Learning and the Precision of International Investment Agreements

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ABSTRACT
The international regime for the promotion and protection of foreign investment consists of a multitude of close to 3,000 bilateral investment treaties (BITs) and related international investment agreements (IIAs). Yet, despite a growing body of research on IIAs, scholars in political economy have paid little attention to the legal language in the treaties themselves. In this research note, we draw on the conceptual apparatus of the legalization literature and focus on legal precision in BITs. We use a new data set created through quantitative text analysis to develop an index measuring legal precision. We then investigate the causes of the pronounced increase in precision in BITs and the considerable variation across treaties. We argue that capital-exporting countries are the primary drivers of change, and that they are motivated because they learn the implications of existing legal language from two sources: First, from the growing number of arbitration proceedings, and second, when they themselves are targeted by such claims. We provide statistical tests of our hypotheses and find ample support.

KEYWORDS
Bilateral investment treaties; foreign direct investment; investment agreements; legalization

Globalization forces states to sacrifice sovereignty and cooperate via various international institutions, which are increasing in complexity, or so a common narrative goes (Stein 1982). A common example is the expansion of international trade commitments beyond just tariffs to phytosanitary measures, intellectual property rights, and professional certification standards in service industries. But not all international institutions fit this pattern of increasing legal complexity. In fact, legalization has taken different forms, even within the relatively narrow set of international economic agreements.

Compared to modern trade agreements, international investment agreements (IIAs) are quite general. IIAs are agreements between sovereign states to promote foreign investment and to protect the rights of investors from one contracting party in the jurisdiction of the other party. Most prominent among them are close to 3,000 bilateral investment treaties (BITs), many of which were signed during the 1990s and early 2000s. Early IIAs are short (usually less than 20 pages) treaties with
general commitments that depended crucially on interpretation by arbitrators to clarify their meaning. Poulsen and Aisbett (2013) argue that the explosive growth in IIAs during the 1990s was made possible in part by a lack of awareness of developing country negotiators regarding those commitments. In particular, negotiators often did not realize how much compensation states could have to pay to investors via international arbitration.\(^1\) Investment treaties provide foreign investors with direct access to international tribunals, whose rulings are legally binding on states and enforceable via the New York and Washington Conventions. Once countries experienced an investor–state arbitration, they became aware of the potential consequences, Poulsen and Aisbett argue, and they stopped signing IIAs. Although the evidence is compelling in many cases, we find this argument incomplete. The addition of new IIAs has definitely slowed, but dozens of new IIAs appear every year, some of them signed by countries that have experienced international arbitration. Clearly, not all countries have stopped signing IIAs. Instead, states are remaking agreements to reflect their preferences more directly, and these treaty revisions are not universally in the direction of greater delegation to international institutions.

In this study, we examine legalization in international investment law via the changing content of IIAs. In contrast to previous work, we focus on the evolution of their content over time, and we evaluate those changes quantitatively with a new database of treaty clauses. Changes in legalization, we argue, have thus far been driven primarily by capital-exporting states, and key constituencies in those countries are unlikely to support significant retreat from this system. More specifically, we submit that capital-exporting states increase the legal precision in the sense of Abbott, Keohane, Moravcsik, Slaughter, and Snidal (2000) in successive treaties by moving from vague rules to highly elaborated rules. Increased precision is a reaction to rulings by arbitration panels. In other words, capital-exporting states do not simply stop signing treaties; they change the content of treaties to reduce ambiguity in order to avoid outcomes that contradict their interests.

Our findings have implications for both the legalization literature and for the discussion of the current “legitimacy crisis” in international investment law. In particular, the negotiations toward the Transatlantic Trade and Investment Partnership, a comprehensive trade agreement between the European Union and the United States, have brought previously obscure legal aspects of international law into public scrutiny in the European Union,\(^2\) undermining support in key states such as Germany and France. Similar issues are being raised regarding the Trans-Pacific Partnership (TPP), which also includes investment arbitration. IIAs and their insertion into multilateral trade agreements are politically more

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\(^1\)In contrast, Blake (2013) gives more credit to signatories of IIAs. He finds strong evidence that the more farsighted governments are (in the sense of more institutionalized, longer lived governing parties), the more they will pay attention to excluding key policy areas from investor protections.

\(^2\)See for example Tillmann Neuscheler, “Die Angst frisst TTIP auf,” Frankfurter Allgemeine Zeitung, February 6, 2015.
salient than ever. What determines their content, however, is not sufficiently understood by scholars. If legal texts are improving, then states clearly have options other than to quit signing treaties.

**Legalization and IIAs**

Scholarly analysis of international law has increasingly revolved around rationalist explanations of states’ willingness to constrain their sovereignty via international institutions. This research program has coalesced around two distinct but related schools of thought: rational design and legalization. Rational design focuses primarily on the initial design of legal institutions and to a lesser degree on their evolution (Koremenos, Lipson, and Snidal 2001; Koremenos 2005). Legalization encompasses a larger range of research questions and views the creation of norms and “soft law” as important steps in institutional development in their own right (Abbott et al. 2000; Goldsmith and Posner 2005; Goldstein, Kahler, Keohane, and Slaughter 2000; Zangl 2008).

Legalization examines the evolution of international legal forms along three dimensions: precision, obligation, and delegation (Goldstein et al. 2000). As institutions such as treaties involve higher levels of each element, they move toward “hard law” or formal restrictions on state discretion, and compliance is more often encouraged by third-party actors. Importantly, such legal evolution needs not be unidirectional: states can make precise treaties that they later retract, or they can delegate monitoring to entities that they later refused to be governed by. As such, legalization involves a continuously evolving search for commitments that meet state demands, and it can explain a retrenchment toward soft law/power politics as well as increasing constraints on sovereignty.

**Precision** refers primarily to the specificity of state commitments—precise commitments occur when a treaty “narrows the scope for reasonable interpretation” (Goldstein et al. 2000:28). Without precision, states can interpret their commitments as they see fit, and at the soft law end of international commitments, states agree to “largely hortatory obligations” (396). Our view is that precision logically precedes the other two dimensions, but that high precision needs not create high levels of obligation or delegation. Precise terms regarding circumstances for states to opt out of their commitments would necessarily reduce the obligations in the treaty, and delegation might be circumscribed by language explaining exactly how third parties should interpret state actions. Precision clearly represents a separate dimension from either of the other two elements of legalization.

**Obligation** revolves around how binding a commitment is in a legal sense. For treaties, pacta sunt servanda is the appropriate principle, in which treaty commitments are regarded as obligatory once made. Alongside this principle of international law, certain flexibilities toward such commitments have evolved, allowing for legitimate breach (Abbott et al. 2000:409). These include state
necessity and *rebus sic stantibus*, whereby states can be exempted due to a material change in conditions (ibid). This dimension of legalization thus examines the rigidity of state commitment and takes higher values as commitments apply across a broader range of conditions.

*Delegation* in turn is high when states designate third parties to monitor correct observance of the norms of behavior stipulated in the treaty, to implement sanctions for violations, or to interpret state commitment on their own. Of the three dimensions, it is the easiest to observe, and it is the variable that has probably received the most attention of the three. Many scholars have ignored a potential tradeoff between delegation and obligation: some international institutions involve self-interpreted precise commitments, while others involve broader commitments with judicial interpretation (Goldstein et al. 2000:413). High levels of delegation often create new, nonstate actors that are empowered to monitor, engage, or constrain states directly (Goldstein et al. 2000:418).

The legalization framework has been applied broadly to human rights (for example, Hawkins 2004), environment (von Stein 2008), and trade (Davis 2012), among others. In the analysis of international investment law, the focus has been much narrower and almost exclusively on delegation (Allee and Peinhardt 2010; Yackee 2008; see also van Aaken 2008, 2009 for broader applications). This is unfortunate, because legalization offers some important perspective to debates in international investment law.

First, although international investment law is primarily codified via BITs, debates over international investment law often presume a teleological march toward the “multilateralization of investment law” (Schill 2009). This idea is perhaps best illustrated by repeated analyses of the failure of multilateral treaties in this issue area (Kobrin 1998; Urban 2006; Walter 2001). A similar line of thinking is also embodied in Guzmán’s (2005) claims regarding investment treaties and their contribution to customary international law. Fundamentally, the question that most analysts have asked of investment law is: Why does it take this primarily bilateral form when trade law has had such success with multilateralism (Guzmán 1998)?

Second, recent claims of a crisis in international investment law revolve around the inconsistency of investor–state arbitration rulings (Franck 2005; Waibel 2010) and potential bias in the tribunal selection process (Buergenthal 2006). Most solutions that emerge from this debate propose the creation of a better appeals mechanism or a standing investment court to promote more consistency of legal rulings (UNCTAD 2013). These multilateral options seem unlikely in the current climate of bilateral and regional economic deal-making, but countries can revise their own agreements at little cost, and such revisions can at least partially solve some of the problems with the current system and have the added advantage of customizing obligations for each state.

Third, many states have begun to rethink their investment treaty commitments after appearing before international tribunals for allegedly violating
investor rights. The countries that have received the most attention in this light are the several Latin American states that have repudiated some international commitments, but even capital-exporting states have had similar introspections and have as a result changed their stance toward investment treaties—in particular, the United States and Canada, having been targeted in arbitration claims under NAFTA Chapter 11.

Together these developments suggest a legal system that is still evolving, and one that very well may be moving back toward softer forms of state commitment. Rather than assuming identical multilateral commitments, or treaty abrogation and a rejection of investment law in its current form, we view it as an empirical question, and one that can be answered using measures of these three key dimensions of legalization.

The drivers of legalization in investment law

Investment treaties usually pair a capital-exporting country with a capital-importing country, and the deal is made to overcome a common economic dilemma: the hold-up problem, whereby both parties stand to gain from a transaction but neither is willing to trade due to the likelihood of posttransaction cheating. Long-term investors face the dilemma that any host state powerful enough to maintain order and guarantee their future returns is also strong enough to seize their investment (Haber, Maurer, and Razo 2003; Olson 1993). IIAs exist to increase the credibility of potential host states to respect the property rights of foreign investors. The overwhelming majority of research on the FDI effects of BITs has been explicitly based on this interpretation of BITs (see inter alia Büthe and Milner 2008; Elkins, Guzmán, and Simmons 2006; Haftel 2010; Kerner 2009; Neumayer and Spess 2005).

The first IIAs regularly involved European countries whose colonial empires were collapsing but who wanted to maintain international economic ties. The first modern BIT was signed in 1959 between West Germany and Pakistan, and much of the early German literature attributes this innovation in international law to the fact that Germany no longer had the ability to protect the property rights of its investors abroad by means of military force (Alenfeld 1971). From this beginning, capital-exporting states, with their dominant economic position vis-à-vis their treaty partners, have driven legalization in the issue area. For example, investment treaties regularly encode what Guzmán (1998) calls the Hull Rule, which requires “prompt, adequate, and effective compensation” if a host state expropriates a foreign investment. Existing studies of legalization in IIAs find that power asymmetries are a key factor in the delegation of authority to third-party dispute resolution (Allee and Peinhardt 2010, 2014).

While investment treaties can be traced at least to the late 1950s, they proliferated at much higher rates in the 1990s. As more states signed investment treaties, the classic bargain between capital-exporting and capital-importing
state could no longer be seen to be the primary driving force: a growing number of IIAs were signed by countries of similar size and levels of development (Jandhyala, Henisz, and Mansfield 2011). More treaties and the increasing awareness of such agreements meant more investor–state disputes. Recent research suggests that as the costs of investment treaties became clearer to developing countries, they began to question their participation (Gordon and Pohl 2015). Poulsen and Aisbett (2013) find that once developing countries appear before investor–state tribunals, they display much greater caution in signing IIAs in the future, especially IIAs with more powerful capital exporters. They attribute this to a process of boundedly rationally learning states, and they find evidence for such a process in their data. However, their analysis covers only developing countries, omitting a potentially important source of change. Because IIAs are symmetric, unexpected costs—not just monetary—of international investment arbitration as just as likely to affect capital-exporting countries as well. Whether home countries were directly targeted by investment arbitration claims or not, the prominence of such claims made the potential cost of IIAs increasingly apparent. Moreover, as Simmons (2014:34) emphasizes, more IIAs signed by a country clearly increase the risk for a state of being targeted by claims, and tribunals that are empaneled by IIAs show a clear tendency toward more investor-friendly decisions.

As evidence of the generality of home state reactions, we highlight two examples of a rich capital exporter that changed its model treaty after appearing before an investor-state tribunal as respondent: the United States after both the Loewen case and the Methanex case, and Australia after the Philip Morris case. In each case, capital-exporting states did not stop signing investment treaties, although they crafted new language in those treaties in direct response to their experience with international arbitration tribunals.

For the United States, investment treaties served to protect their investors in other countries. Vandevelde (2008:285) documents the importance of the US response to its first participation as a respondent to an arbitral claim:

> Everything changed on October 30, 1998, when the Loewen Group, a Canadian funeral home company, submitted to investor-state arbitration under the NAFTA a claim against the United States arising out of an adverse $500 [million] jury verdict rendered in a Mississippi state court.

Within a year, the United States halted IIA negotiations on further treaties to foster an internal debate over how to protect the country from future involvement, to ultimately “plot out a more balanced approach (…)” (Simmons 2014:43; see also Freeman 2013; Williams 2014). Of particular concern was the “uncertain scope” in existing treaties and the “broad discretion” given to arbitration panels (Vandevelde 2008:309). The resulting 2004 model BIT narrowed the definitions of expropriation, investment, and investor, confining dual nationals to their “dominant” nationality (Vandevelde 2008:295). Additionally, the United States inserted
a provision that would allow BIT parties jointly to withdraw a specific issue from consideration by a tribunal and decide it themselves. It clarified the relationship of investor–state dispute settlement (ISDS) to financial regulations and debt instruments and specified how state parties should increase transparency, reduce performance requirements, and account for both environment and labor standards. The model treaty simultaneously increased the legitimate exercise of power by host states, clarified the country’s interpretation of particular phrases, imposed greater precision on the norms of host state behavior, and suggested innovations to overcome perceived problems with investor–state tribunals.

These changes were not exclusively aimed at reducing the country’s (or its partners’) obligations under the treaty, or at increasing the protection given to its investors. Instead, the revisions made the state’s commitments more precise and in turn clarified its obligations and the powers it was granting to arbitrators. Together these changes sought “a rebalancing of host country and investor interests” but not uniformly in favor of either party (Vandevelde 2008:289). The United States then included these new investment provisions in more trade and investment agreements. For example, the 2005 Uruguay BIT included large portions of the US model BIT verbatim, including its new Chapters 12 (Environment), 13 (Labor), and 20 (Financial Services). For the United States, a short-term reduction in the signing of IIAs gave way to a long-term process that made its treaty language more precisely reflect the balance between protecting American investors abroad and commitments to foreign investors inside the country.

Another claim, Methanex v. United States, generated concern about the overly broad definition of indirect expropriation. The Canadian firm Methanex lost significant market capitalization as a result of a 1999 executive order by California governor Gray Davis, who mandated a reduction in use of a gasoline additive—methanol—that was found to contaminate groundwater. Methanex filed a claim based on NAFTA’s indirect expropriation provisions and requested almost $1 billion in damages. Although the United States won the case in 2005, it began to specify more exactly what qualified as an indirect expropriation, using treaty language that reflected more precise domestic criteria of regulatory takings (Asteriti 2012:463).

Australia’s experience has been more recent and more overtly politicized. In 2011, the Australian government enacted the Tobacco Plain Packaging Act, which dramatically circumscribes the kinds of brand imagery and text on the packaging of tobacco products in an effort to reduce overall tobacco use.3 In response, American company Philip Morris sued Australia under the 1993 Australia–Hong Kong Bilateral Investment Treaty. The suit argued that Australia had effectively expropriated Philip Morris’s previous investments,

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3See Australia’s Department of Health website for specifics: http://www.health.gov.au/tobaccopp (accessed December 12, 2015).
that the new law violated fair and equitable treatment promised in the treaty, and that it failed to provide the treaty’s promised full protection and security. Australian governments had already been wary of such investment provisions—their 2005 Free Trade Agreement with the United States is the only recent American trade agreement to exclude a commitment to ISDS. However, the Australian government’s hopes for economic gains via the TPP ultimately convinced the government to allow the treaty to proceed with a fully fledged investment chapter after securing an important exemption. The so-called tobacco carve-out prevents the use of ISDS via the TPP to challenge the signatory states’ tobacco control measures. The relevant text is in Article 29.5 of the TPP: “A Party may elect to deny the benefits of [ISDS] with respect to claims challenging a tobacco control measure of the Party. Such a claim shall not be submitted to arbitration … if a Party has made such an election.”4 Like the United States, Australia ultimately won its first challenge in an investment tribunal, but it drew lessons from its own experience that translated directly into more precise text in treaties that were signed after the experience.

We maintain that this dynamic is the likely case for most rich-country IIA signatories. The overall treaty adoption rate has certainly dropped, but 40–50 treaties continue to be signed annually. The ongoing expansion of IIAs is again being driven by capital-exporting states, who are increasingly aware of not only their own experiences with investor–state arbitration, but also of broader trends and developments in investment law. For any state that can dedicate legal expertise to follow such events, it is now easier than ever, with several specialized information providers like Kluwer Arbitration, Investment Treaty News, UNCTAD, Transnational Dispute Management, and so on.

Few studies have paid close attention to changes in the context of IIAs over time, especially along the dimensions of precision and obligation. Such evolution, however, is an aspect that rationalist theories have not been particularly strong in predicting, even when uncertainty is involved. Koremenos (2005) bases her theory on the assumption that states agree on an initial distribution of gains based on their relative bargaining power and then subsequently face persistent uncertainty about future gains. In later time periods, exogenous shocks may result in a different distribution of gains, and these shocks are random, cumulative, and noisily observable. In IIAs, shocks (that is being the respondent state in a claim) are unpredictable, but they are not cumulative and their cost is directly observable, as a monetary award is rendered if a host state loses in a formal arbitration proceeding. This sequence of information revelation makes learning possible.

Based on the preceding discussion, we believe that legal precision may be an alternative to treaty renunciation, but that it shares some of the same

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4The article also allows signatory states that have not elected to deny ISDS to tobacco control provisions to do so during the proceedings, and that any such proceeding should then be dismissed.
underpinnings. States originally signed IIAs to facilitate investment and closer economic ties, and clearly even some of the most advanced countries that signed them underestimated their potential costs. As such, legalization in IIAs should be driven by participating states’ experiences with arbitration tribunals.

**H1: BITs are more precise when the home state has recently appeared as a respondent in an investor–state arbitration.**

For many governments, their thinking about legalization may reflect solely their own experience, as Poulsen and Aisbett (2013) find, but they focus exclusively on developing countries. Our contention is that capital-exporting states are more likely to have the legal capacity to follow legal developments in international investment arbitration and are thus more likely to “learn” from the experience of cases in which they are not a participant. Moreover, BIT negotiators, much like other professionals, will probably have incentives to keep up to date with current developments in their field. All of this suggests that cases elsewhere will likely be taken into consideration when drafting treaty language for future negotiations.

**H2: Precision in BITs increases in response to more arbitration cases overall.**

Increases in precision are not confined to renegotiation of a single treaty but are reflected in a country’s overall investment treaty program. Typically, the internal process takes places through the revision of model treaties that is the templates that the home countries of FDI take to the negotiating table. BIT negotiations between developed and developing countries almost always revolve around such templates, and the BITs of the same home country are often remarkably similar. At times, however, model treaties are overhauled, and new legal language enters the universe of BITs (Dolzer and Schreuer 2012). Ideally, we would trace such changes through the model treaties themselves. Unfortunately, the vast majority of them are not published, sometimes the first model BIT is unavailable, and importantly, specific phrasing may enter a model BIT after being incorporated into a signed BIT, having arisen out of the negotiations. For these reasons, we focus on legal precision in signed (but not necessarily ratified) BITs in the public domain. In the next section, we describe how we operationalize our concepts to test these hypotheses.

**Measuring precision in IIAs**

Our unit of analysis is the treaty dyad that is a treaty signed in a given year between two countries. We focus on the date of signature rather than ratification as the treaty text is fixed at this point, and because some treaties never get ratified but nonetheless provide evidence of changes in legal language in BITs. Our
dependent variable, a measure of legal precision, is an index ranging from zero to one, with a score of one representing the maximally possible degree of precision given the legal language in BITs up to 2012. We collected 1,200 BIT texts in English, to our knowledge close to the actual number of English-language investment treaties with publicly available texts, from the Kluwer Arbitration BIT text collection and the UNCTAD Investment Instruments Online search engine.\(^5\) While this is not even half of the universe of BIT texts with close to 3,000 treaties in existence, it includes BITs signed by 165 countries. Many countries regularly negotiate BITs in their own official language(s) as well as an English-language version that prevails in the event of disagreement. We therefore have reasons to believe that the sample is representative of the language used in BITs.\(^6\)

We constructed the index by assembling a corpus of “standard clauses.” This corpus is derived from the UNCTAD (2007) publication “Bilateral Investment Treaties 1995–2006: Trends in Investment Rulemaking,” from the commentaries on representative clauses in Brown (2013), and several additional BITs as reference for unusual choices in wording indicated in the previous two sources.\(^7\) Annexes are considered part of the treaty text. For each clause that is present in a particular treaty, we add one to a counter. The total count is normalized by dividing the total number of possible clauses so that we arrive at an index that theoretically ranges from zero (a treaty without text) to one (a treaty containing every clause in our corpus). Clearly, no signed treaty can obtain a zero score, and even elaborated treaties do not reach a score of one, but we cannot prejudge this before our analysis. To obtain index scores for the treaties, we used custom text-matching software to measure the presence or absence of specific clauses in each treaty.\(^8\) In robustness checks, we also substitute this index with the (log of the) count of words and the (log of the) count of unique words in each BIT.\(^9\)

We analyze BITs beginning in 1959 (that is with the first modern BIT, the Pakistan–West Germany BIT) until 2011 (the India–Lithuania BIT). During this time, we observe considerable variation between BITs, even among those signed by the same developed country. Ranking BITs by precision reveals that the 1968 Denmark–India BIT is the least precise, while the top five treaties by precision are all from the last 10 years in our data set: Japan–Peru, Canada–Jordan, Canada–Peru, USA–Uruguay, and Canada–El Salvador. The precision in the BITs of some developed countries, in particular Germany

\(^5\)http://www.kluwerarbitration.com/BITs-countries.aspx. (Accessed July 14, 2012); http://www.unctadxi.org/templates/DocSearch____779.aspx. (Accessed October 30, 2012).

\(^6\)Missing data on other variables unfortunately limit our statistical analysis to just under 800 cases.

\(^7\)Australia–Indonesia (1992), UK–Belize (1982), Japan–Sri Lanka (1982), USA–Cameroon (1986), Israel–Thailand (2000), and Germany–Ethiopia (2000).

\(^8\)We used the Python package fuzzywuzzy to implement a fuzzy match, calibrated by using hand-scored treaty texts.

\(^9\)We provide further details of our methodology in an online appendix that is included with the replication package for this article, available at [insert article DOI here].
and the United Kingdom, shows a clear upward trend, but this is by no means the case across the board: United States and Canadian BITs start out with a high level of average precision and never fall below this level.

The average degree of precision in BITs shows a strong upward trend as well, as shown in Figure 1, in particular since the late 1970s. This trend, we submit, is not merely a general move toward a more investor-friendly public international law. Rather, we aim to explain the driving force of this trend and to endogenize it in our empirical model.

This increase in precision is reflected in the published model BITs of Germany, Canada, and the United States as shown in Figure 2A. We focus on these countries because we have access to more “historical” models than in other cases, but it is likely that other countries have gone through a similar number of revisions. Although these models were made publicly available, we cannot ascertain that they were the only templates available to negotiators (in fact, in the German case, it is highly unlikely that the first formal model BIT was available in 1991). The change in precision in model BITs is therefore suggestive, but not direct evidence.

Compare this with Figure 2B, which shows the measured precision in Germany’s BITs. A particularly striking comparison is the increase in precision from the first BIT with Pakistan in 1959 to its replacement with a “modernized” treaty in 2009 that scores almost six times the precision score in our measure. Over the same time period 1982–2006, the precision score in German BITs increased

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\[\text{Figure 1.} \text{ Precision mean and range, 1959–2009.} \]

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West Germany until 1990. Like the majority of socialist countries, the German Democratic Republic did not negotiate any bilateral investment treaties.
while that of US BITs stayed on average the same until the revision of its model BIT in 2004 and the subsequent negotiation of the 2006 treaty with Uruguay.

BIT negotiations tend to take place between an identifiable “home” and “host” country. In nearly all cases of BITs covering any investment flows, the flows are almost exclusively from one country into the other. Nearly all BITs are either treaties between a developed and a developing country or a transition country, or they are agreements between developing countries (note here that there are

Figure 2. Precision in model BITs, 1984–2012 (Panel A), and in German signed BITs, 1959–2009 (Panel B).
many that have no practical relevance since they do not cover actual investment). There are very few BITs between developed countries, among them treaties with Singapore and a few countries that have only recently reached (or approached) developed-country status such as Chile, South Korea, and Mexico. Nonetheless, it is not always easy to clearly identify the “home” and “host” country. We therefore follow a simple rule: We use the World Bank’s high-income country classification (extrapolated backward to 1959) and keep a country as a home country if it is classified as high income, and a country as host if it is not. A table listing countries and their frequency of appearance is in the supplementary files.

Independent variables

Our principal independent variables are claims against home, a binary variable that equals one if a claim has been brought against the home country, and new claims against other states, a count of the new claims brought against countries other than the home country in question. The former measure allows us to test H1 (that precision increases in response to the home state’s direct involvement in an arbitration). We focus on claims rather than “winning” or “losing” in arbitration procedures since often claims are only partially granted, and even a successful defense by a host country can still trigger a reconsidering of legal clauses that would materialize in greater legal precision in future BITs. A positive coefficient on this variable would indicate that countries learn from being sued and revise BIT language toward greater precision based on their own experience.

However, with few exceptions (especially Argentina and Venezuela), most countries are rarely hit by a claim so that there are relatively few opportunities to learn about the desired degree of legal precision from such instances. Importantly, according to Poulsen and Aisbett (2013), many developing countries cannot apply the lessons learned when being hit by arbitration claims to new BITs because they stop signing them. In other words, only home countries have the opportunity to learn about the effective legal precision in BIT clauses and to use this knowledge in subsequent BITs.

New claims against other states operationalize our H2 (that claims make issues related to legal precision salient and convey useful information about the meaning of specific clauses). We argue that new claims are largely responsible for the individual decisions of countries to revise model BITs and increase legal precision. We lag both variables by one time period to reduce the risk of reverse causality. To recall, we hypothesize that new information about the interpretation and appropriate precision of BIT law largely becomes available through claims.

Regardless of whether one agrees with the theoretical reasoning in Poulsen and Aisbett (2013), their empirical evidence demonstrates that developing countries do not sign BITs for many years after being hit by the first claim.
**Control variables**

We include a number of control variables based on previous research. We divide these into those factors that should affect BIT precision because a country is home to investors and those that affect it because the country is a host of FDI. We expect the legal capacity of countries to influence the precision of treaties. While we do not have data on for example the number of practicing lawyers by country, we consider evaluations of the *law and order* in a country as closely correlated with such interests. The same measure is included for home countries, where it proxies for legal interests, and for host countries, as an effective legal system will be more predictable and reduce the need for greater precision at the international level. We use the variable with the same name from the PRS/ICRG political risk data.\(^\text{12}\) We also include the *law and order* variable for the host country. A host country with a more developed legal system, including more lawyers, is also more likely to be willing to move toward greater legal precision because the relevant government ministries can tap into greater legal resources.

Independent of such legal capacity, we control for the (log of) *GDP per capita* of both countries, since richer countries can afford to train and educate their bureaucracy better and access legal advice elsewhere. Treating BITs as primarily driven by home-host state negotiation also implies an often stark asymmetry. BITs between powerful home and a relatively weaker host country will likely be more precise. In the vast majority of cases where investment flows in only one direction, greater precision will benefit the more powerful country as host of FDI, since it only puts checks on the behavior of the host country. Nonetheless, there are situations in which the host country may possess bargaining leverage that would allow it to insist on less precision—among them, when the country has a sizable home market to which it controls access. We therefore include the *GDP ratio* that is the ratio of the home state’s GDP to the host state’s GDP. This measure of asymmetry is the most appropriate because our focus is on the ability to provide FDI and to offer an opportunity to earn revenue for investors. Both are from the World Development Indicators database. Descriptive statistics for all variables are shown in the supplementary files.

**Estimation and results**

Our data are pooled cross-sectional in nature, and our dependent variable *precision* is approximately normally distributed. While the index ranges from zero to one, none of the BITs reach the extreme values: we neither have a “BIT without words” nor a perfectly precise treaty (as theoretically defined by us) at hand so that none of the observed data are censored. We thus use OLS for the

\(^{12}\)The PRS data only start in 1984 so that we extrapolate it backward.
estimation. As we find evidence of heteroskedasticity of the residual variance, we use robust (Huber–White) standard errors. Importantly, because many (but not all) home countries use “model BITs” as template for negotiations, we have strong reasons to believe that observations involving the same home country are not independent. We therefore allow for correlations within each group of BITs signed by the same home country.

Ideally, we would construct a panel and test for within-country BIT variation over time in response to claims against the country in question. Unfortunately for our analysis, very few countries renegotiate treaties. Only 21 of 1,117 BITs we coded are replacements of earlier treaties. What’s more, of these 21 treaties, 5 are treaties negotiated by Germany and 6 by China (PRC), and in fact, one is a China–Germany treaty renegotiation. We are therefore left with a cross-section, with the attendant limitation on causal identification.

Even though we do not have panel data, it is important to control for time in our analysis, as our dependent variable trends upward in later periods. The simplest possibility is to include a time counter $t$. However, this counter is strongly correlated with the variable new claims against other states ($p = .66$) and moreover does not capture whether home states have an opportunity to learn and implement new language in subsequent treaties: Even though time passes, they may not sign BITs for wholly unrelated reasons. Instead, we include the count of BITs already signed by each country separately as control variables. The measure includes BITs signed in the same year but on an earlier date. To check if the BIT count model is rejected in favor of a simple time trend, we compute the $J$ test and the Cox–Pesaran test for nonnested OLS models but find no evidence in favor of the latter model.

We take the model with our two variables of interest and the two counters as the base model, to which we add several controls. Since we have to rely on the UNCTAD database for information on BIT signature dates, the two variables constrain our sample to 682 observations in the base model. Table 1 shows our regression results for a variety of specifications and different operationalizations of legal precision. Column 1 shows the base model with only BIT-count controls. Column 2 shows our preferred specification with our weighted index of precision as dependent variable. To give a sense of the magnitude of the effects, keep in mind that the estimation is a linear model. In case of a recent claim against the home country, the average level of precision moves upward by 0.077 units in our measure of precision, which is approximately equal to the difference between the 1976 Netherlands–Egypt and

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13This means that the results from a Tobit model with censoring values set to 0 and 1 would by definition be identical with the OLS estimates.

14In future research, we hope to broaden our sample to include a sufficient number of renegotiated BITs as well as trade agreement investment chapters. Haftel and Thompson (2013) provide evidence that treaty renegotiations often occur in reaction to investment disputes, an argument that matches our findings nicely.

15See Greene (2003:158).
### Table 1. Regression results.

|                                | (1)       | (2)       | (3)       | (4)       | (5)       | (6)       |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                | Precision score | Precision score | In word count | In unique word count | IRT       | Unweighted score |
| Claim against home, $t - 1$    | 0.077 (0.029)** | 0.080 (0.022)** | 0.483 (0.192)** | 0.297 (0.119)** | 0.749 (0.254)** | 0.085 (0.032)** |
| Claims against other states, $t - 1$ | 0.003 (0.001)** | 0.002 (0.001)** | 0.006 (0.002)** | 0.004 (0.001)** | 0.010 (0.006)* | 0.001 (0.000)** |
| Signed BITs count (home)       | -0.000 (0.000) | -0.000 (0.000) | -0.002 (0.002) | -0.001 (0.001) | -0.007 (0.003)** | -0.000 (0.000)* |
| Signed BITs count (host)       | 0.001 (0.000)** | 0.000 (0.000) | -0.001 (0.001) | -0.001 (0.001) | 0.001 (0.003) | 0.000 (0.000) |
| Law and order (home)           | -0.018 (0.011) | 0.002 (0.030) | 0.002 (0.019) | -0.117 (0.096) | -0.008 (0.008) |
| Law and order (host)           | 0.014 (0.007)** | -0.013 (0.016) | -0.006 (0.011) | 0.042 (0.037) | 0.006 (0.003)** |
| GDP ratio                      | 0.000 (0.000) | 0.000 (0.000)** | 0.000 (0.000)** | 0.000 (0.000)** | 0.001 (0.000)* |
| In GDP per capita (home)       | 0.078 (0.026)** | 0.138 (0.074)* | 0.098 (0.050)* | 0.590 (0.145)** | ***        |
| In GDP per capita (host)       | 0.023 (0.009)** | 0.021 (0.020) | 0.020 (0.014) | 0.148 (0.050)** | 0.008 (0.005)* |
| $R^2$-squared                  | 0.12       | 0.23       | 0.22       | 0.24       | 0.28       | 0.28       |
| $N$                            | 682        | 486        | 485        | 485        | 485        | 485        |

Note. Constants not shown. *p < 0.10, **p < 0.05, ***p < 0.01.
the 1991 Netherlands–Slovakia BIT, or the 1991 Canada–Argentina BIT to the 1997 Canada–Armenia BIT. In that same model, each new claim against another state moves the degree of precision by 0.003, suggesting that states pay attention even to cases to which they are not party. Arbitrations that do not involve the home state in question are less influential, and it takes three or four such cases on average to generate an increase in precision that one case against the home state would. Both variables combined explain about a tenth of the observed variation in the data based on $R^2$ comparison between the model with and without these variables, and about half of the variation explained by the model. These first two results show evidence that states respond to arbitrations with greater precision in new and renegotiated treaties. In our supplementary files, we show results when including the time trend.

The signs of coefficients on our control variables are broadly in line with our expectations. The coefficient on GDP ratio is positive, which is commensurate with the notion that precision increases more in asymmetric dyads. Across all three models, law and order for the home country is never significant, perhaps because there is less variation in this measure. In Model 1, the coefficient for the host country measure of law and order is positive and statistically significant at the 95% level of confidence, but it surpasses that threshold in neither of the other two models. As the majority of home states benefit from stable rule of law, there is relatively little variation in this measure so that this parameter cannot be estimated with precision.

We also find that home and host states with a higher GDP per capita are typically signing more precise BITs. This effect is the most pronounced, as for a home state, a 1% upward change in GDP per capita is approximately as influential as being hit by a claim. GDP per capita may be a proxy for administrative capacity in our data, which would apply to home and host countries alike.

The principal challenge to these findings is that they are based on our weighted index score. We therefore estimate the same model using four different ways to operationalize precision as robustness checks. Columns 3 and 4 show the result when we replace our preferred dependent variables (precision score) with the log of a simple count of words and with the log of the count of unique words. The substantive effects on the Claim against home are 6–10 times larger and significant, while that of New claims against other states remains unchanged, but now only significant at the 10% level. In column 5, we show the results when we interpret our index through the lens of item response theory, where each text clause is seen as having a difficulty parameter and a discrimination parameter and represents an approximation of an ideal point of precision. We use a one-dimensional Monte Carlo Markov Chain model to simulate from the posterior distribution (Albert 1992; Martin, Quinn and Park 2011). The results do not change in terms of statistical significance but are considerably larger in substantive terms. Finally, in column 6, we show the results without applying weights to our index, but the findings are nearly unaffected in size and statistical significance.
Ultimately, most of our results are consistent with Poulsen and Aisbett (2013)—countries are influenced primarily by their own experience. In contrast to their findings regarding developing countries, however, we find evidence that home countries are influenced by broader trends in ISDS. Greater precision of treaty obligations therefore seems to be a natural response to unexpected interpretations by arbitral rulings.

**Conclusions and outlook**

In this research note, we provide a first attempt to explain changes in legalization in IIAs. We focus on the degree of precision enshrined in BITs through the use of more elaborate and less ambiguous language. Using newly constructed measures of BIT precision, we find strong evidence for our hypotheses. Precision is higher for home states that have directly experienced claims, and when arbitration awards accumulate over time. In each of our models, higher levels of precision are associated not just with an initial claim but with each additional claim against home country.

Our results suggest that home countries are driving the increase in legal precision in treaties, and that their interest in greater specificity emanates not just from their direct experiences with investor–state arbitration but also from worldwide trends. Where legal capacity allows, states continue signing IIAs but protect their interests through more precise language. Combining our findings with the logic from Poulsen and Aisbett (2013), IIAs may be increasingly biased in favor of capital-exporting states. If developing countries stop signing treaties and/or repudiate those they have signed in the past, the overall system may be moving in a direction with less balance of interest between home and host states.\(^\text{16}\) Our initial results, however, indicate only one dimension of legalization, and as such we treat them as necessarily tentative in terms of policy recommendations.

Although our model goes some way toward explaining variation and evolution in precision in BITs, our findings are clearly only the first step toward a better understanding of the driving forces of legalization in international investment law. More work remains to be done to better identify how and through what channels developed countries learn. For example, while claims provide information about the “realized” precision of a given BIT, arbitration rulings should be even more important as a source for model treaty revisions. Furthermore, we also hope to collect and identify a sufficient number of model treaties to put their content into context and to focus on specific clauses and wordings that represent improvements in precision. Finally, we will expand our data set to include the dimension of obligation. While countries might always want greater legal precision to make sure future arbitration proceedings

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\(^{16}\)Peinhardt and Wellhausen (2016) document exactly such a trend—a growing number of treaty defections by developing countries.
“go their way,” they also may seek to clarify and, in some instances, reduce the extent of obligations on host states.

The advantage of this theoretical toolkit is that it might uncover increasing movement toward hard law in one dimension—say precision—while at the same time showing that states are rethinking previous strategies of delegating the interpretation of their commitments to third parties. In other words, examining the legalization of IIAs over time may reveal a more accurate and nuanced reality than any of the claims about the crisis in investor–state arbitration currently demonstrate.

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