

The Politics of Treaty Signature: The Role of Diplomats and Ties that Bind

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Abstract

The literature on international cooperation through legal commitments focuses chiefly on treaty ratification. What has received much less attention is that before states ratify treaties, they commit to treaties through the act of signature. This paper addresses this research gap by investigating how a state's decision to sign a treaty is affected by its diplomatic representation during treaty negotiations. Conceptualizing signature as a commitment step, we argue that participation in treaty negotiations translates into a “ties-that-bind” effect creating incentives for diplomats to support the treaty text leading to treaty signature. Our empirical analysis uses a new data set on signature and tests the argument for 52 multilateral treaties concluded between 1990 and 2005. Results confirm that participation in treaty making matters for signature but not necessarily for ratification.

Keywords: treaty signature, ratification, diplomatic representation, treaty making.

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Introduction

In 2001, after terrorist attacks hit New York, the activities at the United Nations (UN) headquarters directed towards combatting terrorism markedly increased. Not only did UN diplomats revitalize negotiations on a comprehensive anti-terror convention, they also encouraged their capitals to sign up to already existing anti-terror conventions. Within the three months that followed the terrorist attacks the number of signatories to the International Convention for the Suppression of the Financing of Terrorism, adopted by the General Assembly back in 1999, increased from 42 to 131 (Szasz, 2002: 903).¹ The 9/11 experience created a strong consensus among negotiators based in New York regarding the necessity to strengthen international anti-terrorist law, initially by signing this Convention. Such enthusiasm for signature was, however, not fully matched in the home states of the negotiators; ratification of the convention dragged on in a significant number of signatory states. This example suggests that the decision to sign a treaty can be driven by the perceptions and interests that develop among diplomats based abroad.

In this paper we examine more systematically the role of diplomats in the decision to sign multilateral treaties. We argue that participation in multilateral treaty negotiations creates a ties-that-bind effect among diplomats that, in turn, increases their propensity for treaty signature. Being more involved in the drafting of the treaty and having a hand in writing treaty law, diplomats are more likely to accept a treaty. Therefore, the greater their participation in treaty negotiations, the more they will support treaty content and advocate treaty signature.

Investigating the role of diplomats with respect to the politics of treaty signature, we make two contributions to the existing scholarship on international treaty making. First, the literature on international legal cooperation focuses nearly exclusively on why states ratify

¹ The treaty has been open for signature since December 1999 (United Nations Treaty Collection, 2014).

international treaties, but neglects entirely that ratification is usually preceded by signature (for exceptions see Goodliffe and Hawkins, 2006; Leinaweaver, 2012). By focusing on “signature” we question the commonly held view that signature is of purely symbolic nature (Recchia, 2002). We posit that signature is not only a commitment “to refrain from acts that would defeat the object and the purpose of the treaty” (Vienna Convention on the Law of Treaties, 1969, Art. 18a), but that it is also a deliberate and decisive step towards making binding commitments.

Second, by focusing on the role of negotiators in international treaty making we also contribute to the literature on diplomacy in international politics. While most analytic work on diplomacy in international cooperation studies political leaders (e.g. Hollyer and Rosendorff, 2012; Rathbun, 2011), there is surprisingly little research on the impact of state officials and diplomats on international legal cooperation (e.g. Johnson, 2013).

Empirically, we capture the ties-that-bind effect on treaty signature with the extent of diplomats' participation in treaty making. We expect that the greater the diplomatic involvement, the more likely it is that the ties-that-bind effect will occur. Our analysis indicates that participation during negotiations does indeed promote signature, but does not translate into prompt treaty ratification. For the latter, domestic factors are more important than the ties-that-bind effect at the international level.

In the next section we elaborate on the neglected role of treaty signature. In section 3, we outline our argument. This is followed by a more systematic empirical test of treaty signature and ratification based on a data set of 52 post-Cold War multilateral treaties. We conclude with an outlook for the politics-of-signature research agenda.

The Neglected Study of Signature

Treaty signature has not received much attention in the study of international cooperation. International law scholars attribute limited value to signature as a commitment device as it does not impose explicit binding obligations upon states (Vienna Convention on the Law of Treaties, 1969, Art. 18). It is primarily perceived as a means of treaty authentication and an expression of a state's willingness to continue the treaty-making process toward ratification (United Nations Treaty Collection, 2015). We contest this characterization of treaty signature, and instead conceptualize it as a non-trivial decision that can put pressure on ratification bodies at home. While signature does not guarantee ratification, it nevertheless creates an institutional pathway towards eventual ratification.

Usually, executives are expected to forward the treaty for approval to national legislatures for ratification. If legislative bodies abstain from ratifying a signed agreement, they have to provide convincing reasons for that decision to the domestic constituencies and treaty partners, knowing that non-ratification will endanger cooperation and inflict reputational costs on them (see Sartori, 2005; Tomz, 2007). Anticipating this pressure, ratification bodies sometimes publicly call for their inclusion in the decision to sign a treaty which is usually a prerogative of the executive. In the complex negotiations of Iran's nuclear program, for instance, questions over the necessity to get a skeptical US Congress' approval for signing an agreement were hotly debated (New York Times, 2015). Signature is more than a gesture; it is a type of pre-commitment that goes beyond an international "promise not to undermine the treaty" (Guzman, 2008: 178).

Besides putting pressure on the ratification body, signature has also been used at times to pursue specific political objectives domestically and internationally. The US government signaled to important constituencies that it represents their interests, such as in the case of the Clinton Administration signing the Kyoto Protocol to combat global warming (The

Washington Post, 1997). The same government signed the Rome Statute of the International Criminal Court in order to have a say in the future developments of the court (American Non-Governmental Organizations Coalition for the International Criminal Court, 2008).

A look at signature and ratification patterns of 52 multilateral treaties adopted between 1990 and 2005 also suggests that signature as a commitment device is distinct from ratification. Table 1 presents the top ten ratifying and signatory states. What is most striking about these figures is that the overall signature and ratification rankings are markedly different. While newly democratized states in Eastern Europe spearhead the ratification ranking, established western democracies are almost exclusively the leading nations when it comes to signing multilateral treaties.²

[Table 1 about here]

These distinct empirical patterns provide an additional incentive to study the question of why states sign multilateral treaties more systematically as different factors might drive states' incentives to sign and ratify treaties. Past research has treated signature as an implicit act exploring the time that elapses between signature and ratification (e.g., Haftel and Thompson, 2013). Few scholars focus on signature as the main outcome. We expand on this nascent scholarship on signature following in the footsteps of Goodliffe and Hawkins (2006) who analyze the Convention against Torture, and Leinaweaver (2012) who focuses on environmental treaties, and explore the role of diplomats for treaty signature.

How Participation Matters for Signature

While multilateral treaty making involves a long delegation chain with many actors (from the voter to the national government to the IO staff), we pay particular attention to one important group of actors: the diplomats representing states in international institutions or in

² Denmark, Norway and Spain rank high both for ratification and signature.

treaty negotiations (Nielson and Tierney, 2003). These (mostly non-elected) diplomats may be either based at the country missions to the respective United Nations agencies (e.g., in New York, Geneva, Vienna, Nairobi, or Bonn) or recruited from the competent government departments or offices (e.g. as in the case of environmental treaties). They are the key actors working with and within international institutions, and as such serve as agents of the competent government departments or offices which are run by politically appointed leaders. Those government departments are responsible for defining the overall negotiation mandate, giving approval to sign a treaty and managing the ratification of international treaties.³

Diplomats actively influence governmental decisions to sign but do not typically play a role in the ratification process. Owing to their involvement in the negotiations, they are in a strong position to persuade governments to advocate (or discourage) the signing of an agreement. They may use their diplomatic skills and information advantage to address concerns raised by political leaders regarding the meaning, interpretation or opt-outs of the treaty. Diplomats become less central once the treaty is discussed in the domestic arena (e.g., parliaments and the wider public) with a view to ratification.⁴ At this stage, governments and various domestic veto players, such as opposition parties, interest groups and nongovernmental organizations, gain more prominence in this process.

Next, it is important to note that most multilateral treaty negotiations usually take place under the auspices of formal IOs which are characterized by consensual decision making. A consensual rule provides incentives for every diplomat present during negotiations to propose treaty text and it limits the possibility that negotiators will be ignored by other

³ The order to sign an agreement generally comes from the relevant government department (and its competent office). The ratification bodies differ across states.

⁴ Diplomats usually do not play a central role in directly promoting the treaty to the ratification bodies at home (Thuybaert, 2006). Often it is even seen as counterproductive to have diplomats participating in ratification debates.

delegations. Consensus alleviates, to a certain extent, the abuse of power in negotiations, and it also helps build a sense of community and a common concern for an issue.

Building on the above assumptions about the nature of treaty negotiations and the role and position of diplomats in this process, we explore how the decision to sign is driven by diplomats' involvement in treaty making. Participation produces a *ties-that-bind* effect that positively influences diplomats' incentives to create support for the negotiated treaty, and in turn pushes them to persuade their governments to sign. This ties-that-bind effect in support of the agreement develops over the course of negotiations and materializes in two forms: 1) diplomats' personal contributions to and investment in the content of the treaty (*ties with the text*), and 2) diplomats' mutual expectations that the treaty reflects a compromise based on concessions (*ties with the diplomatic community*).⁵ We next elaborate on these two mutually reinforcing pathways in more detail and provide illustrations drawn from diplomats involved in negotiating the Cartagena Protocol on Biosafety.

First, contributing to the drafting of a treaty text can yield personal benefits for a diplomat. She is trained in the art of negotiations and bargaining over treaty texts presents her with a strategic opportunity to apply her skills. By doing this well, a diplomat can strengthen her position within the foreign affairs department as an able negotiator and can thus improve her career prospects. Because a negotiator profits from reaching an agreement that she helped to shape, she will have a strong desire to be influential in negotiations. The more a diplomat has a hand in drafting the treaty (e.g., tabling proposals), the greater her overall support for the treaty text and therefore the stronger the ties-that-bind effect. At the end of the negotiations a diplomat can see her own imprints on the actual treaty text. Such self-identification represents to a diplomat the result of hard work measured in numerous hours

⁵ Our argument differs from contributions that focus on how shared norms affect behavior or how interaction and socialization lead to shifts in preferences, which could account for agent slippage (Johnston, 2001; Checkel, 2005).

spent on finding solutions to contentious issues. The approval of the agreement by the government furthermore reinforces the diplomat's perception of her personal investment in and impact on the treaty text, confirming that she did her job well.

While it is difficult to observe this type of ties with the text effect directly, the personal reflections of former negotiators illustrate that active involvement in treaty drafting strengthens acceptance of the final outcome. It is common practice in international negotiations for diplomats to be invited to propose treaty language as part of a collective effort to reach consensus. In the case of the Cartagena Protocol on Biosafety the chair of the negotiations put forward a compilation of the negotiating parties' drafted positions (Falkner, 2002; Köster, 2002). Although most of the parties' propositions were inserted in "brackets" signifying that they had not yet been agreed upon, many of these passages made it into the final agreement.

Making textual contributions and seeing them in the draft treaty is satisfying for the diplomats involved. The Swiss chief negotiator, for example, emphasized the importance of providing input to the text for inclusion in the chairman's draft document (Nobs, 2002: 191). This allowed him and his team to consider the treaty in a more favorable light and impacted positively on the overall assessment of success. Also, treaty language that is close to ones' own textual suggestions gains that country's support. The deputy head of the Brazilian delegation noted that "Brazil was happy to see Article 11 [...] as it reproduces almost word for word the instructions the delegation had received [from the capital] but had hesitated to table" (Villanova Nogueira, 2002: 133). As a result, personal contributions and overall success often go hand in hand. Three of the EU negotiators who were involved stressed their ties to the treaty text following the conclusion of the negotiations. They concluded that "the EU negotiators felt deep satisfaction, considering that they had contributed to the result and

that the EU's negotiating strategy had been successful" (Bail, Decaestecker and Jorgensen, 2002: 185).

Second, participation in negotiations can also lead to concession trading between diplomats. Package deals in multilateral negotiations constitute a fine balance between the gains and losses of the parties involved. Concessions in some areas are offset by gains in others. Over the course of negotiations the diplomats' mutual expectations about the envisaged outcome of the treaty rise since the deals on the table are perceived as an offshoot of fair compromise that should be "executed". Lax and Sebenius (1986) describe this phenomenon as a "relationship" interest which leads to "self-restraint [...] motivated by a sense of responsibility or obligation [...] especially to protect" (Lewis, 2005: 492). Sudden defection (including potential reluctance to sign a deal) would only be accepted under special circumstances that any negotiator may face (e.g., an external shock to the negotiations such as a regime change at home, or some unanticipated developments that impact the assessment of the draft treaty text). Thus, the ties bind negotiators with each other in ways that make it harder for them to escape.

With respect to the negotiations of the Biosafety Protocol, Cameroon's head of delegation stressed that "the protocol is so balanced that it is capable of serving the needs of all countries" (Yang, 2002: 77). The deputy-head of the Brazilian delegation also alluded to this fine balance remarking that "those who expected to have their constituencies' agendas fully reflected in the text were naturally frustrated, but, as the diplomatic saying has it, a good negotiation is one in which all participants feel somewhat frustrated at the end" (Villanova Nogueira, 2002: 137). The relational aspect was stressed in particular by a Canadian delegate to the negotiations who recalled that "personal relationships did develop and proved particularly useful [...] in overcoming differences" (Ballhorn, 2002: 114).⁶

⁶ It is not unusual for intense negotiations to result in long-term friendships (Bartos, 1996).

Both ties-that-bind pathways can also be summarized with what negotiation theory calls “the sunk costs of long bargaining and the relationships built up with the other sides [...]” which “may lead the engaged agent to seek ‘something’ to show for the labor” (Lax and Sebenius, 1986: 309). We expect that the *ties-that-bind* effect is more likely to occur, the greater the participation of the diplomatic corps during treaty negotiations. Those who have been participating all along in the drafting of the treaty and have done so through larger delegations are more inclined to accept the final treaty package negotiated. Since negotiations of multilateral treaties, such as in the case of the Biosafety protocol, usually proceed in parallel drafting sessions addressing different and specialized issues of a given treaty, large delegations are more able to participate in a greater number of drafting groups or committees, which in turn increases their contribution and hence their buy-in.⁷ Consequently they advise their governments to sign, partially filtering out concerns over ratification. This translates into a swift signature. We propose that:

The likelihood of treaty signature increases with the size of the diplomatic mission in treaty negotiations.

Whereas we conjecture that participation affects signature because of the ties-that-bind effect, we do not expect participation in negotiations to systematically matter for ratification. The literature so far has shown that domestic politics strongly affect ratification; however, treaty negotiators are often far removed from domestic politics and they play a marginal role in ratification. In addition, non-ratification of a treaty can be attributed to unexpected events (e.g., regime change), ideological constellations of the parliament or constitutional interpretation of international law (e.g., in the case of the United States). As Haftel and Thompson show for bilateral investment treaties, a large number of treaties remain unratified. These authors find that “failure to anticipate obstacles is most likely to occur when

⁷ In his book on „Ozone Diplomacy“ Benedick (1998) also emphasizes the importance of small-group negotiations, informal meetings and selective subcommittees for consensus-building. Larger delegations can be especially influential by taking advantage of such negotiation strategies.

political systems are unpredictable and when governments have difficulty discerning obstacles in the partner” (2013: 357-358). We suggest that diplomats are often unable to anticipate obstacles to domestic ratification, not least because of a strong ties-that-bind effect.⁸ Therefore participation should not significantly affect ratification.

Empirical Analysis

The dependent variable: Time to signature (and ratification)

In this paper we focus on patterns of treaty signature and compare them to patterns of treaty ratification. The comparison enables us to assess whether diplomatic involvement in treaty negotiations has a different impact on signature than on ratification. To do so, we use quantitative methods and draw from an existing data set of 76 multilateral treaties concluded between 1990 and 2005, and which meet the following three criteria: First, they are universal; they offer participation to all recognized states in the world. This condition excludes all plurilateral treaties (e.g., NAFTA), which are often defined as multilateral. Second, they address global concerns. This excludes treaties that are open to all states in terms of membership, but have a regional focus regarding the subject matter of the treaty (e.g., conventions under the auspices of the UN Economic Commission for Europe). As these treaties typically address global public goods, they are of interest to all parties. Third, they depart from previous practice. This disqualifies treaties that merely reflect adjustments to a pre-existing treaty (e.g., different reporting requirements or the addition of minor areas of application).

We eliminated treaties that do not foresee two clearly separable commitment steps – signature and ratification – but which provide for accession only (e.g., WTO treaties). We also excluded treaties of private international law character (e.g., Hague Private International

⁸ This is not to say that negotiators can never anticipate the legislature’s reaction to a negotiated treaty. But if anticipation was perfect we would not observe failed ratification.

Law conventions or International Institute for the Unification of Private Law (UNIDROIT) conventions), as these treaties are drafted and negotiated by private international law experts and scholars rather than state representatives. Our data set includes 52 public international law treaties covering diverse issue areas, such as human rights, security, crime, trade and environment (for an overview of the selected treaties, see Table 4 in the Appendix). The data set provides signature and ratification entries made by states between 1990 and 2008 which describe the change in status from non-signature/non-ratification to signature/ratification by a given state in calendar years.

The key explanatory variables: Size of diplomatic mission

To offer a more systematic account of the participatory ties-that-bind effect in international negotiations we do not differentiate between the two ties-that-bind pathways, but apply two proxies both of which capture the extent of participation during treaty negotiations.

The first variable UN DIPLOMATIC REPRESENTATION is a general approximation of diplomatic involvement in the domain of the United Nations (UN). It reflects the size of the state missions to the UN in New York, and is based on information from UN Blue Books available for the period 1990 to 2008. This variable is time-variant but constant across treaties; it is available for all 52 treaties.⁹

While UN DIPLOMATIC REPRESENTATION is constant and not subject to negotiation-specific changes, our second proxy TREATY-SPECIFIC DIPLOMATIC REPRESENTATION is a more direct measure of participation in actual treaty negotiations. We assume that in consensual decision-making for the size of representation translates into more participation and input,

⁹ We are aware that a state's mission to the UN in New York is not truly representative of the state's actual delegation during specific treaty negotiations, but it provides a useful proxy that is not so far off the treaty-specific delegation size. This is also confirmed in our analysis below.

and therefore increases the ties-that-bind effect.¹⁰ Whereas this variable is more closely related to specific treaty negotiations and therefore offers a better measure for our purposes, such information is in general less often available. We therefore constrained our search of participation-related information to treaties that are particularly salient. In order to determine “saliency”, we googled all 52 treaties by their full titles, rating treaties with 200,000 Google hits or more as salient.¹¹ In this way we identified a subset of 19 salient treaties, and we were able to retrieve negotiation-related information on the size of the diplomatic delegations for 13 of these salient treaties. As the size of a national delegation can vary throughout the negotiation process, we collected information on the size of the delegation at the outset of negotiations from participants’ lists.¹² If such information was not accessible we relied on available information from the next negotiation session.

Studying the subset of salient treaties presents a more demanding test for our ties-that-bind argument. In the case of salient treaties, political leaders will attempt to control the negotiation behavior of diplomats because of the political implications at home. This is not so much the case for less salient treaties where ties-that-bind incentives can develop more easily. Further details on the salient treaty sub-sample and availability of treaty-specific participation information are provided in Table 4, Appendix. We expect the likelihood of signing a treaty to increase with the size of the state delegation participating in treaty negotiations. The

¹⁰ A small negotiation team also is hampered by the fact that in most treaty negotiations various drafting committees meet at the same time. Therefore providing input on all the sub-issues is more difficult for small delegations and decreases their overall buy-in.

¹¹ We also used two alternative thresholds: 100,000 and 150,000. For an argument on how the Google search engine captures the degree of political mobilization and therefore saliency, see Pelc (2013).

¹² The size of delegation in treaty-specific negotiations is also affected by financial constraints, in particular for developing countries who often are dependent on support from the organizing or negotiation bodies. Sometimes developing countries also send diplomats from local embassies who are less skilled than diplomats from the capital. Some of these concerns can be addressed through trust funds set up to encourage participation of least developed countries especially. Host countries and their neighbouring countries also tend to have greater participation. Thanks to a reviewer for pointing this out.

distribution of the variables and rankings for the top ten states in terms of representation are presented in Figure 1 and Table 5, Appendix.

Controls

In our models, we also test for alternative explanations prominent in the commitment literature, which may apply to signing. Democracies are generally expected to be more likely than non-democracies to commit to multilateral treaties. We therefore test for the regime type of a state employing the polity2 score from the Polity IV index (POLITY). The scale ranges from -10 (strongly autocratic) to +10 (strongly democratic), and measures the domestic regime type of a given state, reflecting the underlying political (democratic versus authoritarian) values, structures and institutions of a society (Marshall, Gurr and Jaggers, 2014).

Because negotiators might try to address domestic obstacles to ratification and aim first and foremost to get agreements accepted domestically, we control for domestic ratification constraints (POLCON). Following our proposition, however, we expect such constraints to have less effect on treaty signature than on treaty ratification. We use the Political Constraints Index V (Henisz, 2000).

Since newly created states are particularly interested in building reputation, they might well sign treaties without having participated in the negotiations. Signing could be a strategy deliberately adopted by newer states that gained independence in the 1990s to increase their international standing. Therefore, we use a dichotomous variable POST-1989 STATE that captures whether a state has been formed after 1989 or before. It controls for the potentially higher pace of commitment by states that gained independence after the collapse of the Soviet Union in 1989.

Next, to test that the size of diplomatic representation does not merely reflect a state's power, we control for the state's material capabilities using the Composite Index of National Capability (CINC) (Correlates of War Project, 2005). CINC and UN DIPLOMATIC REPRESENTATION are highly correlated (0.858), whereas CINC and TREATY-SPECIFIC DIPLOMATIC REPRESENTATION display a low correlation of 0.21 indicating that treaty-specific delegation size is not a function of powerful states' ex ante interest in multilateral treaties. In other words, greater participation and more influence during negotiations – which we expect to lead to signature – are not endogenous to the more powerful states' interests in treaty-making.

Similarly, to capture whether the size of the diplomatic mission reflects the ability of richer states to send more diplomats to represent their interests in treaty negotiations than poorer states, we also include GDP PER CAPITA (GDP P.C.) (relying on the purchasing power parity basis in US dollars) into our models (Central Intelligence Agency, 2008). It is noteworthy that GDP P.C. is not significantly correlated with the size of diplomatic representation: 0.185 with TREATY-SPECIFIC DIPLOMATIC REPRESENTATION and 0.357 with UN DIPLOMATIC REPRESENTATION. This again suggests that signature is not just a function of richer states' capacities to send more diplomats, and therefore having a greater say in the treaty content.

We also control for a state's legal order, distinguishing between a COMMON LAW and a civil law system (La Porta et al., 1999). Governments with a common law system are faced with greater dispersion of possible treaty interpretations, and are assumed to be more hesitant to commit to international law than states with a civil law tradition, whether through the act of signature or ratification (Simmons, 2009).

Finally, we capture regional and area-specific differences with a CATEGORICAL REGION variable distinguishing between four regions AMERICA, ASIA, AFRICA, EUROPE (the

latter being the reference category). We also include binary variables for three major issue areas of treaties covered in our sample: HUMAN RIGHTS (including human rights, cultural and public health agreements), SECURITY (including security, crime and diplomatic relations), and ENVIRONMENT in order to test whether signature differs across issue areas. An overview of the variables as well as descriptive statistics is presented in Table 6 (Appendix).

Estimation method and models

To study treaty signature/ratification, we use event history techniques. Event history modeling allows us to analyze the timing of political change, i.e., the change in status from non-signature/non-ratification to signature/ratification. It not only considers which states sign or ratify treaties, but also takes into account that some states do so with different time lags. Event history techniques can be also applied to data with “multiple events per subject” (Therneau and Grambsch, 2000). Because we are interested in signature and ratification patterns spanning the entire treaty sample, we need to take into account that each state can ratify up to 52 treaties. To do so, we formulated our signature and ratification data as count data and set it up as annual intervals (Andersen and Gill, 1982).¹³ Clustering on states, we consider that treaty signatures/ratifications by a specific state are not independent, but are not bound to have experienced a prior event (Box-Steffensmeier and Jones, 2004: 158).¹⁴ Finally, the method allows us to deal with incomplete observations (left-truncated and right-censored data).¹⁵ An excerpt of our data is provided in Table 7 (Appendix).

¹³ The count data is non-ordered, and is set up to accommodate all multiple events in one and the same time interval.

¹⁴ Alternatively, we also clustered our data on treaties instead of states to account for potential correlation of signature/ratification patterns by treaty. This modification, however, did not alter our major results.

¹⁵ Right-censoring applies to states that had not yet signed/ratified a particular treaty at termination of the analysis in December 2008. Left-truncation is determined by a delayed entry time of states, e.g. successor states of the Socialist Federal Republic of Yugoslavia and of the Soviet Union, as well as the Czech Republic and Slovakia.

We use a Cox proportional hazards regression model¹⁶ with the modified partial likelihood¹⁷ for left-truncated and right-censored data (Tableman and Kim, 2004: 209-211). In the Cox proportional hazards model, the hazard rate is the measure of effect; it is the exponential of the regression coefficient ($\exp(\text{coef})$).¹⁸ We account for correlated groups of observations (non-independence of multiple observations per state) with robust sandwich variance estimators based on a grouped jackknife.

Findings

Tables 2 and 3 present the findings of the Cox proportional hazards estimations for the event of signing and ratifying treaties, respectively. Models in the two tables include our key explanatory variable UN DIPLOMATIC REPRESENTATION. They are all based on the full sample of 52 treaties providing signature and ratification data for the period 1990-2008 and 193 states. Because some data are missing, not all explanatory variables are available for the entire period and for all states. Thus the sample size varies somewhat throughout the models.

Table 2 presents three models each for the event of signature (models 1-3) and the event of ratification (models 4-6) as the dependent variables. The composition of the ratification models corresponds to that of the signature models – they build on the same set of variables. As mentioned earlier, all models include the variable UN DIPLOMATIC REPRESENTATION capturing the size of a state's mission to the United Nations in New York. Models 1 and 4 control for regional effects of AMERICA, AFRICA and ASIA as compared to the

¹⁶ Since non-proportionality of the hazard rates might result in time dependence of individual covariates (implying that the effect of one or more covariates on the hazard increases or decreases over time), we tested for the proportionality of the hazard assumption. Results based on scaled Schoenfeld residuals indicate that the assumption of the proportional hazards is satisfied by all covariates. Model checks and data diagnostics are available from authors on request.

¹⁷ The likelihood is approximated by the Efron method which is particularly accurate in dealing with tied data.

¹⁸ A hazard rate of 1 indicates that the covariate has no effect on the event of signature or ratification. A rate of more than 1 indicates an increase in the rate of signature/ratification, and a rate of less than 1 indicates a reduction in the rate of signature/ratification. Any statement that a state is more likely to commit is also a statement that the state will commit earlier and vice versa.

effects of EUROPE, and the issue areas HUMAN RIGHTS, SECURITY and ENVIRONMENT. In models 2 and 5 we test for the effect of POLITY, POST-1989 STATE, COMMON LAW and GDP P.C.. Models 3 and 6 bring together all controls from models 1 and 2, and models 4 and 5, respectively.

The most interesting result concerns the effect of UN DIPLOMATIC REPRESENTATION. Whereas we find a statistically significant and positive effect for UN diplomatic representation for the event of signature, we find no such effect for the event of ratification.¹⁹ The size of the state missions does not yield much explanatory power for treaty ratification. In contrast, the increase of a diplomatic mission by one representative (e.g. a change in the size of the state mission from 12 to 13 delegates) increases the likelihood of signing a multilateral treaty by between 0.8 percent (models 2 and 3) and 1.9 percent (model 1). Comparing the 10th and 90th percentiles of the UN DIPLOMATIC REPRESENTATION, we find that states with larger missions (here counting 19 representatives) are between 1.14 (model 2) and 1.37 (model 1) more likely to sign multilateral treaties than states with relatively small missions (having two representatives). The equivalent comparison between states with a diplomatic mission of 129 representatives (maximum) and states with no representatives (minimum) reveals that the likelihood of signature is between 2.65 (model 2) and 10.75 (model 1) times higher for the state with the maximum-size mission. To sum up, the size of diplomatic mission makes a considerable difference for the event of treaty signature.

[Table 2 about here]

The differential effect of UN DIPLOMATIC REPRESENTATION on signature versus ratification stands out even more against the very uniform and stable estimation results for the controls in the models. Throughout all the models POLITY has a positive and statistically significant effect on both treaty signature and ratification. The more democratic a state is, the more

¹⁹ We obtained the same results for ratification and signature models with UN DIPLOMATIC REPRESENTATION lagged by one year.

likely it is to commit to multilateral treaties. The same is true for regional effects as well as the issue areas of treaties. European states (REGION – CATEGORICAL) are significantly more likely to commit (sign and ratify treaties) than states in other world regions.

Among the issue area controls, the issue of SECURITY proves to be most relevant when it comes to the decision to sign and ratify treaties.²⁰ But the decision to sign a treaty is especially dependent on whether SECURITY issues are at stake. A treaty that has a bearing SECURITY matters is between 37 and 56 percent (models 1 and 3 resp.) more likely to be signed than a HUMAN RIGHTS treaty, and more than twice as likely as an ENVIRONMENTAL agreement. SECURITY issues have also a strong ad positive impact on treaty ratification, but the effects are somewhat weaker than those for signature: SECURITY treaties are 18 to 19 percent more likely to be ratified than HUMAN RIGHTS agreements and 43 to 45 percent more than ENVIRONMENTAL agreements (models 6 and 4 resp.).

We also find a robust and statistically significant effect for the variable COMMON LAW. States with a common law system are less likely to sign and ratify multilateral treaties than states with a civil law tradition. We find no robust effects for POST-1989 STATE, either for the event of ratification or the event of signature. GDP P.C. is statistically significant in both types of model, but the fact that its inclusion does not change the major result confirms that UN DIPLOMATIC REPRESENTATION does not merely reflect a state's power, wealth or interest. Our results confirm previous findings regarding states' commitment to individual or sector-specific treaties. As a final point it is worth mentioning that we tested for the other two alternative factors mentioned above – political constraints (POLCON) and states' material power (CINC). We do not report the results of these tests in the tables as they revealed consistently insignificant effects on both signature and ratification.

²⁰ The hazard ratio is calculated e.g. by $\exp(\text{coef}(\text{SECURITY})) = \exp(\text{coef}(\text{HUMAN RIGHTS}))$.

While the analysis of the size of states' diplomatic missions to the UN yields encouraging results, this covariate is an imperfect proxy for what we attempt to measure – a state's actual involvement during specific treaty negotiations. To remedy this, we fitted the same two sets of models for the event of signature (models 1-3) and the event of ratification (models 4-6) with the smaller subset of ‘salient’ treaties using the more precise TREATY-SPECIFIC DIPLOMATIC REPRESENTATION variable (Table 3). The focus on salient treaties is a more crucial test for our argument, as we would expect governments to be especially vigilant during the negotiations of such treaties and therefore to monitor diplomats closely to guard against any potential “ties-that-bind” effect.

[Table 3 about here]

Results from those models strongly reaffirm the different effects of TREATY-SPECIFIC DIPLOMATIC REPRESENTATION on signature and ratification. The number of diplomats present during negotiations matters substantially for the act of signature – having a positive and highly statistically significant effect on the likelihood of signature. Increasing the size of the delegation by one additional delegate makes signature of a treaty between 1.5 percent (model 3) and 5.3 percent (model 1) more likely; and a state with a many-delegate mission (in the 90th percentile) is between 1.05 (model 3) and 1.17 (model 1) times more likely to sign a treaty than is a state with a small delegation (in the 10th percentile). In the most extreme case, a state with the largest delegation of 52 representatives is between 2.21 (model 3) and 14.71 (model 1) times more likely to sign a treaty than a state that is not represented during negotiations.

Again, we find no such effects for the event of ratification. Although TREATY-SPECIFIC DIPLOMATIC REPRESENTATION reveals a statistically significant effect on ratification in model 4, this effect disappears in all subsequent models we fitted.

Conclusion

Whereas the question of why states ratify multilateral treaties has received significant attention in scholarly work, the question of why states sign multilateral treaties has been largely neglected. This paper addresses this surprisingly underexplored research area by focusing on how diplomatic participation in negotiations promotes the signature of a treaty.

Although we present a novel explanation for the relationship of diplomatic involvement in multilateral treaty making and treaty commitment, further research is needed on the politics of signature, not least to test more directly the two postulated ties-that-bind pathways and to understand their relative importance.

To start with, we need more systematic data on the types and extent of contributions and interventions during negotiations and their tie-binding effects. This would allow us to carry out a more targeted assessment of the textual overlap between individual delegations' draft proposals and the final treaty text, and to investigate in particular how “ties with the text” effects are generated through treaty participation. For the second incentive (“ties with the diplomatic community”), more information is necessary to trace how mutual expectations develop as a result of “face-to-face diplomacy” (Holmes, 2013). Here, surveys and survey experiments with diplomats would help to understand better the development of this particular tie.

Moreover, additional (and omitted) states' incentives for signature might be detected through case studies. Anecdotal evidence suggests that some framework agreements establish that signatories to the initial agreement can participate in subsequent negotiations over a follow-up protocol. For example, the US as a signatory (but not a ratifying party) of the Rome Statute of the International Criminal Court is entitled to participate in any future negotiations under the treaty framework (Scheffer, 2012). This procedural design feature of having or not having a “seat at the table” could add a strategic relevance to treaty signature.

Another design feature (the ratification threshold for a treaty's entry into force) might also affect the likelihood of signature. If the threshold is high, sponsors of the treaty could opt for signature as a signal to other states that they want to see the successful entry into force of the obligations negotiated pre-empting any criticism that could arise post negotiations. If sponsors are also powerful states, their signature most likely puts additional pressure on other states to commit.

In conclusion, the findings of this paper and the selected research opportunities sketched above highlight the need for further inquiry into the so far neglected politics of signing multilateral treaties and the role of diplomats in treaty making.

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Tables

rank	signatories	no.	%	rank	ratifiers	no.	%
1	Finland	42	80.77	1	<i>Spain</i>	39	75
2	<i>Denmark</i>	41	78.85	2	Romania	37	71.15
3	Sweden	39	75		Slovenia	37	71.15
	Germany	39	75	4	Lithuania	36	69.23
5	<i>Spain</i>	38	73.08		Latvia	36	69.23
6	Netherlands	37	71.15	6	<i>Denmark</i>	35	67.31
	Brazil	37	71.15		<i>Norway</i>	35	67.31
8	France	36	69.23		Slovakia	35	67.31
	United Kingdom	36	69.23		Hungary	35	67.31
10	<i>Norway</i>	35	67.31		Bulgaria	35	67.31
	Italy	35	67.31				
	Luxembourg	35	67.31				

Table 1. Top ten signatory and ratifying states.

Note: Rankings for the top 10 signatory and ratifying states based on 52 multilateral treaties adopted between 1990 and 2005. (no.: number of signatures/ratifications; %: percentage of signatures/ratifications). States belonging to the group of top 10 signatories and ratifiers are shown in italics.

	Signature			Ratification		
	Model 1 exp(coef) (<i>p</i>)	Model 2 exp(coef) (<i>p</i>)	Model 3 exp(coef) (<i>p</i>)	Model 4 exp(coef) (<i>p</i>)	Model 5 exp(coef) (<i>p</i>)	Model 6 exp(coef) (<i>p</i>)
UN DIPLOMATIC REPRESENTATION	1.019 0.000***	1.008 0.006**	1.008 0.000**	1.005 0.039*	1.000 0.962	0.9992 0.772
POLITY		1.05 0.000***	1.043 0.000***		1.038 0.000***	1.031 0.000***
POST-1989 STATE		0.873 0.145	0.712 0.000**		1.235 0.001***	1.087 0.323
COMMON LAW		0.673 0.000***	0.716 0.000***		0.783 0.000***	0.834 0.007**
GDP P.C.		1.000 0.000***	1.000 0.000***		1.000 0.000***	1.000 0.000***
AMERICA (COMP. EUROPE)	0.6 0.000***		0.786 0.051	0.703 0.000***		0.876 0.156
AFRICA (COMP. EUROPE)	0.481 0.000***		0.71 0.012*	0.543 0.000***		0.764 0.016*
ASIA (COMP. EUROPE)	0.385 0.000***		0.624 0.000***	0.502 0.000***		0.716 0.001***
HUMAN RIGHTS	5.768 0.000***		5.156 0.000***	4.677 0.000***		4.286 0.000***
ENVIRONMENT	3.706 0.000***		3.78 0.000***	3.852 0.000***		3.522 0.000***
SECURITY	7.93 0.000***		8.021 0.000***	5.579 0.000***		5.051 0.000***
LRT (<i>p</i>)	2413 (0)	949.3 (0)	2461 (0)	1785 (0)	426.2 (0)	1526 (0)
Wald test (<i>p</i>)	1378 (0)	219.5 (0)	1199 (0)	888.1 (0)	225.2 (0)	924.4 (0)
Robust (score) logrank test (<i>p</i>)	153.9 (0)	44.57 (0)	128.6 (0)	158.6 (0)	60.73 (0)	127.4 (0)
No. Observations	73086	52400	52400	78187	57919	58136
No. Events	3616	3173	3173	4439	3595	3605
No. States	192	158	158	192	158	158
Period	1990–2008	1990–2007	1990–2007	1991–2008	1991–2007	1991–2007

Table 2. Cox proportional hazards models based on full treaty sample.

Note: The likelihood ratio test assumes independence of observations within a cluster (country), the Wald and robust score tests do not. *** $p|z| < 0.001$, ** $p|z| < 0.01$, * $p|z| < 0.05$.

	Signature			Ratification		
	Model 1 exp(coef) (<i>p</i>)	Model 2 exp(coef) (<i>p</i>)	Model 3 exp(coef) (<i>p</i>)	Model 4 exp(coef) (<i>p</i>)	Model 5 exp(coef) (<i>p</i>)	Model 6 exp(coef) (<i>p</i>)
TREATY-SPECIFIC DIPLOMATIC REPRESENTATION	1.053 0.000***	1.024 0.002**	1.015 0.041*	1.022 0.002**	0.997 0.689	1.003 0.644
POLITY		1.068 0.000***	1.054 0.000***		1.049 0.000***	1.041 0.000***
STATE		0.885	0.808		1.128	0.946
COMMON LAW		0.405	0.165		0.188	0.646
GDP P.C.		0.667 0.000***	0.753 0.005**		0.799 0.022*	0.859 0.139
		1.000 0.000***	1.000 0.000***		1.000 0.069	1.000 0.65
AMERICA (COMP. EUROPE)	0.639 0.002**		0.889 0.342	0.806 0.083		0.818 0.224
AFRICA (COMP. EUROPE)	0.456 0.000***		0.781 0.027*	0.611 0.000***		0.739 0.05
ASIA (COMP. EUROPE)	0.351 0.000***		0.632 0.002**	0.538 0.000***		0.679 0.006**
HUMAN RIGHTS	2.033 0.000***		1.893 0.000***	1.219 0.000***		1.229 0.000***
ENVIRONMENT	0.621 0.000***		0.673 0.000***	1.736 0.000***		1.887 0.000***
LRT (<i>p</i>)	588.4 (0)	519 (0)	671.3 (0)	227 (0)	183.4 (0)	299.9 (0)
Wald test (<i>p</i>)	361.4 (0)	221 (0)	485.4 (0)	137 (0)	102.3 (0)	230.5 (0)
Robust (score) logrank test (<i>p</i>)	103 (0)	53.96 (0)	88.91 (0)	80.97 (0)	56.6 (0)	85.92 (0)
No. Observations	9772	6671	6671	12857	9562	9562
No. Events	1655	1423	1423	1832	1474	1474
No. States	192	158	158	192	158	158
Period	1992–2008	1992–2007	1992–2007	1992–2008	1992–2007	1992–2007

Table 3. Cox proportional hazards models based on sub-sample of salient treaties.

Note: The likelihood ratio test assumes independence of observations within a cluster (country), the Wald and robust score tests do not. *** $p|z| < 0.001$, ** $p|z| < 0.01$, * $p|z| < 0.05$.

Appendix

<i>treaty</i>	<i>adopted</i>	<i>salient sub-sample</i>	<i>'delegation size' available</i>
1 Cartagena Protocol on Biosafety	2000	0	–
2 Comprehensive Nuclear-Test-Ban Treaty	1996	1	0
3 Convention on Biological Diversity	1992	1	1
4 Convention on Nuclear Safety	1994	0	–
5 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction	1992	1	1
6 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction	1997	1	0
7 Convention on the Safety of UN and Associated Personnel	1994	0	–
8 International Atomic Energy Agency (IAEA) Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste	1997	0	–
9 International Civil Aviation Organization (ICAO) Convention on the Marking of Plastic Explosives for the Purpose of Detection	1991	0	–
10 International Cocoa Agreement	2001	0	–
11 International Coffee Agreement	2000	0	–
12 International Convention for the Suppression of Acts of Nuclear Terrorism	2005	1	1
13 International Convention for the Suppression of Terrorist Bombings	1997	0	–
14 International Convention for the Suppression of the Financing of Terrorism	1999	1	1
15 International Convention on Maritime Liens and Mortgages	1993	0	–
16 International Convention on the Arrest of Ships	1999	0	–
17 International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICRMW)	1990	1	0
18 International Maritime Organization (IMO) Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea	1996	0	–
19 IMO International Convention on Oil Pollution Preparedness, Response and Co-operation	1990	0	–
20 IMO International Convention for the Control and Management of Ships' Ballast Water and Sediments	2004	0	–
21 IMO International Convention on the Control of Harmful Anti-fouling Systems on Ships	2001	0	–
22 IMO Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances	2000	0	–
23 IMO Protocol to the International Convention on Civil Liability for Oil Pollution Damage	2001	1	0
24 International Tropical Timber Agreement	1994	0	–
25 International Sugar Agreement	1992	0	–
26 Kyoto Protocol	1997	1	1

Table 4. Selected multilateral treaties.

Note: *adopted* refers to the year of treaty adoption; *salient sub-sample*: 1 indicates treaties that passed the 200,000-hits threshold in a Google search; *availability of delegation size*: 1 indicates that information on 'delegation size' of state missions to specific treaty negotiations is available, 0 indicates non-availability of such information, and – indicates non-applicability (treaty is not in the salient sub-sample).

continued on next page

<i>treaty</i>	<i>adopted</i>	<i>salient sub-sample</i>	<i>'delegation size' available</i>
27 Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict	2000	1	0
28 Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography	2000	1	0
29 Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the UN Convention against Transnational Organized Crime	2001	1	1
30 Protocol against the Smuggling of Migrants by Land, Air and Sea, supplementing the UN Convention against Transnational Organized Crime	2000	1	1
31 Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the UN Convention against Transnational Organized Crime	2000	1	1
32 Rome Statute of the International Criminal Court	1998	1	1
33 Rotterdam Convention on Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	1998	1	1
34 Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict	1999	0	–
35 Stockholm Convention on Persistent Organic Pollutants (POPs)	2001	0	–
36 UN Convention against Corruption	2003	0	–
37 UN Agreement for the Implementation of the Provisions of the UN Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	1995	0	–
38 UN Convention against Transnational Organized Crime	2000	1	1
39 UN Convention on Independent Guarantees and Stand-by Letters of Credit	1995	0	–
40 UN Convention on Jurisdictional Immunities of States and Their Property	2004	0	–
41 UN Convention on the Assignment of Receivables in International Trade	2001	0	–
42 UN Convention on the Liability of Operators of Transport Terminals in International Trade	1991	0	–
43 UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes	1997	0	–
44 UN Convention on the Use of Electronic Communications in International Contracts	2005	0	–
45 UN Convention to Combat Desertification	1994	0	–
46 UN Framework Convention on Climate Change	1992	1	1
47 World Customs Organization (WCO) Revised Kyoto Convention	1999	0	–
48 World Health Organization (WHO) Framework Convention on Tobacco Control	2003	1	1
49 World Intellectual Property Organization (WIPO) Copyright Treaty	1996	0	–
50 WIPO Trademark Law Treaty	1994	0	–
51 WIPO Patent Law Treaty	2000	0	–
52 WIPO Performances & Phonograms Treaty	1996	0	–

Table 4 (continued). Selected multilateral treaties.

UN DIPLOMATIC REPRESENTATION					
<i>rank</i>	<i>country</i>	<i>mean</i>	<i>sd</i>	<i>min</i>	<i>max</i>
1	USA	116	12.18	81	129
2	Russia	82	6.98	68	93
3	China	66	4.57	59	75
4	Germany	57	5.74	41	66
5	Japan	50	5.85	32	59
6	Cuba	40	3.04	35	45
7	United Kingdom	36	3.86	25	41
8	Brazil	33	3.17	25	37
9	Korea	31	3.43	17	36
10	France	30	2.70	22	35

TREATY-SPECIFIC DIPLOMATIC REPRESENTATION					
<i>rank</i>	<i>country</i>	<i>mean</i>	<i>sd</i>	<i>min</i>	<i>max</i>
1	Japan	13	7.95	0	29
2	USA	12	8.66	0	27
3	Germany	11	14.12	0	52
	Italy	11	8.15	0	20
5	France	10	6.37	0	15
	United Kingdom	10	6.00	0	19
7	Russia	9	7.23	0	32
8	Australia	8	9.86	0	29
	Austria	8	5.45	0	17
	Canada	8	7.87	0	27

Table 5. Top ten states' (averaged) diplomatic missions to the United Nations and specific treaty negotiations.

Note: *mean*: number of representatives in a state's diplomatic mission to the United Nations averaged over time, and for treaty-specific negotiations averaged over treaties; *sd*: standard deviation; *min*: a state's minimum size of a diplomatic mission, *max*: a state's maximum size of diplomatic mission.

Table 5 provides the average size of diplomatic representations to the United Nations and to specific treaty negotiations for the top 10 countries. The size of diplomatic missions to the United Nations (averaged over time) varies considerable for the top-ten group – from 30 representatives for France to 112 representatives for the United States. Although the differences between states for the treaty-specific missions (averaged over treaty negotiations) are somewhat smaller, the standard deviations for individual states are relatively large indicating a great variation across treaties. Overall both variables are distributed unevenly as shown in Figure 1, below.

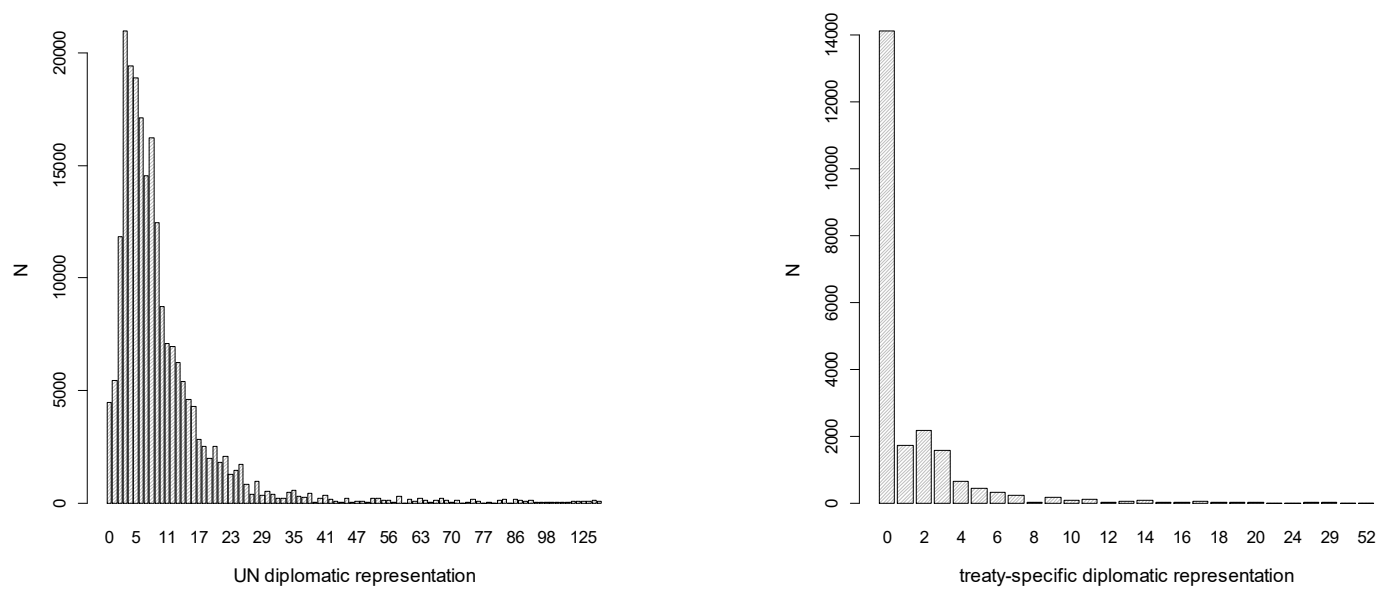


Figure 1. Distribution of UN DIPLOMATIC REPRESENTATION and TREATY-SPECIFIC DIPLOMATIC REPRESENTATION variables.

			Signature			Ratification		
	<i>min</i>	<i>max</i>	<i>mean</i>	<i>sd</i>	<i>obs.</i>	<i>mean</i>	<i>sd</i>	<i>obs.</i>
Key explanatory variables								
UN DIPLOMATIC REPRESENTATION	0	129	9.91	11.49	73086	10.87	13.04	78187
TREATY-SPECIFIC DIPLOMATIC REPRESENTATION	0	52	1.04	2.44	9772	1.6	3.52	12857
Control variables								
POLITY	−10	10	2.11	6.73	53129	2.50	6.69	58626
POLCON	0	0.9	0.38	0.32	55069	0.4	0.33	60395
POST-1989 STATE	0	1	0.15	0.36	73628	0.14	0.34	78729
COMMON LAW	0	1	0.35	0.48	73628	0.33	0.47	78729
GDP P.C.	500	34200	6068.75	7105.51	72277	6590.07	7612.37	77409
CINC	0	0.16	0.005	0.01	27782	0.01	0.2	31381
REGION (CATEGORICAL)	1	4	2.70	1.06	73628	2.65	1.07	78729
HUMAN RIGHTS	0	1	0.11	0.32	73628	0.12	0.33	78729
SECURITY	0	1	0.20	0.40	73628	0.22	0.42	78729
ENVIRONMENT	0	1	0.36	0.48	73628	0.34	0.47	78729

Table 6. Explanatory variables in the signature and ratification models.

Note: *sd* refers to the standard deviation; *obs.* to numbers of observations.

<i>country</i>	<i>treaty</i>	<i>adopted</i>	<i>start</i>	<i>stop</i>	<i>status</i>	<i>interval</i>
Ireland	CBD	1992	1992	1993	0	(1;2+]
Ireland	CBD	1992	1993	1994	0	(2;3+]
Ireland	CBD	1992	1994	1995	0	(3;4+]
Ireland	CBD	1992	1995	1996	1	(4;5]
Slovakia	CBD	1992	1993	1994	1	(2;3]
Ireland	UNCAC	2003	2003	2004	0	(1;2+]
Ireland	UNCAC	2003	2004	2005	0	(2;3+]
Ireland	UNCAC	2003	2005	2006	0	(3;4+]
Ireland	UNCAC	2003	2006	2007	0	(4;5+]
Ireland	UNCAC	2003	2007	2008	0	(5;6+]
Slovakia	UNCAC	2003	2003	2004	0	(1;2+]
Slovakia	UNCAC	2003	2004	2005	0	(2;3+]
Slovakia	UNCAC	2003	2005	2006	1	(3;4]

Table 7. Excerpt of the count data.

Note: The Ireland-CBD and Slovakia-UNCAC cases are untruncated and uncensored data examples; the Ireland-UNCAC example is right-censored (no ratification at the end of period of analysis); and the Slovakia-CBD case is left-truncated (exists since 1993).

<i>treaty</i>	CBD – Convention on Biological Diversity; UNCAC – UN Convention against Corruption.
<i>adopted</i>	Year in which treaty opened for ratification.
<i>start</i>	Begin of the year count.
<i>stop</i>	End of the year count.
<i>status</i>	1: ratification; 0: no ratification.
<i>interval</i>	The interval (<i>start</i> , <i>stop</i>] is open on the left and closed on the right; it indicates begin and end of the count (based on the year 1974 when treaty opened for ratification) for each treaty within a country. + indicates the incomplete nature of the data (no event or right-censoring).