.0108)		-0.00703 (0.0188)	
Number of cases (cosignatories)		0.137*** (0.0171)		-0.0531 (0.0945)		-0.404 (0.323)
Observations	30730	30730	30730	30730	30730	30730

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

Table A10: Unilateral termination (eligible BIT-years only)

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Unilaterally terminate	(4) Unilaterally terminate	(5) Unilaterally terminate	(6) Unilaterally terminate	(7) Unilaterally terminate	(8) Unilaterally terminate
Cosignatory Match Share (less developed)	1.678 (1.545)	1.944 (1.522)						
Bargain position (less developed)			6.389*** (1.410)	6.054*** (1.384)				
Share Missing (less developed)					4.663*** (1.311)	4.418*** (1.402)		
Change in preference match share (less developed)							-4.357*** (1.154)	-4.124*** (1.185)
Year of signature	0.113*** (0.0165)	0.128*** (0.0174)	0.110*** (0.0201)	0.122*** (0.0206)	0.138*** (0.0202)	0.153*** (0.0221)	0.131*** (0.0180)	0.145*** (0.0193)
Difference in income level	0.408** (0.189)	0.323* (0.187)	0.529*** (0.197)	0.421** (0.195)	0.399** (0.181)	0.335* (0.181)	0.396** (0.187)	0.316* (0.188)
Paper BIT	-1.838* (0.985)	-1.930* (0.986)	-1.663* (0.986)	-1.781* (0.988)	-1.814* (0.991)	-1.924* (0.993)	-1.756* (0.987)	-1.855* (0.987)
Achmea	-21.69*** (0.339)	-21.02*** (0.319)	-13.30*** (0.346)	-12.81*** (0.325)	-14.71*** (0.330)	-13.03*** (0.319)	-14.98*** (0.359)	-14.27*** (0.339)
Cumulative number of cases (cosignatories)	0.0268*** (0.00438)		0.0283*** (0.00476)		0.0292*** (0.00463)		0.0283*** (0.00460)	
Number of cases (cosignatories)		0.157*** (0.0219)		0.148*** (0.0230)		0.162*** (0.0229)		0.156*** (0.0226)
Observations	11911	11911	10810	10810	11378	11378	11018	11018

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions.

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

Table A11: Negotiation input and termination risk by termination type (control for bargaining position)

	(1)	(2)	(3)	(4)
	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate
Cosignatory Match Share (less developed)	1.562 (1.220)	1.415 (1.188)	3.275* (1.731)	3.120* (1.692)
Year of signature	0.0785*** (0.0136)	0.0917*** (0.0152)	0.115*** (0.0215)	0.128*** (0.0222)
Difference in income level	0.127 (0.161)	0.0594 (0.157)	0.466** (0.201)	0.359* (0.200)
Paper BIT	-0.926* (0.515)	-0.978* (0.513)	-1.648* (0.986)	-1.769* (0.987)
Achmca	-17.58*** (0.315)	-14.98*** (0.286)	-13.00*** (0.349)	-12.28*** (0.327)
Cumulative number of cases (cosignatories)	0.0250*** (0.00424)		0.0287*** (0.00478)	
Number of cases (cosignatories)		0.141*** (0.0170)		0.149*** (0.0235)
Bargain position (less developed)	4.582*** (1.130)	4.046*** (1.086)	6.746*** (1.393)	6.284*** (1.355)
Observations	29066	29066	10792	10792

Standard errors in parentheses

Coefficient estimates from competing-risks survival regressions

Columns 3 and 4 include only observations from eligible years.

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

Table A12: Unilateral termination risk (country-based analysis) (incremental and mass terminators)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate	Unilaterally terminate
Cosignatory's match share	2.757 (2.545)	2.481 (2.595)						
Bargain position			14.76* (7.927)	18.23** (7.875)				
Share missing					0.277 (2.425)	1.085 (2.353)		
Change in preference match share							-0.954 (1.821)	-2.824 (2.147)
Year of signature	0.0405 (0.0296)	0.155*** (0.0284)	0.0611** (0.0307)	0.144*** (0.0284)	0.0386 (0.0321)	0.155*** (0.0296)	0.0523 (0.0350)	0.165*** (0.0303)
Difference in income level	0.124 (0.135)	0.0703 (0.134)	0.102 (0.135)	0.0496 (0.134)	0.125 (0.134)	0.0755 (0.134)	0.106 (0.135)	0.0586 (0.135)
Paper BIT	-0.352 (0.615)	-0.363 (0.610)	-0.325 (0.619)	-0.308 (0.616)	-0.365 (0.615)	-0.360 (0.610)	-0.372 (0.616)	-0.368 (0.612)
Achmca	2.187*** (0.574)	2.327*** (0.595)	2.040*** (0.615)	2.145*** (0.624)	2.210*** (0.575)	2.352*** (0.593)	2.176*** (0.577)	2.339*** (0.593)
Cumulative number of cases	0.127*** (0.0267)		0.0939*** (0.0292)		0.126*** (0.0268)		0.113*** (0.0273)	
Number of cases		0.309*** (0.0663)		0.283*** (0.0707)		0.309*** (0.0664)		0.291*** (0.0677)
Observations	10433	10433	10135	10135	10496	10496	10380	10380

Standard errors in parentheses

Coefficient estimates from cox proportional hazard models. All specifications include a country-specific frailty parameter.

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

Table A13: Unilateral termination risk (country-based analysis) (incremental terminators only)

	(1) Unilaterally terminate	(2) Unilaterally terminate	(3) Unilaterally terminate	(4) Unilaterally terminate	(5) Unilaterally terminate	(6) Unilaterally terminate	(7) Unilaterally terminate	(8) Unilaterally terminate
Cosignatory's match share	8.297* (4.435)	8.469* (4.404)						
Bargain position			-38.24* (20.36)	-39.04* (20.08)				
Share missing					5.376 (3.317)	5.014 (3.338)		
Change in preference match share							-1.655 (2.395)	-1.527 (2.383)
Year of signature	0.0887** (0.0377)	0.0956*** (0.0333)	0.0798* (0.0438)	0.0798** (0.0391)	0.109*** (0.0418)	0.112*** (0.0377)	0.0995** (0.0461)	0.101** (0.0415)
Difference in income level	0.243 (0.247)	0.252 (0.245)	0.174 (0.249)	0.169 (0.246)	0.177 (0.238)	0.187 (0.236)	0.173 (0.241)	0.176 (0.239)
Paper BIT	-0.258 (0.632)	-0.302 (0.632)	-0.164 (0.635)	-0.211 (0.636)	-0.404 (0.635)	-0.444 (0.635)	-0.314 (0.633)	-0.350 (0.633)
Achmea	2.589*** (0.628)	2.638*** (0.625)	2.609*** (0.687)	2.567*** (0.676)	2.618*** (0.630)	2.658*** (0.624)	2.582*** (0.632)	2.597*** (0.624)
Cumulative number of cases	0.00715 (0.0330)		-0.00552 (0.0344)		0.00697 (0.0335)		0.00150 (0.0331)	
Number of cases		-0.286 (0.187)		-0.280 (0.196)		-0.255 (0.184)		-0.253 (0.187)
Observations	8980	8980	8719	8719	9043	9043	8952	8952

Standard errors in parentheses

Coefficient estimates from cox proportional hazard models. All specifications include a country-specific frailty parameter.

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

Table A14: Renegotiation risk (Country-based analysis)

	(1) Renegotiate	(2) Renegotiate	(3) Renegotiate	(4) Renegotiate	(5) Renegotiate	(6) Renegotiate	(7) Renegotiate	(8) Renegotiate
Cosignatory's match share	-2.167*** (0.717)	-2.153*** (0.717)						
Bargain position			2.425** (1.064)	2.236** (1.032)				
Missing provisions					0.911 (0.641)	0.948 (0.639)		
Change in preference match share							-1.975*** (0.600)	-1.957*** (0.597)
Year of signature	-0.0426*** (0.00926)	-0.0452*** (0.00893)	-0.0478*** (0.00931)	-0.0501*** (0.00905)	-0.0330*** (0.0114)	-0.0350*** (0.0111)	-0.0208* (0.0116)	-0.0234** (0.0113)
Difference in income level	-0.0486 (0.0921)	-0.0503 (0.0922)	-0.101 (0.0921)	-0.103 (0.0922)	-0.0946 (0.0917)	-0.0960 (0.0917)	-0.0973 (0.0933)	-0.0982 (0.0934)
Paper BIT	-0.238 (0.233)	-0.219 (0.233)	-0.254 (0.234)	-0.237 (0.234)	-0.264 (0.234)	-0.247 (0.234)	-0.309 (0.236)	-0.294 (0.236)
Achmea	-44.87 (.)	-44.95 (.)	-42.86 (1.44002e+09)	-44.95 (.)	-44.97 (.)	-45.04 (.)	-44.95 (.)	-45.02 (.)
Cumulative number of cases	-0.0215* (0.0125)		-0.0236* (0.0133)		-0.0206 (0.0125)		-0.0207 (0.0127)	
Number of cases		-0.124 (0.0957)		-0.139 (0.0997)		-0.120 (0.0951)		-0.125 (0.0970)
Observations	56110	56110	55731	55731	57246	57246	55946	55946

Standard errors in parentheses

Coefficient estimates from cox proportional hazard models. All specifications include a country-specific frailty parameter.

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