Cooperation by Treaty: The Role of Multilateral Powers*

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Abstract

Who supports multilateral treaties and who doesn't? We offer a systematic account of treaty ratification patterns paying particular attention to different states' roles in international legal cooperation in relation to the United States' ratification behavior. We argue that states' ability to influence the terms of treaties and their acceptance increases their incentives for treaty ratification. Multilateral powers – states which are powerful and independent from the US – support multilateral legal cooperation because this offers them an opportunity to shape treaty content. Their engagement in multilateral treaties is strongest when the United States does not lead. Other states that are weak and/or dependent cannot greatly affect treaties and are therefore less supportive of them but are subject to US pressure. An empirical analysis of states' decisions to ratify prominent postwar multilateral treaties covering a wide range of global issues supports our argument. We conclude with broader implications for future international cooperation.

Keywords: multilateralism, multilateral treaties, international cooperation, power, independence, ratification, US exceptionalism.

Word count: 10,456 (plus 3,890 online appendix included here.)

*We thank Daniel Abebe, Manfred Elsig, Julia Gray, Tom Hale, Noel Johnston, Emily Jones, Robert Keohane, Andrew Kydd, Walter Mattli and Kristopher Ramsay, anonymous reviewers and Jon Pevehouse for helpful comments and suggestions. Earlier versions of the paper were presented at the EPSA meeting 2013 in Barcelona, the APSA meeting 2013 in Chicago, the ASIL Midyear Meeting and Research Forum 2014 in Chicago, and the Global Economic Governance seminar, University of Oxford in 2015.

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1 Introduction

Interstate cooperation takes a variety of institutional forms. Sometimes it operates through international organizations, sometimes through formal agreements and sometimes through tacit understandings. Multilateral treaties are one such vehicle of international cooperation.[1] They are used to provide a wide range of collective goods from international security to human rights to environmental protection.[2] The 1968 Nuclear Non-Proliferation Treaty limits the spread of nuclear weapons; the 1989 Convention on the Rights of the Child addresses important issues regarding the treatment of children, and the 1987 Montréal Protocol protects the ozone layer. In short, when states have problems that cannot be resolved through individual state action or bilateral agreements, they often turn to multilateral treaties. Yet not all states are equally important in shaping multilateral treaties. Here we address the role of powerful states – including but not restricted to the most powerful state – in achieving interstate cooperation through treaty ratification.

A variety of factors that determine states' willingness to commit to treaties have been identified.[3] Decisions to ratify depend on policy preferences,[4] domestic politics,[5] legal system,[6] regime type,[7] reputational[8] or normative benefits,[9] treaty design,[10] and international diffusion mechanisms.[11] Although sometimes implicit in these analyses, surprisingly little attention has been paid to states' influence in

[1] A treaty is "an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments". Art.2(1)(a), Vienna Convention on the Law of Treaties 1969. For a broad theoretical account of multilateral cooperation see the symposium on multilateralism in International Organization, (Ruggie 1992), especially articles by Kahler and Caporaso, and also Martin 1992.

[2] Kaul, Conceição, Le Goulven et al. 2003.

[3] Pollack 2015.

[4] Downs, Rocke, and Barsoom 1996; Simmons 2009; and Lupu Forthcoming.

[5] Haftel and Thompson 2013; and Kelley and Pevehouse Forthcoming.

[6] Goodliffe and Hawkins 2006.

[7] Neumayer 2002; and Vreeland 2003.

[8] Simmons 2000.

[9] Kelley 2007.

[10] von Stein 2008.

[11] Bernauer, Kalbhenn, Koubi et al. 2010.

the treaty-making process.

We argue that states' influence in shaping treaties – determined by their power and independence – creates incentives for ratification. Power is the ability to shape treaty terms and press for its acceptance; independence is the ability to pursue one's own interests without being subject to pressure by others. The United States is the extreme case with its extraordinary ability to push for treaties and influence other states to support them; it also has demonstrated an ability to exercise its influence outside of the treaty framework (even without ratifying it). We focus here on powerful and independent states other than the US that have significant influence on the adoption and operation of treaties but which, unlike the US, can only influence the treaty through ratification. We label those states *multilateral powers*. We expect them to be particularly active ratifiers and to take the lead especially when the United States does not participate (by not ratifying or only ratifying slowly). By contrast, if the US decides to participate, multilateral powers are less important to the treaty process and so ratify at a lower rate. Other states that are less powerful and/or less independent than multilateral powers have less leverage and are therefore less supportive of treaties irrespective of the US involvement – although they may be subject to US pressure to follow its lead. Thus, contrary to those who see multilateralism as a tool of the strong[12] and others who see it as a weapon of the weak,[13] we show that it can be a strategy of the multilateral powers and expect them to be central to the outcome of international cooperation.

We begin with the presentation of our argument regarding how the power and independence of a state influences its participation in multilateral cooperation. We test our claim about the role of different states in cooperation using a data set of the most important post-war multilateral treaties. An event history analysis of treaty ratification confirms our conjecture that a group of powerful and independent

[12] Ikenberry 2000.
[13] Kagan 2003.

states is key to the on-going success of international cooperation. When the US fails to ratify or does so slowly, the multilateral powers step up to ensure the success of cooperation. By contrast, when the US moves decisively (by ratifying and doing so quickly), multilateral powers display a greater tendency to free ride. Weaker and dependent states generally participate less in multilateral treaties, although they are more likely to ratify when the US ratifies – reflecting their susceptibility to US pressure. Thus our analysis provides a fuller understanding of how a state's influence in the treaty-making process determines the commitments it makes. We conclude by briefly examining the broader implications for international cooperation.

2 Multilateral Cooperation through Treaties

There are many ways to address collective action problems in international cooperation. Multilateral treaties provide important legal instruments of international cooperation used to resolve collective action problems among states. Some create new multilateral institutions; others contribute to existing international regimes; yet others address more specific collective purposes. Although they are not always fully effective, states sign and ratify treaties because they believe they will change their collective behavior in ways that benefit the international community and themselves. Because ratification is a legally binding commitment to obligations that entail both sovereignty and compliance costs, states have individual incentives not to accept treaties.[14] This creates a second-order collective action problem where states prefer to free ride rather than ratify, but the treaty process generates

[14]We focus on ratification rather than signature because it is more costly as well as a more significant step in making a legal commitment. Signature does not bind a state to a treaty, although it indicates intent to consider it seriously for ratification and not to undermine it in the meantime. Art. 18, Vienna Convention on the Law of Treaties 1969. Signature is a way station to ratification giving a state time to seek domestic approval and to pass necessary domestic legislation to give effect to the treaty. But it is in the process of ratification that governments directly face the costs of political opposition. Finally, states that are not signatories can only join through "accession" or "adoption" which is equivalent to ratification.

a common commitment and assurance that helps overcome this. The logic is that of Schelling's k-group[15] whereby a sufficient number of cooperators can benefit from joint action, as is often reflected in treaty "entry into force" requirements aimed at ensuring sufficient participation.[16] This outcome remains susceptible to defection, however, and so may need support through exogenous factors including reputational, normative and social incentives.

We focus here on how the treaty process shapes states' individual incentives to support it. Importantly, the benefits and costs of a treaty for each state vary with its exact terms. For example, an arms control agreement might exempt certain categories of weapons, a trade agreement might cover only certain products, or an environmental treaty might define its targets in ways that advantage certain states. Ratification brings a continuing voice in the treaty regime,[17] and is typically a prerequisite to inclusion in the Conference of the Parties or similar governing bodies which deal with interpretation and implementation of the treaty after its entry into force and which provide a forum for further developments within or beyond the treaty.[18] If the treaty creates or is governed by a formal international organization, ratification typically gives membership and voting rights. Thus ratification provides states with continuing opportunities to shape the treaty to their advantage.

A state's ability to affect the terms and governance of a treaty depends on its *power* and on its *independence*. Larger, more powerful states are usually more

[15] Schelling 1978.

[16] "Entry into force" clauses protect ratifying states from being obligated under an international treaty unless and until enough other states have also ratified. These clauses typically depend on the number of ratifying states but sometimes are calibrated to the treaty content (e.g., by requiring ratification by states composing a certain share of the activity) in order to protect states from being lonely ratifiers. Art.24, Vienna Convention on the Law of Treaties 1969. Some treaties have entry into force clauses that are closely attuned to power and capacity considerations. For example, the Comprehensive Test Ban Treaty requires ratification by all 44 Annex 2 states (i.e., those with nuclear reactors at the time of negotiation) before coming into force.

[17] Art.40(2), Vienna Convention on the Law of Treaties 1969.

[18] These bodies often have alternative names such as Assembly of the Parties (Rome Statute), Meeting of the Parties (Montréal Protocol) or Ministerial Conferences (World Trade Organization).

important to the solution of the problem at hand; they have more resources for addressing it and have greater diplomatic capacity.[19] This gives them greater leverage in the treaty process and therefore on the terms of the treaty, which makes them more likely to ratify it. It also gives them more continuing influence on the treaty after entry into force. But a state's ability to influence a treaty depends also on its ability to pursue its own interests without being pressured by other states. A state that is not independent but subject to influence from others will not be as effective in shifting treaty terms and operations to its favor.[20] Independent states are better positioned to advance their own interests.

Thus it is the conjunction of power and independence that is most important: In order to shape treaties to its interests, a state must have both the power to act and the independence to pursue its own interests. We label states that are both powerful and independent as *multilateral powers* for convenience in the discussion below. However, multilateral power is not a category but the end of a continuum ranging from states that are low in power and independence to states that are relatively high in both.[21]

Although we stress that multilateral power is a continuum in both our theory and our statistical analysis, for heuristic purposes we introduce the logic of participating in interstate cooperation in terms of three categories: the United States as the exceptional state, the multilateral powers, and weak and/or dependent states. The basic puzzle we are addressing is captured in Table 1 showing the ratification rates of major post-war multilateral treaties by these three representative groups.

[19] We use a broad conception of power that goes beyond military capability to include soft power considerations such as socio-economic capacity. We discuss the operationalization of power in more detail in subsection 3.2 below.

[20] We focus particularly on independence from the US for reasons that will be apparent below.

[21] We use this term rather than "great power" – which is too narrowly focused on a small number of military powers and which excludes other states that are important to international cooperation – or "middle power" – which excludes great powers and often carries additional conceptual baggage. Roughly speaking, states in the G8, and to a lesser extent those in the G20, have significant multilateral power, although there are major variations within these groups (e.g., Canada and Mexico are much more dependent on the US). Figure 1 below shows the range of power, independence and their combinations in terms of our operationalizations. In the estimation, we capture this by including power and independence as an interaction.

US behavior in international cooperation is reflected in its very low rate of treaty ratification when compared to other countries. While the US ratified only 29 of the full sample of the 66 treaties, the multilateral powers on average ratified 53.4 treaties (when approximated by the G8–US) or 50.8 treaties (when approximated by the G20–(US&EU)). Weak and/or dependent states (approximated in the table by the non-G20 states) ratified only 44.3 treaties on average. This pattern is explained by our argument regarding the interaction of power and independence across these states, which we demonstrate in terms of continuous variables below.

Group of state	***Represented by***	***# rat.***
Exceptional state	US	29
Multilateral powers	G8–US	53.4
	G20–(US&EU)	50.8
Weak and/or dependent states	non-G20	44.3

Table 1: *Ratification rates.*

Notes: *# rat.*: average number of ratifications. G8–US excludes the US and G20–(US&EU) excludes the US and the EU. The table is based on the full sample of 66 treaties in our data set spanning a wide range of issue areas. The data are described in more detail in section 3.

The Exceptional State: The United States is sufficiently extreme in its treaty-making power and independence as to be *sui generis* – accordingly we treat it separately in the analysis below. It is an outlier in both theory and practice. While hegemonic stability theory[22] has empirical shortcomings, theoretically it usefully highlights the unique role of the "hegemon" in promoting international cooperation. When US preferences are aligned with the preferences of other states, it is positioned to take the lead on cooperation and others are positioned to follow. This has been echoed in Madeleine Albright's memorable invocation of the US as the "indispensable nation" and in recent analyses of monetary hegemony[23] and unipolarity.[24] While never truly "hegemonic" in the sense of being able to "pass"

[22] Kindleberger 1973; and Keohane 1984. Snidal 1985 provides a theoretical critique of hegemonic stability theory that foreshadows the multilateral powers argument presented here.

[23] Norrlof 2010; and Cohen 2015.

[24] Brooks and Wohlforth 2008; 2015/16; and Monteiro 2014.

multilateral treaties without significant support from other states,[25] the US is "exceptional" in having an extraordinary ability to push for treaties and influence other states to support them.[26] This influence is partly because US participation is highly important for most treaties – but it also derives from its diplomatic resources and its ability to pressure other states (especially ones dependent on it) into ratifying.[27]

Conversely, when US preferences diverge from those of other states and it is hesitant on a treaty, the US has been famous – some might say infamous – for playing a major role in the treaty negotiation process and then not ratifying.[28] The US also can have significant influence over other states – again, especially those that are dependent on it – to lessen their willingness to participate in a treaty. Moreover, when it does not ratify, the US loses the advantages of being formally an insider participant in subsequent developments, but its dominance nevertheless allows it to retain significant influence over treaty developments from the outside.[29]

[25]Even at the height of its dominance after World War II, the US relied on the United Kingdom and other states to participate in and legitimate its legalization efforts. For example, while the creation of the United Nations (UN) and Bretton-Woods institutions were American projects, they required participation from enough other states to succeed.

[26]American "exceptionalism" has been variously attributed to its ideological commitment to democratic constitutionalism (Rubenfeld 2004), its liberal values (Ikenberry and Kupchan 1990), and the structure of its political system (Chayes 2008) including its unique ratification procedures (Hathaway 2008; and Kelley and Pevehouse Forthcoming). In the argument we develop here, however, American exceptionalism on treaty participation can be understood in terms of its unprecedented power and its unique position in the international system (Byers and Nolte 2003; and Scott 2004). Other explanations may explain "why" the US does not ratify treaties but its power advantage explains "how" it is able to do so; less powerful states do not have the same luxury regardless of their other exceptional circumstances and so often cannot afford to stay out of treaties that affect them.

[27]We thank one of our reviewer for pressing us to make this point explicit.

[28]Table 1 suggests that the US is a preference outlier insofar as it ratifies fewer treaties than other states. US "hesitancy" (as opposed to pure opposition) is reflected in the fact that it has a very high rate of participation in treaties up to and including signature but then is notably exceptional for not following through with ratification. It has a ratification deficit of 17 (i.e., it signed 40 of 54 treaties in our data set that allow for signature before ratification but then ratified only 23). Other G8 countries, by contrast, have on average a surplus of 1, members of the G20 (i.e., G20-G8) a surplus of 4.6 and the non-G20 states a surplus of 12 on average. Examples of agreements signed but not ratified by the US include: The Convention on the Rights of the Child, the UN Convention on Law of the Sea, the Comprehensive Nuclear Test-Ban Treaty, the Kyoto Protocol and the Vienna Convention on the Law of Treaties.

[29]This parallels Stone's argument that US influence within international governmental orga-

This exceptional role of the US in international treaty-making is well-illustrated by the case of the Rome Statute on the International Criminal Court. The US played a major role during negotiations and – as a signatory – continued to influence the development of the treaty even without ratifying it. Despite intense domestic opposition, President Clinton explained his preference for signing the Rome Statute by arguing that "[w]ith signature, we will be in a position to influence the evolution of the court, without signature, we will not".[30] But American influence continued even after President Bush "unsigned" the treaty in 2002. The US used extraordinary outside pressure to limit the International Criminal Court's (ICC) implications for the US by concluding Bilateral Immunity Agreements with over one hundred states to prevent US citizens from being transferred to ICC jurisdiction without US agreement. The US initially threatened sanctions on states that did not agree and it worked aggressively through the UN Security Council to limit the ICC's authority.[31] Subsequently, the Bush administration softened its stand and tacitly supported ICC activities in Darfur; the Obama administration has actively engaged with the ICC even while remaining outside of it. While this is a stark case, it illustrates how the US can play a major role in shaping, drafting and signing treaties that it ultimately refuses to ratify and then use its general power to maintain significant influence over the treaty.

Thus, we distinguish between two situations regarding US behavior: one where the US shares preferences with other states and uses its power to take the lead in international cooperation (thereby allowing others to slack); and another where the US has divergent preferences and does not ratify so that it falls on others to take the lead.

Multilateral Powers: Although other states rarely have such extreme influence without actually joining a treaty, states that are powerful and independent (i.e.,

nizations operates both through formal rules and through informal channels. Stone 2011.

[30] Quoted in Scott 2012, 177.

[31] American Non-Governmental Organizations Coalition for the International Criminal Court 2008.

multilateral powers) can have significant influence by participating in a treaty. By working together, such states have the ability to cooperate in bringing a treaty to fruition - if they can overcome their incentives to free ride.[32] The more capacity a state has to be an important contributor to an international agreement and the more independence it has from the US, the more influence it can have over the course of negotiations and subsequent treaty developments. Thus the treaty process provides a propitious forum for multilateral powers to shape international governance. They have strong incentives to ratify a treaty in order to both ensure its success and to maintain continuing influence within it. Their influence is likely to be especially great if the US does not ratify the treaty since that makes them more important to both its success and continuing operation. Conversely, multilateral powers' influence on the treaty is diminished whenever the US takes the lead role in ratifying the treaty and influences it from the inside; the participation of the multilateral powers is no longer as necessary, they must compete with the US for influence and so are increasingly tempted to free ride.

Weak and/or dependent states: By contrast, states that are not powerful and/or not independent have less influence. Such states lack the capacity to make much difference to the success of a treaty and/or the independence to push for their own positions within the treaty. Because they have little influence on the treaty, they have less incentive to ratify and greater incentives to free ride.[33] However, they may be susceptible to pressure from the US to ratify because their participation plays a role in a treaty coming into force and adds to its legitimacy.[34]

[32] Again, our point is not that the US can literally "do it alone" since it too needs cooperative partners. But the US is better positioned to organize cooperation than are multilateral powers who, in turn, are better positioned than weak and dependent states. Conversely, the k-group logic does not require all multilateral powers to cooperate but only a sufficient number.

[33] These states may participate in international treaties for other reasons not addressed here: considerations of appropriateness (Finnemore and Sikkink 1998), incentives to develop a reputation as good international citizen (Simmons 2000; and Neumayer 2002) or to "lock in" domestic policies against potential future reversals (Moravcsik 2000; Vreeland 2003; and 2008). Such factors determine the "base rate" of ratification that underlies our analysis. Overall, weak and/or dependent states participate less in multilateral treaties, as reflected in their lower ratification rates shown in Table 1.

[34] Of course, other states – including former colonial powers, large trading partners, major aid

Overall, weak and/or dependent states participate in international treaties at typically lower rates (and for other reasons) than multilateral powers as they are unlikely to greatly affect the level or form of cooperation.[35]

Hypotheses: This leads to a relatively simple set of connected hypotheses: 1. Multilateral powers ratify at a higher rate than weaker, less independent states; 2. When the US does not ratify a treaty, multilateral powers have higher rates of ratification than when the US does ratify a treaty; 3. The impact of US ratification (or non-ratification) of a treaty is indeterminate for weak and/or dependent states except insofar as they are subject to its pressure to ratify. In summary, multilateral powers are strong supporters of multilateral treaties and they will take the lead especially when the US does not participate.

3 Data analysis

We expect multilateral powers to be particularly relevant for treaties that are salient and costly to adopt. The more there is at stake, the more likely a state is to participate in order to influence the treaty content to its own advantage. Thus, we test our argument on a data set consisting of states' ratifications of major multilateral treaties adopted between 1945 and 2008 and ratified by 2010. Our treaty sample builds on the Institute for Agriculture and Trade Policy (IATP) treaty database which identifies such "prominent" multilateral treaties; we extend the sample to include post-2005 treaties as well as a small number of other key multilateral treaties not covered in the IATP sample.[36] Following the IATP crite-

providers, common members of key regional organizations, and so forth – may be able to pressure weak states that are dependent on them to ratify (or not), but we focus on the US as the only state with widespread influence of this sort.

[35]The exception is when a large group of weak and/or dependent states organizes itself to press for specific treaty provisions as in the case of the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families negotiations. Lönnroth 1991. This is a rare occurrence as witnessed by collective action failures among such states in the G77 or in GATT/WTO negotiations.

[36]Institute for Agriculture and Trade Policy 2005. For a list of treaties see Table 3, Appendix A. We made the following modifications to the IATP database of 43 treaties: 1) We excluded the

ria, we include *binding* international agreements that require the explicit consent of states through ratification; we exclude softer forms of international law such as recommendations, codes of conduct or memoranda of understanding. We also restrict our sample to treaties that involve *substantive additions* to existing international law – they go beyond simple adjustments or amendments to previous treaties. All included treaties are *universal* in two senses: 1. participation is *open to all* recognized states as defined by UN membership, and; 2. they are of *global reach* – we exclude treaties that are open to all states in terms of membership but have a regional or plurilateral focus. All included treaties are *public international law* instruments; we exclude private international law instruments (e.g. created through the Hague Conference of Private International Law or the International Institute for the Unification of Private Law – UNIDROIT). Finally, our sample covers seven *major areas of global governance*, including environment (15), rule of law (5), human rights (18), humanitarian law (3), labor law (7), security (13) and new security (5). The resulting sample includes 66 *multilateral* treaties addressing a wide variety of collective action problems, and we believe it offers a compre-

International Labour Office Forced Labour Convention C29 (1930), because it was adopted before our period of analysis, and the Treaty on the Limitation of Anti-Ballistic Missile Systems which is not a multilateral agreement but a bilateral treaty between the US and the former Soviet Union. 2) We updated the IATP database to include post-2005 treaties with five subsequent core human rights instruments (the 2006 Optional Protocol to the Convention against Torture, the 2006 International Convention for the Protection of All Persons from Enforced Disappearance, the 2006 Convention on the Rights of Persons with Disabilities and its 2006 Optional Protocol, and the 2008 Optional Protocol to the International Covenant on Economic, Social and Cultural Rights) and one security treaty: the 2008 Convention on Cluster Munitions. 3) We added the 1948 Genocide Convention to the core human rights treaties, three rule-of-law treaties (1945 UN Charter; 1961 Vienna Convention on Diplomatic Relations, and the 1986 Vienna Convention on the Law of Treaties between States and International Organizations (IOs) or between IOs), four environmental treaties (1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora, the 1979 Convention on the Conservation of Migratory Species of Wild Animals, the 1985 Vienna Convention of the Protection of Ozone Layer, and the 1999 Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal), six security treaties (the 1997 International Convention for the Suppression of Terrorist Bombing, the 2005 International Convention for the Suppression of Acts of Nuclear Terrorism, the 1963 Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water, and the 1980 Convention on Prohibition or Restriction on the Use of Certain Conventional Weapons and the five Protocols thereto), and finally we added five "new security" treaties (the 2000 Convention against Transnational Organized Crime with its three Protocols and the 2003 Convention Against Corruption).

hensive listing of the most important binding instruments of public international law.[37] We also report results based on the smaller original IATP sample, and on a data set extended to include economic agreements not in the IATP data set under Robustness checks (Appendix B).

3.1 Data structure

Treaty ratification is our time-dependent outcome variable, which we analyze using event history techniques. Event history modelling offers an appropriate method for analyzing the timing of political change, i.e., change in status from non-ratification to ratification of a given treaty by a particular state. It considers both whether a state has ratified a treaty and also how long it takes to ratify. Event history techniques can also accommodate data with "multiple events per subject".[38] In this study, each state can ratify 66 treaties, and can ratify any number of available treaties in any year. To allow for this specification, we organize our ratification data as count data following Andersen and Gill.[39] The data takes the form of state-treaty-year, with "years" formulated as intervals indicating the start and end of the count. The year count starts with the treaty being open for ratification or when a new state becomes sovereign; it ends with ratification, the end of the period of

[37] Bernauer, Kalbhenn, Koubi et al. offer a much larger data set covering 255 environmental treaties. Many treaties in that data set do not meet our selection criteria: not all treaties provide for universal participation – some of the treaties are plurilateral rather than multilateral; many have a regional rather than global focus; and some do not substantially change the body of international law but are primarily amendments to existing practice. Bernauer, Kalbhenn, Koubi et al. 2010. A comparative analysis of the treaties in our data set with those in the Bernauer at al. data set shows that treaties in the Bernauer et al. data set are less contentious as reflected in a shorter average time to ratification.

[38] Therneau and Grambsch 2000.

[39] Andersen and Gill 1982. This approach is particularly suited to the situation of mutual independence of observations within a subject. See Box-Steffensmeier and Zorn 2002, 1073–74; and Therneau and Grambsch 2000, 185–86. It assumes that multiple events for any particular subject are conditionally independent; the risk of experiencing the event for a given subject is unaffected by any earlier event that happened to the same subject. State A can ratify treaty X without or before ratifying treaty Y, and state B can ratify treaty Y without or before ratifying treaty X. However, the timing of ratification can be subject to group effects (by states or by treaties); see footnote 41.

analysis or the termination of a state.[40] Whether the ratification event actually occurred is indicated by a binary status variable. We account for correlated groups of observations (non-independence of multiple ratifications per state) by clustering on states,[41] and applying robust sandwich variance estimators based on a grouped jackknife.[42]

3.2 Explanatory variables

We capture the role of multilateral powers in international treaty-making through the interaction of POWER and INDEPENDENCE (POWER*INDEPENDENCE). Because our concern is state influence in the treaty process, we conceptualize POWER broadly (going beyond military resources or market size). Our POWER index is composed of 10 variables reflecting three dimensions of power: military, economic, and social and human capital. The first two variables capture the military dimension and traditional geo-political power: *military expenditure* (in thousands of current year US$), and *military personnel* (in thousands). The next four variables cover the economic dimension and a state's material capacity to support and affect international cooperation: *energy consumption* (in thousands of coal-ton equivalents), *total trade* (in millions of current US$), *GDP per capita* (log), and *government expenditure* (in current US$). The final four variables address the social and human capital dimension capturing less direct elements of influence related to soft power: *literacy rate* (as percentage of adult population), number of *physicians* (per 1,000 people), *total population* (log), and *population ages 15–64* (as percentage of total population). A more detailed overview of the component variables of the POWER index (including definitions, sources and measurements)

[40] Count data consists of multiple records and is set up as annual intervals to include time-varying covariates. The data for a given state-treaty is presented as multiple rows of "observations", each of which applies to an interval (start, stop].

[41] We also tested for whether ratification patterns are subject to treaty-group effects (i.e. states' ratifications are more homogenous for any given treaty) by clustering the observations on treaties. This alternative procedure did not alter the results in any substantial ways.

[42] Box-Steffensmeier and Jones 2004, 158.

is provided in Table 4 (Appendix A). To handle missing observations, we used several data sources and applied statistical imputation techniques. As a rule, we extrapolated and interpolated the data employing generalized additive models.[43] After a graphical examination of all variables for all states, we applied linear fits to individual cases.[44]

To construct the POWER index, we applied factor analysis for time series.[45] Separate time-series factor models were estimated for all constituent variables and states. We then averaged the factor loadings for each variable over all states. Based on the linear combinations of the mean factor loadings and the standardized observations, we calculated a single POWER index. We also report results based on alternative power measures including the Composite Index of National Capability (CINC),[46] and Gross Domestic Product (GDP),[47] as well as the individual dimensions of the POWER measure under Robustness checks in Appendix B.

We operationalize INDEPENDENCE in relation to the United States which is the state in the strongest position to pressure other states (as discussed above). We measure state INDEPENDENCE by trade relations with the US, following Kirshner's argument on how asymmetric relations shape a dependent state's foreign policy.[48] Balanced trade relations – where each state accounts for roughly the same share

[43] Wood 2006.

[44] To this end we made the following significant transformations: For *GDP per capita* (log) we used as a basis real GDP per capita from Penn World Table (PWT) 6.2 (Heston, Summers, and Aten 2006), and interpolated and extrapolated the data with estimates of GDP growth rate per capita from World Development Indicators (WDI) (World Bank 2007). If neither PWT 6.2 nor WDI data was available, we used GDP per capita, deflated by GDP deflator from WDI for the basis year of the PWT 6.2 estimates. To estimate *government expenditures*, *literacy rate* (% of adult population) and *physicians* (per 1,000 people), we used WDI data. If not available, we imputed estimates from the Cross-national Times-series Data Archive. Banks 2006. For the estimation of *total population* (log) we first used PWT 6.2 data, and then imputed WDI estimates.

[45] Gilbert and Meijer 2005.

[46] Correlates of War Project 2005.

[47] World Bank 2007.

[48] Kirshner 2003. This is an extension of Hirschman 1945. See also Keohane and Nye 1977; and Gilpin 2011. We use Barbieri's measure of independence but check it against an alternative measure of trade dependence. Barbieri 1996. Other measure such as aid or investment dependence would be useful supplements but only trade (in)dependence is systematically available for all states for our time period.

of the other's trade – indicate independence; conversely, when one state's trade is much more heavily oriented towards the other than vice versa, then the former state is less independent of the other. As an alternative operationalization we use trade dependence (DEPENDENCE) measured as states' total trade with the dominant state as a proportion of its GDP. We report those results under Robustness checks (Appendix B).

Our focus is on the contemporaneous interaction of states' power and independence which we show for three points in time (1950, 1975 and 2000) in Figure 1. The numbers are in relation to the US which is not shown. Unsurprisingly, there is variation in the location of states over time but the overall pattern remains fairly stable. A relatively small number of states are both powerful and independent[49] whereas the growing majority of countries are relatively non-powerful and vary in degrees of independence. Only a few countries (note especially Canada, and Mexico in recent years) are fairly powerful but not highly independent. We check for the importance of particular groupings of states in the Robustness checks (Appendix B).

[49] Our focus here is not on individual states, but on the group of states roughly occupying the upper right quadrants of Figure 1 which as multilateral powers are potential k-group members. See also Table 1 where we use two alternative groupings as proxies for the multilateral powers.

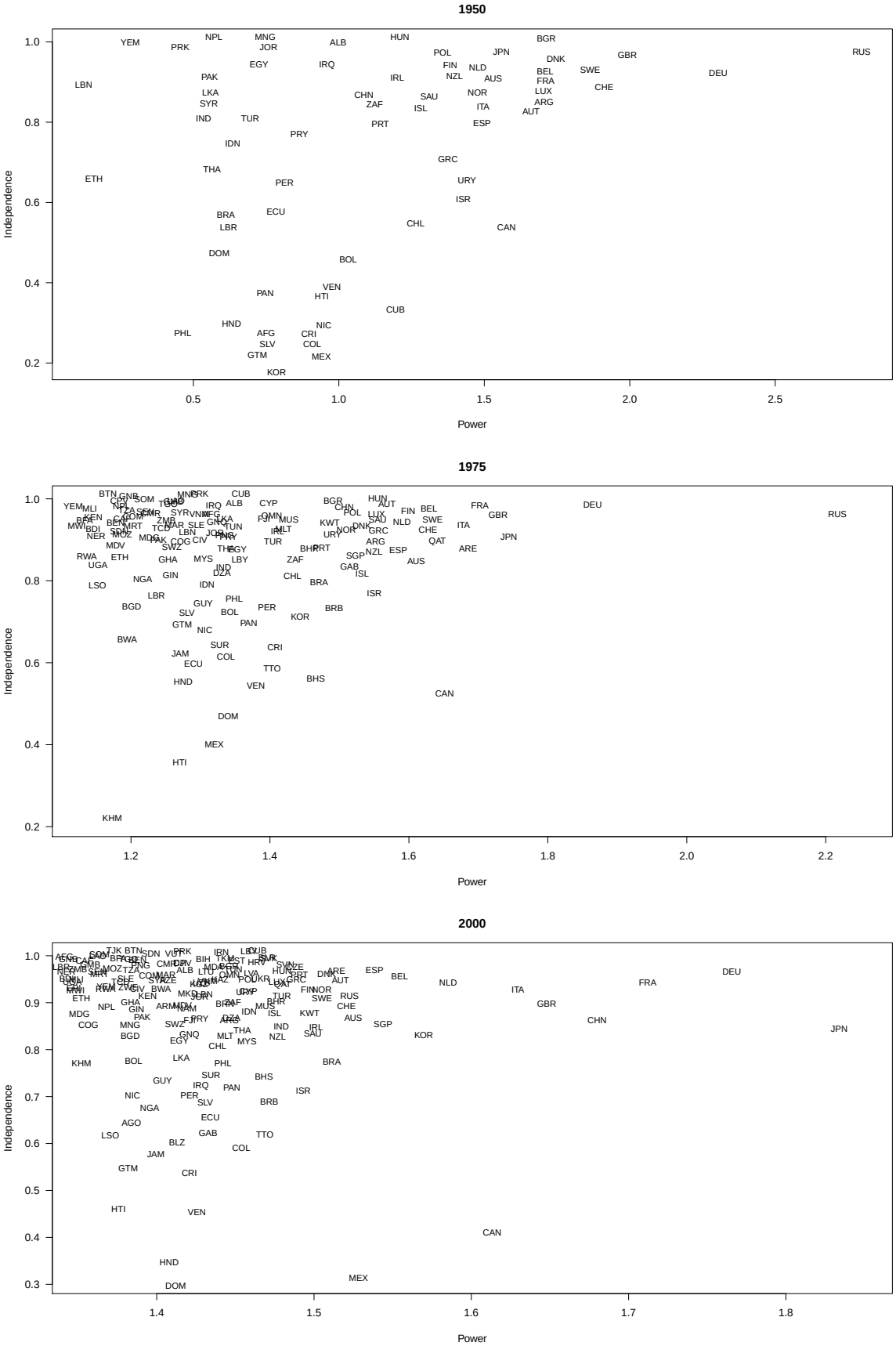

Figure 1: *States'* Power *and* Independence *for 1950, 1975 and 2000 (excluding US).*

Note: The variables are in relation to the US, and both axes are rescaled to best depict the data range for each point in time. The three-letter country codes are defined in ISO 3166-1.

We control for several related and plausible explanations. First, we consider the effect of the domestic regime type (democracy versus autocracy). Democratic states are more likely to support multilateral treaties, as the content of such agreements often is more in accord with their domestic political values. To measure domestic regime type, we employ the polity2 score from the Polity IV index (DEMOCRACY).[50] We also control for the effect of STATE AGE on ratification. New states which became sovereign through either decolonization or the breakup of the Soviet Union show a high rate of treaty ratification because they are eager to demonstrate their commitment to international rules. We also include a categorical variable for treaty issue areas. We distinguish between RULE OF LAW (as the reference category), HUMAN & LABOR RIGHTS, SECURITY and ENVIRONMENT. For an overview of all explanatory variables and their descriptive statistics see Tables 6 and 5 (Appendix A). In the Robustness checks (Appendix B) we report on models controlling for other effects in addition to those presented in the tables, including colonial past, religious denomination, treaty signature, geographic diffusion of international norms, and different groupings of countries such as the G8, the G20, Europe and new democracies. Overall, in our empirical analysis, we follow Achen's ART approach and keep the models as simple as possible by focusing on the two main explanatory variables and their interaction term.[51] Fuller description of control variables and results are provided in Table 6, and Appendices B and C.

3.3 Methods

We use Cox proportional hazards regression models with the modified partial likelihood for right-censored and left-truncated data.[52] Fixed right-censoring applies to all states which have not ratified a particular treaty by the end of 2010. Cases of random right-censoring include Czechoslovakia (state termination in 1992), the

[50] Marshall and Jaggers 2007.
[51] Achen 2002.
[52] Tableman and Kim 2004.

Socialist Federal Republic of Yugoslavia (terminated in 1991), the German Democratic Republic (1990), Zanzibar (1964) or South Yemen (1989). Left-truncation is caused by delayed entry.[53] For example, successor states to Yugoslavia such as Croatia and Serbia and former colonies could ratify treaties only after they became sovereign. While a model modified for censored observations allows for the possibility that time to ratification varies across countries, a model adjusted for left-truncated observations further incorporates a consideration of the historical sequence of treaties (i.e., the date a treaty becomes available for ratification depends not only on its date of adoption but also on the state's entry into the data set).

The Cox proportional hazards regression model estimates hazard ratios for the variables discussed above. The hazard ratio[54] is the exponential of the regression coefficient (exp(coef)) in the model. A hazard ratio (HR) of 1 indicates that a variable has no effect. A ratio greater than 1 indicates an increase in the rate of ratification (*positive impact*), and a ratio less than 1 indicates a reduction in the rate of ratification (*negative impact*). Any statement that a state is more likely to ratify is implicitly with respect to a given year, and is also a statement that the state ratifies more rapidly.[55]

3.4 Results

Table 2 presents the Cox proportional hazards regression models for ratification decisions by 199 states for 66 multilateral treaties from 1945 to 2010. Since not all explanatory variables are available for the entire period and all states, the number of observations varies across the models. Furthermore, in some models, we treat

[53] Klein and Moeschberger 2003.

[54] The proportional hazards assumption requires the hazard ratio to be independent of time. A test for constancy of the coefficients based on scaled Schoenfeld residuals indicates that this assumption is met by all covariates.

[55] The statistical analysis was computed with R Development Core Team 2014, survival R package version 2.37-4 (Therneau 2015).

the US decision to ratify, and its speed of ratification, as a parametric condition for other states' ratification decisions.

We present six models offering a fuller interpretation of our major explanatory interaction defined in terms of POWER*INDEPENDENCE. Models 1 and 2 are based on the full sample of 66 treaties. Model 1 includes POWER and INDEPENDENCE, as well as the central interaction of POWER*INDEPENDENCE. Model 2 adds the effects of DEMOCRACY and STATE AGE, as well as issue areas. Since all these controls behave as expected and do not change the main results, we discuss them in Appendix C along with other control variables that do not modify our results.

As a reminder: To assess the effect of a variable included in an interaction term, we must simultaneously take into account the exponentials of the coefficient (exp(coef)) not only of the interaction term but also of its constituent variables. (It is not appropriate to interpret coefficient size or direction in isolation.) To do this, we assume a fixed value for one variable (e.g. INDEPENDENCE), and then calculate the effect of a one-unit-increase in the other variable (e.g. POWER).[56]

Model 1 displays a statistically significant effect for POWER*INDEPENDENCE. Its constituent variable POWER has a negative impact lowering a state's propensity to ratify (with a hazard ratio – exponential of coefficient or exp(coef) – less than 1) for values of INDEPENDENCE below 0.51, and a positive impact otherwise; INDEPENDENCE has a negative impact for POWER values below 1.33, and a positive impact otherwise. In terms of our argument, this makes complete sense. A state

[56] Thus the impact of POWER $= exp(coef_{\text{POWER}}) * exp(coef_{\text{POWER*INDEPENDENCE}} * \text{INDEPENDENCE})$ for a given value of INDEPENDENCE.

	Full sample		**Subsamples**		**Subsamples of US-ratified treaties**	
	Model 1	**Model 2**	**Model 3** *(US non-ratified treaties)*	**Model 4** *(US ratified treaties)*	**Model 5** *(in year 0 or 1)*	**Model 6** *(after year 1)*
	exp(coef) (p)	exp(coef) (p)	exp(coef) (p)	exp(coef) (p)	exp(coef) (p)	exp(coef) (p)
Power	0.29	0.08	0.04	0.1	629.1	0.04
	(0.179)	(0.004**)	(0.004**)	(0.048*)	(0.087)	(0.002**)
Independence	0.04	0.02	0.004	0.03	29110.0	0.01
	(0.02*)	(0.001***)	(0.001***)	(0.02*)	(0.068)	(0.000***)
Power*Independence	**11.5**	**27.79**	**76.31**	**17.35**	**0.001**	**57.71**
	(0.018*)	**(0.000***)**	**(0.000***)**	**(0.024*)**	**(0.07)**	**(0.000***)**
Controls						
Democracy		1.05	1.04	1.05	1.06	1.04
		(0.000***)	(0.000***)	(0.000***)	(0.000***)	(0.000)***
State age		0.99	0.99	0.99	1.00	0.99
		(0.000***)	(0.000***)	(0.007**)	(0.417)	(0.000)***
Human & Labor Rights		1.03	2.42	0.49	1.2	0.5
(ref.: Rule of Law)		(0.584)	(0.000***)	(0.000***)	(0.766)	(0.000***)
Security (ref.:		1.53	6.16	0.53	0.23	0.59
Rule of Law)		(0.000***)	(0.000***)	(0.000***)	(0.000***)	(0.000***)
Environment (ref.:		1.96	2.71	1.3	0.86	1.73
Rule of Law)		(0.000***)	(0.000***)	(0.082)	(0.748)	(0.002**)
LRT	110	849.8	493.5	657.5	291.7	333.3
(p)	(0)	(0)	(0)	(0)	(0)	(0)
Wald test	26	326.1	294.8	373.5	161.8	291.8
(p)	(0)	(0)	(0)	(0)	(0)	(0)
Robust (score) logrank test	15.55	104.8	97.82	116.4	75.4	114.6
(p)	(0.001)	(0)	(0)	(0)	(0)	(0)
No. Observations	69081	63547	38490	25057	5694	19363
No. Events	4834	4499	2123	2376	813	1563
No. States	163	152	152	152	152	152
Period	1948–2000	1948–2000	1949–2000	1948–2000	1948–2000	1949–2000

Table 2: *Cox proportional hazards regression models.*

Notes: Each cell entry [exp(coef)] is the exponential of the coefficient which is the hazard ratio (HR). The likelihood ratio test assumes independence of observations within a cluster (country); the Wald and robust score tests do not. ***$p|z| =< .001$, **$p|z| =< .01$, *$p|z| =< .05$.

that is powerful but dependent has less independent leverage and so has less incentive to participate; similarly, a state that has little power will have limited leverage even if it is independent. But states that are both powerful and independent (multilateral powers) have strong incentives to participate in multilateral treaties.[57]

Model 2 sharpens the results by including the controls, but does not greatly change them. It further clarifies that POWER*INDEPENDENCE is a robust predictor of ratification. The coefficient is substantively large as we discuss below. The constituent variables POWER and INDEPENDENCE continue to work as above – a result that is consistent throughout our analysis with one important exception "that proves the rule" (as shown in model 5). In sum, both models confirm hypothesis 1 that multilateral powers ratify at a higher rate than weaker, less independent states.

To test hypotheses 2 and 3 we split our sample into treaties that the US ratified and those it did not ratify. A stratified analysis (not shown) confirmed that US ratification makes a significant difference to the behavior of other states.[58] Having split the sample into two subsamples according to whether the US ratified the treaty, we estimated model 3 based on 37 treaties that the US has never ratified and model 4 based on 29 treaties that the US has ratified. The results support our expectation. When the US does not ratify, multilateral powers cooperate at a higher level both substantively and statistically (model 3). The hazard ratio of the interaction term is more than four times as large when the US does not ratify as when it does (model 4). Thus the ratification rate of the multilateral powers is

[57] The null model (not shown here) including only POWER and INDEPENDENCE without their interaction shows a positive effect for both variables. Although the effect of INDEPENDENCE is not significant in the null model, including both variables and their interaction improves the model considerably, and clarifies the results regarding the impact of POWER.

[58] This model is equivalent to model 2 except that it is stratified on the variable US RATIFICATION which identifies treaties that have been ratified by the US. In a stratified Cox proportional hazards model, separate baseline hazard functions are fitted for each strata (here: US-ratified treaties and US-not-ratified treaties). Stratification allows us to assess whether the key effect of POWER*INDEPENDENCE varies according to whether the US ratifies or not.

strongly contingent on the US decision to ratify – confirming our second hypothesis that multilateral powers pick up the slack when the US does not ratify.[59]

The comparison between models 3 and 4 further suggests how preferences play a role for states' decisions to cooperate. When US preferences are roughly aligned with those of other states, it will take the lead in multilateral cooperation and the others can to a greater extent "free ride" by going slowly in ratification. But when US preferences differ and it is hesitant to take the lead, the other states step up in its place.[60]

To further assess the effect of the interaction term, we contrast the hazard ratios of multilateral powers with those of weak and/or dependent states. Here we compare a multilateral power at the 90^{th} percentile of the variable values (on POWER and INDEPENDENCE), with weak and/or dependent states at the 10^{th} percentiles on one or both variable values. This relationship is displayed in Figure 2 for the case where the US does not ratify (model 3). Multilateral powers are the strongest supporters of multilateral treaties as indicated by the extreme peak at the back corner of the diagram (HR of 1.17). Weaker and/or dependent states – represented by the three lower corners of the diagram – are hesitant supporters. Multilateral powers are between 27% (vis-à-vis weak and dependent states; HR: 0.92) and 36% (vis-à-vis powerful but dependent states; HR: 0.86) more likely to ratify treaties.

[59] We also tested for the difference according to whether or not the US had signed a treaty. While US SIGNATURE had a significant and positive effect on others' decisions to ratify, the basic results remain unchanged. The contrast between models 3 and 4 confirms our presumption that ratification is the more significant action.

[60] Not all the multilateral powers need to be strongly supportive of the treaty, just enough to form an effective k-group to ensure ratification. Snidal 1985.

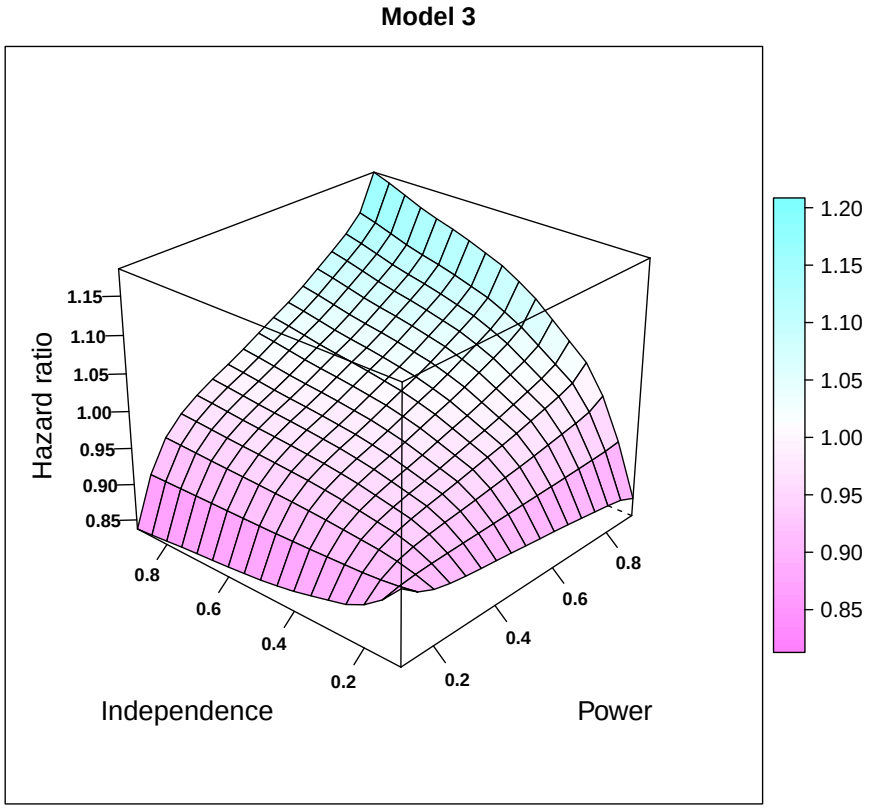

Figure 2: *Visualization of the* Power*Independence *effect from model 3.*

Notes: Axes values for the two composite variables are rescaled to percentiles. The hazard ratios shown are with respect to a state with a hypothetical median position. Model 3 is based on the subsample of US non-ratified treaties.

When the US does ratify (model 4), multilateral powers remain strong supporters of international agreements (with a HR of 1.08) but the differences between multilateral powers and other states diminish considerably. This is partly because multilateral powers ratify *less* when the US does ratify and partly because other states ratify *more* when the US ratifies (with HR ranging now between 0.88 and 0.99). This latter effect may reflect the ability of the US to pressure weak and/or dependent states to ratify treaties it favors (and not to ratify treaties it does not favor). Multilateral powers are nevertheless still between 9.5% (vis-à-vis weak and dependent states) and 23% (vis-à-vis powerful but dependent states) more likely to ratify than other states. This confirms that while multilateral powers are strong

supporters of multilateral treaties, they play an especially important role when the US slacks.[61]

To explore this effect of multilateral powers further, we examined cases where the US showed decisive leadership through quick ratification (in the year of treaty adoption or the year after – model 5), versus treaty cases where it ratified more slowly (after the first year of adoption – model 6), suggesting that it was a reluctant cooperator. The hazard ratios for the key theoretical variables from model 5 are dramatically different from the estimates in other models. They are not statistically significant and, more importantly, the directions of effects reverse. This suggests that with more decisive American leadership the multilateral powers play no special role in treaty ratification.

Further supporting this perspective, model 6 shows that multilateral powers ratify more quickly when the US goes slowly, just as they did when the US did not ratify (model 3). The hazard ratios for the Power*Independence interaction are again highly significant. When the US is slow to ratify – that is, when it shows reluctance rather than leadership – multilateral powers again step up and ratify almost as frequently as when the US does not ratify at all. This both broadens our view of leadership – it entails going early, not later and reluctantly – and confirms that multilateral powers step up their cooperation when the US is not decisive.

These results are robust against a wide range of checks including alternative measures of power and independence, additional controls (e.g. Europe, New Democracy, Colonial Past, Religion (Muslim), Regional Ratification Intensity Score, and Signature), different subsamples of observations (with/without US, G8, G20, European states) and different specifications beyond those shown here. Our results also hold against a simulation based on a random sampling of the original ratification data. For details see Appendix B.

[61] Cross-model comparisons of hazard rates based on different samples (here: treaties the US ratified in model 4 versus treaties the US did not ratify in model 3) must be made with caution. That said, such comparisons do support our hypotheses.

In summary, our empirical findings lead to four major conclusions. First, the models reveal a robust and statistically significant effect for Power*Independence. The empirical pattern shows that states' support for and influence on multilateral treaties is contingent on both their might and their independence. The conjunction of power and independence, rather than simply power alone, provides the more compelling explanation of treaty ratification. Second, the analysis verifies that multilateral powers are the strongest supporters of cooperation. This is especially the case when the US hesitates or decides to stay out (suggesting that it is a preference outlier). Third, when the US does participate, it is able to pressure weak and/or dependent states to ratify – but the multilateral powers still remain the strongest supporters of multilateral cooperation. Finally, leadership in international legal cooperation requires decisiveness through speedy ratification. Overall, the results show that multilateral powers have compensated for the absence of US engagement in the post-war international system.

4 Conclusion

This paper has addressed the role of states' leverage in promoting international cooperation – here concretely through multilateral treaties. We have shown that multilateral powers – states that are powerful and independent of the US – are significantly more likely to ratify treaties than are other states. They are especially likely to do so – and thus provide leadership – when the US fails to ratify, or is slow to ratify. Weak and/or dependent states ratify at a much lower rate, although their rate of ratification increases when the US ratifies, supporting the conjecture that US pressure affects them.

These findings open up some interesting lines for further inquiry on international cooperation and governance more generally. First, our analysis centered on the role of multilateral powers in international legal cooperation and we have not

investigated the role of other states in depth. More work is needed especially on what determines the decisions of "smaller" states to ratify treaties. Second, our analysis was tailored towards general patterns of legal international cooperation looking at multilateral treaties of global reach and open to universal participation, but neglects other more particular patterns. Investigating issue-specific (e.g. commodity agreements) or regional patterns (e.g. the role of regional hegemons) of cooperation would provide more detailed and complementary insights. Finally, our results are based on one specific type of cooperation. Future research should move beyond the study of international legal cooperation through treaties and assess the validity of our claims for other formalized arrangements (such as participation in international organizations), as well as for less formalized forms of cooperation (e.g., soft law agreements, G-groups). The importance of multilateral powers as drivers of cooperation also should be investigated across these alternative fora.

Our findings on how US participation affects multilateral cooperation suggest broader, though speculative, implications of shifting global power balances. Whereas the US has been commonly portrayed as indispensable for international order, other large and independent states may provide the foundation for continuing cooperation. These multilateral powers have the incentive to maintain and expand international cooperation irrespective of whether the dominant actor participates. Thus the absence of American leadership need not undermine cooperation as multilateral powers can provide direction when the US does not. This may increasingly circumscribe the ability of the US to achieve its particular goals insofar as it is not indispensable to the pursuit of multilateral cooperation.

Further questions arise with the prospective emergence of alternative leaders in international cooperation. For instance, a number of the key multilateral powers are organized through the EU which over time has become a more significant actor in treaty making, in international organizations and in international cooperation more generally. The exploration of the changing ability of the EU, not just to

exercise power but also to influence smaller states, would be a useful extension of our analysis. Similarly, does the growth and possibly increased coordination among the BRICS states provide another source of leadership in international cooperation?

More speculatively yet, with the continuing rise of China, will competition between the US and China dissolve into a dysfunctional rivalry or will it be channeled into multilateral cooperation? If the latter, then declining power may be not dangerous or destabilizing; competition for leadership when neither the US nor China is singularly dominant might well have a catalytic role in promoting cooperation. The declining power has incentives to participate through the treaty since it will be less reliably able to control the cooperative outcome from the outside. Conversely, the rising challenger may seek to harness the power of multilateral support by working inside existing arrangements rather than seeking to undermine them. Although the scenario of rivalry between contesting powers is not implausible, our results support the possibility that multilateral cooperation can be the prevailing solution in global governance.

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A Treaty sample and data

	abbreviation	adopted	in force	treaty	US ratified	IATP sample
1	CUN	1945	1945	Charter of the United Nations	1945	—
2	CPPCG	1948	1951	Convention on the Prevention and Punishment of the Crime of Genocide	1988	—
3	C87	1948	1950	C87 Freedom of Association and Protection of the Right to Organise Convention	—	X
4	GC	1949	1950	Geneva Conventions	1955	X
5	C98	1949	1951	C98 Right to Organise and Collective Bargaining Convention	—	X
6	C100	1951	1953	C100 Equal Remuneration Convention	—	X
7	C105	1957	1959	C105 Abolition of Forced Labour Convention	1991	X
8	C111	1958	1960	C111 Discrimination (Employment and Occupation) Convention	—	X
9	VCDR	1961	1964	Vienna Convention on Diplomatic Relations	1972	—
10	PTBT	1963	1963	Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water	1963	—
11	CERD	1965	1969	International Convention on the Elimination of All Forms of Racial Discrimination	1994	X
12	ICCPR	1966	1976	International Covenant on Civil and Political Rights	1992	X
13	ICESCR	1966	1976	International Covenant on Economic, Social and Cultural Rights	—	X
14	OPICCPR	1966	1976	Optional Protocol to the International Covenant on Civil and Political Rights	—	X
15	NPT	1968	1970	Treaty on the Non-Proliferation of Nuclear Weapons	1970	X
16	VCLT	1969	1980	Vienna Convention on the Law of Treaties	—	X

Table 3: *Sample of 66 multilateral treaties.*

continued on next page

	abbreviation	adopted	in force	treaty	US ratified	IATP sample
17	BWC	1972	1975	Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction	1975	X
18	CITES	1973	1975	Convention on International Trade in Endangered Species of Wild Fauna and Flora	1974	—
19	C138	1973	1976	C138 Minimum Age Convention	—	X
20	APGC	1977	1978	Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)	—	X
21	APIIGC	1977	1978	Protocol Additional to the Geneva Conventions of 12 August 1949 and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II)	—	X
22	CEDAW	1979	1981	Convention on the Elimination of All Forms of Discrimination against Women	—	X
23	CMS	1979	1983	Convention on the Conservation of Migratory Species of Wild Animals	—	—
24	CCWCPIPIII	1980	1983	Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (with Protocols I, II and III)– with Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as amended on 3 May 1996 (Protocol II as amended on 3 May 1996)	1995	—
25	UNCLS	1982	1994	United Nations Convention on the Law of the Sea	—	X
26	CAT	1984	1987	Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment	1994	X
27	VCPOL	1985	1988	Vienna Convention for the Protection of the Ozone Layer	1986	—
28	VCIO	1986		Vienna Convention on the Law of Treaties between States and International Organizations or between International Organizations	—	—
29	MP	1987	1989	Montreal Protocol on Substances that Deplete the Ozone Layer	1988	X

Table 3. *Sample of 66 multilateral treaties.*

continued on next page

	abbreviation	adopted	in force	treaty	US ratified	IATP sample
30	OPIIICCPR	1989	1991	Second Optional Protocol to the International Covenant on Civil and Political Rights, aiming at the Abolition of the Death Penalty	—	X
31	CRC	1989	1990	Convention on the Rights of the Child	—	X
32	BC	1989	1992	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	—	X
33	ICRMW	1990	2003	International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families	—	X
34	UNFCCC	1992	1994	United Nations Framework Convention on Climate Change	1992	X
35	CWC	1992	1997	Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction	1997	X
36	CBD	1992	1993	Convention on Biological Diversity	—	X
37	UNCCD	1994	1996	United Nations Convention to Combat Desertification	2000	X
38	PIVCCWC	1995	1998	Additional Protocol to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (Protocol IV, entitled Protocol on Blinding Laser Weapons)	2009	—
39	CTBT	1996		Comprehensive Nuclear-Test-Ban Treaty	—	X
40	TBC	1997	2001	International Convention for the Suppression of Terrorist Bombings	2002	—
41	KPCC	1997	2005	Kyoto Protocol to the United Nations Framework Convention on Climate Change	—	X
42	APMC	1997	1999	Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their destruction	—	X
43	RC	1998	2004	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	—	X
44	RSICC	1998	2002	Rome Statute of the International Criminal Court	—	X

Table 3. *Sample of 66 multilateral treaties.*

continued on next page

	abbreviation	adopted	in force	treaty	US ratified	IATP sample
45	C182	1999	2000	C182 Worst Forms of Child Labour Convention	1999	X
46	TFC	1999	2002	International Convention for the Suppression of the Financing of Terrorism	2002	X
47	OPCEDAW	1999	2000	Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women	—	X
48	PBC	1999		Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal	—	—
49	OPCRC	2000	2002	Optional Protocol to the Convention on the Rights of the Child on the Involvement of Children in Armed Conflict	2002	X
50	OPIICRC	2000	2002	Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography	2002	X
51	UNCTOC	2000	2003	United Nations Convention against Transnational Organized Crime	2005	—
52	PIUNCTOC	2000	2003	Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime	2005	—
53	PIIUNCTOC	2000	2004	Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the United Nations Convention against Transnational Organized Crime	2005	—
54	CPCBD	2000	2003	Cartagena Protocol on Biosafety to the Convention on Biological Diversity	—	X
55	SC	2001	2004	Stockholm Convention on Persistent Organic Pollutants	—	X
56	PGRT	2001	2004	International Treaty on Plant Genetic Resources for Food and Agriculture	—	X
57	PIIIUNCTOC	2001	2005	Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime	—	—

Table 3. *Sample of 66 multilateral treaties.*

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	abbreviation	adopted	in force	treaty	US ratified	IATP sample
58	OPCAT	2002	2006	Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment	—	—
59	UNCC	2003	2005	United Nations Convention against Corruption	2006	—
60	PVCCWC	2003	2006	Protocol on Explosive Remnants of War to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (Protocol V)	2009	—
61	NTC	2005	2007	International Convention for the Suppression of Acts of Nuclear Terrorism	—	—
62	CRPD	2006	2008	Convention on the Rights of Persons with Disabilities	—	—
63	OPCRPD	2006	2008	Optional Protocol to the Convention on the Rights of Persons with Disabilities	—	—
64	CAED	2006	2010	International Convention for the Protection of All Persons from Enforced Disappearance	—	—
65	OPICESCR	2008		Optional Protocol to the International Covenant on Economic, Social and Cultural Rights	—	—
66	CCM	2008	2010	Convention on Cluster Munitions	—	—

Table 3. *Sample of 66 multilateral treaties.*

Variable	Definition	Source
military expenditure	Total military budget in thousands of current year US$.	Correlates of War Project 2005.
military personnel	Troops under the command of the national government (in thousands) ready for combat as of January 1 of the referent year.	Correlates of War Project 2005.
energy consumption	Primary energy consumption measured as the industrial capacity; sum of four categories of sources – coal, petroleum, electricity, and natural gas, converted into thousands of coal-ton equivalents.	Correlates of War Project 2005.
total trade	Sum of imports and exports in millions of current year US$.	Gleditsch 2006.
GDP per capita (log)	*real GDP per capita* – Chain index in constant 1996 US$.	Heston, Summers, and Aten 2006.
	growth rate of GDP per capita – Annual percentage, based on constant local currency.	World Bank 2007.
	GDP per capita – GDP in constant 2000 US$ divided by midyear population.	World Bank 2007.
	gdp deflator – Ratio of GDP in current local currency to GDP in constant local currency.	World Bank 2007.
government expenditure	General government final consumption expenditure in current US$ including all government current expenditures for purchases of goods and services (compensation of employees, expenditures on national defense and security), and excluding government military expenditures that are part of government capital formation.	World Bank 2007; and Banks 2006.
literacy rate	Percentage of people aged 15 years and above who can read and write a short, simple statement on their everyday life.	World Bank 2007; and Banks 2006.
physicians	Graduates of any facility or school of medicine who are working in the country in any medical field (practice, teaching, research) per 1,000 people.	World Bank 2007; and Banks 2006.
total population (log)	All residents regardless of legal status or citizenship – except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of a state of origin.	Heston, Summers, and Aten 2006; and World Bank 2007.
adult population	Percentage of the total population in the age group 15 to 64.	World Bank 2007.

Table 4: *Constituent variables of the* Power *index.*

	Min	Max	Mean	Std. Deviation	Observations
Power	0.12	2.8	1.39	0.13	94604
GDP	2.178	15.49	8.65	2.43	103374
Independence	0.12	1	0.88	0.14	81502
Dependence	0	4.7	0.09	0.23	65927
Controls					
Democracy	-10	10	-0.27	7.20	94191
New Democracy	0	1	0.11	0.31	99332
State age	0	63	29.33	17.25	126701
Europe	0	1	0.10	0.30	126701
Issue Area	1	4	2.48	0.89	126701
Colonial Past	0	1	0.7	0.46	122981
Religion (Muslim)	0	1	0.24	0.43	121661
RRIS	0	0.5	0.06	0.03	126651
Signature	0	1	0.23	0.42	126701

Table 5: *Descriptive statistics.*

Variable	Definition
Power	Power indicator transformed to state power position relative to the US; (original measure standardized around "0" with max. value at "1"); higher values indicate greater capabilities.
GDP	Log of GDP in current US dollars (millions). World Bank 2007.
Independence	Independence from the dominant actor, measured as trade independence of a given state from the US in terms of the balance of trade shares: trade independence$_{i,US}$ = 1 − (trade share$_{i,US}$ − trade share$_{US,i}$). Trade share for a given state$_i$ is defined as trade share$_{i,US} = \frac{\text{imports}_{i,US}+\text{exports}_{i,US}}{\text{imports}_i+\text{exports}_i} = \frac{\text{trade}_{i,US}}{\text{trade}_i}$; and for the US as trade share$_{US,i} = \frac{\text{imports}_{US,i}+\text{exports}_{US,i}}{\text{imports}_{US}+\text{exports}_{US}} = \frac{\text{trade}_{US,i}}{\text{trade}_{US}}$; higher values indicate greater trade independence; based on Gleditsch 2006.
Dependence	Trade dependence of a given state measured as a state's trade with the US as a proportion of the state's GDP; higher values indicate greater dependence and lower independence; based on Gleditsch 2006 and World Bank 2007.
Democracy	(Revised Combined) polity2 score (Polity IV Index); higher values indicate more democracy. Marshall and Jaggers 2007.
New Democracy	Binary time-invariant measure for whether a state is a "new democracy" or not; based on Marshall and Jaggers 2007; states with averaged polity values of less than 1 in the period 1970–1988, and values greater than or equal to 5 post 1999 are coded as new democracies. Milewicz and Elsig 2014.
State Age	Years of existence post-1945, based on state sovereignty or state formation; based on Central Intelligence Agency 2008, and cross-checked with the Correlates of War Project 2008.
Europe	Binary time-invariant measure coding whether a state is located in Western Europe; based on Teorell and Hadenius 2005.
Human & Labor Rights, Security, Environment	Issue area of the treaty coded as a time-invariant categorical variable with Rule of Law as reference category.
Colonial Past	Binary time-invariant variable measuring whether a state has been colonized since 1700 ; based on Teorell and Hadenius 2005.
Religion (Muslim)	Binary time-invariant variable measuring whether the majority of a state's population is of Muslim or other denomination; based on La Porta, López-de Silanes, Shleifer et al. 1999.
RRIS	Regional Ratification Intensity Score giving the ratio of actual ratifications to possible ratifications for all states in a given year and a given region; based on Correlates Of War Project 2003; lagged by one year; higher values indicate higher ratification intensity.
Signature	Binary variable measuring whether a state has signed a treaty.

Table 6: *Explanatory variables.*

B Robustness checks

To assess the robustness and general validity of our results, we conducted additional tests. First, we double-checked our results on a simpler data structure that accounts only for the presence of right-censored data but not for left-truncated observations. This modification allows for time to ratification to vary across countries, but does not take account of the historical sequence of treaties. While it is less appropriate for our data, it is a standard approach. The results based on the data structure adjusted only for right-censoring lead to almost identical results. In particular, the effect for the interaction terms is similar to those presented. The coefficient estimates are likewise robust and statistically significant.

Second, to rule out the possibility that other factors might drive the results, we conducted additional tests for alternative explanations. We examined the effect of Colonial Past[62] on support for ratification because of the persistence of the former colonial legal order. Since states with Western/secular values might be more inclined to participate in treaty making, we tested for whether the majority of a state's population is Muslim[63] expecting a negative link between Religion (Muslim) and the likelihood of ratification. We also controlled for the geographic diffusion of international norms[64] using a regional ratification intensity score (RRIS). We expected states sharing the same geographic region to display similar ratification patterns. Finally, as a state's ratification can be positively contingent upon its previous treaty-related actions, we controlled in our models for Signature expecting positive relationship. While these alternative controls had the expected effect or no effect, their inclusion did not greatly affect the interaction term. Results based on the subsample of US non-ratified treaties are presented in Table 7.

[62] Teorell and Hadenius 2005.
[63] La Porta, López-de Silanes, Shleifer et al. 1999.
[64] Finnemore 1996.

	Model A1 exp(coef) (*p*)	**Model A2** exp(coef) (*p*)	**Model A3** exp(coef) (*p*)
Power	0.05 (0.004**)	0.1 (0.024*)	0.12 (0.05·)
Independence	0.01 (0.003**)	0.01 (0.009**)	0.02 (0.02*)
Power*Independence	**47.26** **(0.001**)**	**25.06** **(0.005**)**	**22.87** **(0.008**)**
Controls			
Democracy	1.04 (0.000***)	1.04 (0.000***)	1.04 (0.000***)
State age	0.99 (0.000***)	0.99 (0.001***)	0.98 (0.000***)
Human & Labor Rights (ref.: Rule of Law)	2.41 (0.000***)	2.43 (0.000***)	2.54 (0.000***)
Security (ref.: Rule of Law)	6.08 (0.000***)	6.04 (0.000***)	3.04 (0.000***)
Environment (ref.: Rule of Law)	2.66 (0.000***)	2.61 (0.000***)	2.12 (0.000***)
Colonial Past	0.81 (0.057·)		
Religion (Muslim)	0.89 (0.33)		
RRIS		2251.0 (0.000***)	
Signature			3.09 (0.000***)
LRT (*p*)	513.3 (0)	602.7 (0)	943.5 (0)
Wald test (*p*)	292.3 (0)	345.5 (0)	496 (0)
Robust (score) logrank test (*p*)	97.98 (0)	103.8 (0)	117.8 (0)
No. Observations	38490	38490	38490
No. Events	2123	2123	2123
No. States	152	152	152
Period	1949–2000	1949–2000	1949–2000

Table 7: *Additional models based on subsample of US non-ratified treaties.*

Notes: Each cell entry [exp(coef)] is the exponential of the coefficient which is the hazard ratio (HR). The likelihood ratio test assumes independence of observations within a cluster (country); the Wald and robust score tests do not. ***$p|z| =< .001$, **$p|z| =< .01$, *$p|z| =< .05$.

We also checked whether particular groupings of countries might be artificially driving the results. In particular, because European states are well-known supporters of multilateralism, we tested for the "European" effect by controlling for

whether a state is located in EUROPE[65] (Table 8, model A4; based on subsample of US non-ratified treaties) and by excluding European states from the data sample. Our results indicate that their support is not just because these states are "European" – as in "normative Europe" – but also because of their position as powerful and independent states. Similarly, controlling for (or excluding) alternative groupings of countries such as G8 and G20 did not change our major findings. Finally, we also found a positive effect of being a NEW DEMOCRACY on treaty ratification but, again, this did not change the central findings (Table 8, model A5).

Third, we refitted our models based on alternative measures of INDEPENDENCE and POWER. Because the INDEPENDENCE measure (as used in models shown in Table 2) captures relative rather than absolute trade importance, we constructed an alternative variable of DEPENDENCE (measured in terms of a state's trade with the US as a proportion of its GDP).[66] While the effect of DEPENDENCE is the opposite of INDEPENDENCE (as expected), the general finding of the model is confirmed (see Table 8, models A6 and A7). For alternative measures of POWER, we used the separate dimensions (economic, military and human capital) of our index, the Composite Index of National Capability (CINC)[67] and GDP.[68] While military capabilities – measured as CINC or the military component of our POWER index[69] – played no statistically significant role in our models, results based on GDP (see Table 8, model A7) and the other two dimensions of the POWER index – economic power and social and human capital – were important but did not change the results substantively. This not only confirms that military capabilities were not having undue influence, it suggests a need for caution in using military

[65] EUROPE is correlated with POWER at 0.53.

[66] The negative correlation between INDEPENDENCE and DEPENDENCE is relatively strong at -0.69. Both variables correlate weakly with POWER (INDEPENDENCE: 0.066 and DEPENDENCE: 0.041).

[67] Correlates of War Project 2005.

[68] World Bank 2007. The correlation between POWER and CINC is 0.351, and between POWER and GDP is 0.737.

[69] CINC and the military dimension of our POWER index are correlated at 0.909.

	Model A4 exp(coef) (*p*)	**Model A5** exp(coef) (*p*)	**Model A6** exp(coef) (*p*)	**Model A7** exp(coef) (*p*)
Power	0.07 (0.022*)	0.06 (0.009**)	2.22 (0.072)	
Independence	0.01 (0.019*)	0.01 (0.003**)		
Dependence			147500.0 (0.013*)	11.22 (0.058)
GDP				1.07 (0.011*)
Power*Independence	**26.22** **(0.021*)**	**56.81** **(0.001***)**		
Power*Dependence			**0.0001** **(0.009*)**	
GDP*Dependence				**0.71** **(0.02*)**
Controls				
Democracy	1.04 (0.000***)	1.04 (0.000***)	1.04 (0.000***)	1.04 (0.000***)
State age	0.98 (0.000***)	0.99 (0.001***)	0.99 (0.007**)	0.99 (0.002**)
Human & Labor Rights (ref.: Rule of Law)	2.43 (0.000***)	2.43 (0.000***)	2.52 (0.000***)	2.48 (0.000***)
Security (ref.: Rule of Law)	6.13 (0.000***)	6.14 (0.000***)	6.43 (0.000***)	6.24 (0.000***)
Environment (ref.: Rule of Law)	2.69 (0.000***)	2.7 (0.000***)	2.94 (0.000***)	2.9 (0.000***)
Europe	1.68 (0.000***)			
New Democracy		1.29 (0.048*)		
LRT (*p*)	529.2 (0)	508.6 (0)	403.9 (0)	404.1 (0)
Wald test (*p*)	294.8 (0)	295.2 (0)	288.8 (0)	288.5 (0)
Robust (score) logrank test (*p*)	97.85 (0)	98 (0)	96.03 (0)	96.06 (0)
No. Observations	38490	38490	32957	33355
No. Events	2123	2123	1864	1890
No. States	152	152	151	153
Period	1949–2000	1949–2000	1960–2000	1960–2000

Table 8: *Additional models based on subsample of US non-ratified treaties.*

Notes: Each cell entry [exp(coef)] is the exponential of the coefficient which is the hazard ratio (HR). The likelihood ratio test assumes independence of observations within a cluster (country); the Wald and robust score tests do not. ***$p|z| =< .001$, **$p|z| =< .01$, *$p|z| =< .05$.

measures to capture influence and to consider power in more comprehensive terms in general international issues.

Fourth, we also excluded observations for Canada and Mexico which might have been consequential outliers that are powerful but dependent. The results did not change.

Fifth, we confirmed our results for the key POWER*INDEPENDENCE combination based on the original smaller IATP sample and on several different subsets of our data set excluding individual issue areas from the full sample. In addition, we refitted model 5 from Table 2 (for treaties that the US ratified quickly in the year of treaty adoption or the year after) with a slightly extended sample of treaties. Economic treaties are not included in the IATP sample, so we added four key post-war economic agreements to our sample: the Articles of Agreement of the International Monetary Fund (1945), the International Bank for Reconstruction and Development Articles of Agreement (1945), the GATT (1948)[70] and the Agreement Establishing the WTO (1995). The first three treaties were adopted at the peak of American dominance and the WTO Agreement was also adopted under a strong show of US power through the "single undertaking".[71] The extended model 5 both confirmed the results of initial model 5 and improved them by yielding statistically significant effects for the interaction term and independence.

Finally, to assess the robustness of our results with regard to particular treaties, we ran a bootstrap simulation for model 3 from Table 2. Sampling randomly with replacement on treaties in 199 iterations, we resampled the original data. The results of the simulation for POWER*INDEPENDENCE are presented in Figure 3, and confirm that the interaction has a significant and consistent effect on the likelihood of ratification (zero is outside the confidence bounds).

[70] When working with the extended treaty sample, we allowed for the right-censorship of the GATT which expired in 1994.

[71] Steinberg 2002.

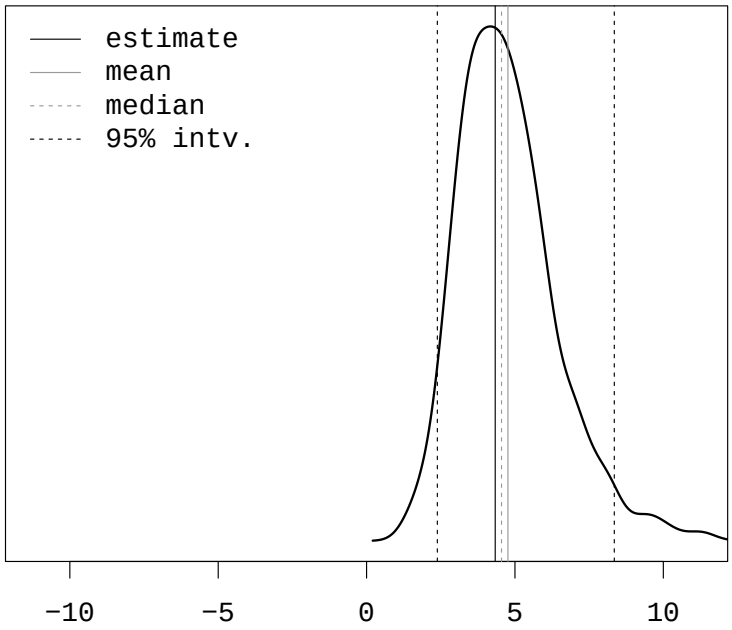

Figure 3: *Bootstrap simulation result for* Power*Independence.

C Control variables

The controls included in models presented in Table 2 behave largely as expected. Democracies have a significant tendency to be strong multilateralists: A fully democratic state is between 2.22 (model 6) and 3.14 (model 5) times more likely to ratify a multilateral treaty than a highly autocratic regime.[72] Improvement on the polity scale by one unit increases a state's ratification likelihood between 4% (models 3 and 6) and 6% (model 5).

State Age has a highly significant negative effect on ratification (with the exception of model 5 based on the subsample of US ratified treaties, where it is no longer significant). This confirms previous findings that newer states seek to establish their good citizenship in the international community by means of speedy treaty ratifications.

Results for the issue area variables are not consistent across models and differ

[72] Calculated as $exp(coef_{\text{Democracy}} * 10)/exp(coef_{\text{Democracy}} * (-10))$.

according to whether the US has or has not ratified. Estimations based on the full sample and on the subsample of treaties that the US has not ratified (models 2 and 3) show all issue areas affecting the likelihood of ratification positively as compared to the Rule of Law baseline (although the effect for Human & Labor Rights is statistically insignificant). Following model 2, Environment seems to matter most: The ratification of an environmental treaty is 90% more likely than the ratification of a Human & Labor Rights treaty, and 28% more likely than that of a Security treaty.[73] When the US does not ratify, Security issues produce the strongest effects. Then the propensity of ratifying a security treaty is 2.27 times higher than for an Environmental treaty and 2.55 times higher than a Human & Labor Rights treaty. When the US ratifies, issue areas matter less and are less stable. Security issues yield the most consistent results. When the US ratifies a security treaty, it slows the pace at which the other states ratify by 47% (and by 77% when US ratifies immediately and by 41% when US ratifies later). Similarly, the likelihood of ratifying a Human & Labor Rights treaty decreases by 51% when the US does not participate (50% when the US joins later).

[73] Calculates as $exp(coef_{\text{Environment}})/exp(coef_{\text{Human \& Labor Rights}})$.