GIVING THE TREATY A PURPOSE: COMPARING THE DURABILITY OF TREATIES AND EXECUTIVE AGREEMENTS

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Abstract: Scholars have argued that there is little use in the treaty instrument as a modern policy tool and that the executive agreement is a more reliable commitment device that comes at a reduced cost. This study uses survival time analysis to demonstrate that agreements concluded in the form of a treaty are more durable than those concluded as executive agreements. The analysis suggests that this is the result of increased political costs imposed by the treaties' Advice and Consent procedure. Together, the findings imply that treaty usage signals a higher level of commitment than executive agreements. Abolishing the treaty would lock negotiators out of the

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possibility to indicate their intended level of compliance, potentially leading to fewer agreements with less favorable terms.

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INTRODUCTION

The U.S. is an international anomaly in that it has two commitment devices to conclude agreements with other states, the executive agreement and the treaty.[1] The existence of two seemingly parallel instruments has drawn much academic interest. While the legality of the executive agreement has traditionally been challenged for its lack of textual support in the Constitution, the treaty has always had a difficult time justifying its existence as a U.S. policy instrument for practical reasons.

Indeed, as early as in the1940s, both the scholarly and the public debate wrestled with the question of whether there still is a place for the treaty in a day and age where a nation's success increasingly relies on its ability to cooperate with other states.[2] More recently, the treaty has re-emerged into the

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[1] Oona A. Hathaway, *Treaties' End: The Past, Present, and Future of International Lawmaking in the United States*, YALE L.J. 1236, 1239 (2008) (pointing out that "virtually no other country" has a two-track procedure of making international law like the U.S. does)

[2] WALLACE MCCLURE, INTERNATIONAL EXECUTIVE AGREEMENTS: DEMOCTRATIC PROCEDURE UNDER THE CONSTITUTION OF THE UNITED STATES 378 (1941) (arguing that the treaty should be replaced by the executive agreement, safe for the exception where "no public opinion exists and no question as to [the treaties'] acceptability arises."); Edwin Borchard, *Book Review: International Executive Agreements: Democratic Procedure Under the Constitution of the United States*, 42 COLUM. L. REV. 887 (1942) (rebutting McClure's argument, characterizing it as unconstitutional); *see also* Edwin Borchard, *Shall the*

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crosshair of its critics. During the Obama administration, only 19 treaties have been approved by the Senate, the lowest number of approvals during a presidential term since president Ford. Criticized mainly for the high hurdles its ratification poses, some argue that it is time to fully replace the treaty with the executive agreement, a supposedly more flexible and easier to conclude commitment device.[3] This demand is based on the assumption that treaties and executive agreements are interchangeable commitment devices. If the domestic law and the international community view treaties and executive agreements as interchangeable, the arguments goes, then there is no reason to try to overcome all the institutional hurdles created through the Advice and Consent process in favor of an instrument that offers no advantages in return.

But as important as the fundamental assumption of substitutability of treaties and executive agreements is, there have been few attempts to verify it. Instead, much of the discourse is dominated by doctrinal arguments, examining whether the Constitution limits the use of executive agreements to certain issue areas and makes the treaty the exclusive instrument in others. However, the past has taught us that neither the courts[4] nor the State

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Executive Agreement Replace the Treaty?, 53 YALE L.J. 664 (1944) (characterizing executive agreements as the weaker commitment device).

[3] Hathaway, *supra* note 1.

[4] *See* e.g. United States v. Belmont, 301 U.S. 324 (1937); United States v. Pink, 315

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Department[5] show much concern for delineating both instruments based on constitutional grounds, calling into question whether doctrine alone can provide a strong justification in favor of or against preserving the treaty as a commitment tool.

This article takes a different approach. Instead of asking whether treaties and executive agreements are *de jure* interchangeable, it examines whether both instruments are *de facto* interchangeable. It does so by considering whether treaties and executive agreements lead to different outcomes. If each commitment device leads to a different result, then this implies that the devices are qualitatively different from one another and abolishing one of the instruments cannot be done without incurring adverse consequences. If instead the use of both instruments leads to identical outcomes, there is no reason to preserve the treaty as a policy instrument, as the executive agreement should be able to fully perform the treaties' functions.

Motivated by considerations in relevant literature, the outcome measure

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U.S. 203 (1942); Dames & Moore v. Regan, 453 U.S. 654 (1981).

[5] Former U.S. State Department Legal Adviser Harold H. Koh provides two reasons for why the state department uses treaty, namely comity towards congress and the "powerful message" that is sent to the world through the treaty ratification process. He considers the question of legal substitutability as the "long-dominant" view. Harold H. Koh, *Treaties and Agreements as Part of Twenty-First Century International Lawmaking*, *in* DIGEST OF UNITED STATES PRACTICE IN INTERNATIONAL LAW 91, 91–92 (CarrieLyn D. Guymon ed., 2012).

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of choice is agreement reliability, measured as the duration for which an agreement is in force.[6] Based on all 7,966 treaties and executive agreements that have been reported in the *Treaties in Force* Series from 1982 to 2012, this article is the first to demonstrate that agreements concluded in the form of the treaty last significantly longer than agreements concluded as executive agreements. The result holds even after controlling for a number of covariates that could influence the durability of the agreement. The findings imply that treaties are a more reliable commitment device than the executive agreement. By using a treaty, a president signals a higher level of commitment to the underlying promise than through the use of an executive agreement. As a consequence, negotiation partners will put more trust in promises concluded as treaties than in those concluded as executive agreements. Giving in to demands of abolishing the treaty would make it impossible for presidents to indicate how dedicated they are to the underlying promise, in turn hampering the conclusion of agreements which require particularly high levels of commitment.

The rest of the article proceeds as follows: Part I lays out the institutional foundation of the different commitment devices and presents theories on how treaties differ from executive agreements. Part II describes the data and methodology used in this study and presents summary statistics. Part III

[6] This choice is justified in detail below, see Part II.C.

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presents the results of a formal test of instrument durability, while Part IV discusses them. A last section concludes.

I. THEORY

In order to conclude an agreement that is recognized as a binding international obligation, it is now recognized that the U.S. constitution provides two different mechanisms. The first option is the traditional treaty. Treaties follow Article II's Advice and Consent procedure, which implies that, while a treaty can be signed by the executive, it still requires a two-third majority in the Senate in order to be ratified and become binding international law.[7]

The second option to conclude international contracts is the executive agreement. Among the executive agreements, there are again different types. *Congressional*-executive agreements require a simple majority in both the House of Representatives and the Senate.[8] They are used in subject areas in which the executive does not have sole competences. Congressional approval can be obtained after the agreement was negotiated, as was the case with the

[7] U.S. Const. art. II, § 2, cl. 2.

[8] Their supposed constitutional basis is the subject of debate and will be detailed momentarily.

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North American Free Trade Agreement[9] or the Uruguay Round Agreements of the General Agreement on Tariffs and Trade.[10] However, it is much more common for Congress to provide broad authorization to the president *ex ante* through broader statutory authorization.[11]

If the executive has the competence to make policy without referring to Congress, the president may use *sole* executive agreements. Such areas encompass, among others, issues under the president's general executive authority or the function as commander-in-chief of the armed forces.[12] Sole executive agreements do not require congressional approval, but, like congressional-executive agreements, need to be reported to Congress subject

[9] North American Free Trade Agreement Implementation Act, Public Law 103-182, 107 Stat. 2057 (1993).

[10] Uruguay Round Agreements Act, Public Law 103-465, 108 Stat. 4809 (1994).

[11] Hathaway, *supra* note 1, at 1272 (conducting a search for congressional-executive agreements that have been approved *ex post* and finding only a "small handful" of such agreements).

[12] *Treaties and Other International Agreements: The Role of the United States Senate*, COMMITTEE PRINT 106 (2001) (detailing that presidents have claimed as a basis general executive authority in Article II, Sec. 1 of the Constitution; his power has commander in chief in Article II, Sec. 2, Clause 1; his treaty negotiation power in Article II, Sec. 2, Clause 2; his authority to receive ambassadors in Article II, Sect. 3; and his duty towards the faithful execution of laws in Article II, Sec. 3).

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to the “Case-Zablocki Act”.[13]

A. Legal Substitutability

From an international legal viewpoint, treaties and executive agreements are perfect substitutes. Indeed, international law does not recognize the term ”executive agreement”. The term ”treaty” is more broadly defined than in the domestic context of the U.S. The Vienna Convention on the Law of Treaties Art. II (1) (a) states that any written agreement between states governed by international law qualifies as a ”treaty” and thus, creates a binding legal

[13] 1 U.S.C. 112b(a) (1979). It is important not to “fetishize” this triptych of treaties, congressional-executive agreements and sole executive agreements. Indeed, most recent scholarship has called attention to its unsuitability in categorizing two very recent agreements, namely the Paris Climate Change Agreement and the Iran Nuclear Deal, *see* Jean Galbraith, *From Treaties to International Commitments: The Changing Landscape of Foreign Relations Law*, 84 U. CHI. L. REV. 1675 (2017); Harold H. Koh, *Triptych’s End: A Better Framework To Evaluate 21st Century International Lawmaking*, 126 THE YALE LAW JOURNAL FORUM 338 (2017). However, my view is that complexity is a cost that needs to be justified and since this article is interested in the *substantive* difference between executive agreements and treaties concluded between 1982 and 2012 and does not seek to discuss or illegitimize novel forms of international agreements, there is little use in moving beyond this traditional distinction.

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commitment.[14] Since both U.S. treaties and executive agreements meet this definition, there is no legal difference between either of those commitment devices from the perspective of international law.[15]

Domestically, the issue of legal substitutability has traditionally been more controversial. To be sure, there is a broad consensus that Congressional participation cannot fully be removed by substituting the treaty for the *sole* executive agreement.[16] However, views on the interchangeability of treaties and *congressional*-executive agreements are less harmonious. The Constitution does not expressly mention the existence of an instrument that

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[14] Vienna Convention on the Law of Treaties art. 2(1)(a), *opened for signature* May 23, 1969, 1155 U.N.T.S. 331 [hereinafter VCLT].

[15] While the U.S. is not a party to the VCLT, the State Department effectively views both treaties and executive agreements as meeting the VCLT's definition, see Arthur W. Rovine, *Digest of United States Practice in International Law* 195 (Office of the Legal Adviser, Department of State 1974). For a general overview over the history of U.S. agreements under the VCLT, *see* Maria Frankowska, *The Vienna Convention on the Law of Treaties before United States Courts*, 28 VA. J. INT'L L. 281 (1987).

[16] CURTIS A. BRADLEY, INTERNATIONAL LAW IN THE U.S. LEGAL SYSTEM 90 (2015) ("Most scholars (…) believe that the president's authority to enter into sole executive agreements is substantially narrower than the president's authority to enter into Article II treaties."); LOUIS HENKIN, FOREIGN AFFAIRS AND THE UNITED STATES CONSTITUTION 222 (1996) (describing the view that the president will seek the Senate's approval only for "prudential reasons" as "unacceptable").

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resembles today's congressional-executive agreement, resulting in a debate about how to interpret the silence. To early proponents, it was largely sufficient to show that interchangeability offers flexibility and best describes the practice of U.S. foreign policy to argue that treaties and congressional-executive agreements should act as legal substitutes.[17] Later arguments rested on the idea of the existence of "constitutional moments" that would allow constitutional interpretation to be informed by consistent practice of the president, Congress and the Supreme Court.[18] Such moments, particularly

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[17] *See* MCCLURE, *supra* note 2 (finding that 1,200 of 2,000 agreements have been concluded as congressional-executive agreements and using this as a basis to advance a basis for legitimicing its use); *see also* Quincy Wright, *The United States and International Agreements*, 38 THE AMERICAN JOURNAL OF INTERNATIONAL LAW 341, fn 62 (1944) (reversing previous views based on "Congressional and executive practice"); Bruce Ackerman & David Golove, *Is NAFTA Constitutional?*, 108 HARV. L. REV. 799, 868 (1995) (demonstrating how McClure's narrative makes consistent practice a necessary and sufficient condition for interchangeability. Also discussing Wright's shift in views.). In general, *see* Myers S. McDougal & Asher Lans, *Treaties and Congressional-Executive Agreements or Presidential Agreements: Interchangeable Instruments of National Policy: I*, 54 YALE L.J. 181 (1945)*;* Myers S. McDougal & Asher Lans, *Treaties and Congressional-Executive Agreements or Presidential Agreements: Interchangeable Instruments of National Policy: II*, 54 YALE L.J. 534 (1945) (arguing that a need for flexibility justifies perfect interchangeability of treaties and congressional-executive agreements).

[18] Ackerman & Golove, *supra* note 17.

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formed through practice in the 1940s, are believed to have transformed the meaning of the Treaty Clause, providing a constitutional basis to the congressional-executive agreement.

In contrast, opponents of legal substitutability highlight the lack of clear textual support. An extreme view holds that the Treaty Clause is clear in making Advise and Consent the exclusive method for the approval of international agreements.[19] A more moderate view suggests that treaties and congressional-executive agreements both have their own and exclusive areas of applicability. The argument rests on the idea that the U.S. constitution has conferred limited powers upon Congress and the executive and that executive agreements can only be used within this limited scope. Treaties as the default tool for matters in foreign affairs are not similarly constrained. Thus, if a

[19] Edwin Borchard, *The Proposed Constitutional Amendment on Treaty-Making*, 39 THE AMERICAN JOURNAL OF INTERNATIONAL LAW 537, 538 (1945) (describing the rise of the executive agreement as an "encroachment on the treaty-making power"); Raoul Berger, *The Presidential Monopoly of Foreign Relations*, 71 MICH. L. REV. 1, 48 (1972) (criticizing the idea of "adaption by usage" as grounds for constitutional interpretation); Laurence H. Tribe, *Taking Text and Structure Seriously: Reflections on Free-Form Method in Constitutional Interpretation*, 108 HARV. L. REV. 1221, 1249 (1995) (criticizing Ackerman's extension on interpretive methods. Even though he acknowledges that the Constitution is silent on many questions of separation of powers in foreign affairs, Tribe argues that the Treaty Clause is clear in making Advise and Consent the exclusive method for treaty approval).

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matter of foreign policy falls outside of the competences that have been conferred upon Congress, the treaty is held to be the exclusive instrument through which legally binding commitments can be made.[20]

Even though one might find appeal in the rationale underlying the analysis of those arguing against substitutability, the predominant view has long been that treaties and congressional-executive agreements are perfect legal substitutes under domestic law.[21] This view is not only supported by several court decisions,[22] but is also reflected in Restatement (Third) of the Foreign Relations Law of the United States § 303 comment (e), in which the American Law Institute states:

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[20] John C. Yoo, *Laws as Treaties?: The Constitutionality of Congressional-Executive Agreements*, 99 MICH. L. REV. 757 (2001) (arguing against both "transformationists" who introduce the idea of constitutional moments, as well as "exclusivists" who view treaties as the only means to enact binding international agreements).

[21] Koh, *supra* note 5, at 91–93 (describing perfect legal substitutability as the "long-dominant view" and pointing out that legal academia rejected opposing conclusions); Koh, *supra* note 13, at 339 (describing the debate as "long ago settled").

[22] For a general overview of the treatment of the executive agreement by the Supreme Court and numerous further references, *see* Michael P. Van Alstine, *Treaties in the Supreme Court, 1901–1945*, *in* INTERNATIONAL LAW IN THE U.S. SUPREME COURT: CONTINUITY AND CHANGE 191 (David L. Sloss et al. eds., 2011).

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> *The prevailing view is that the Congressional-Executive agreement can be used as an alternative to the treaty method in every instance. Which procedure should be used is a political judgment, made in the first instance by the president, subject to the possibility that the Senate might refuse to consider a joint resolution of Congress to approve an agreement, insisting that the president submit the agreement as a treaty.*[23]

While it should be noted that the approved draft of the Restatement (Fourth) is conspicuously silent on the matter of interchangeability, so far there is no indication that this silence can provide new wind to those arguing against interchangeability.[24]

[23] Restatement (Third) of the Foreign Relations Law of the United States § 303 cmt. e (1987).

[24] The drafters of Restatement (Fourth) make it a point that they focus on Article II treaties only and leave other international agreements unaddressed, *see* Restatement (Fourth) of the Foreign Relations Law of the United States, § 113, reporters' note 8 (Mar. 20, 2017). So far, there seems to be little indication for a change in the scholarly debate, *see* e.g. Curtis A. Bradley, *Exiting Congressional-Executive Agreements*, DUKE L.J. (forthcoming) (viewing treaties and congressional-executive agreements as largely interchangeable even after the approval of the draft of Restatement (Fourth)).

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B. Differences in Reliability

The view that treaties and executive agreements can be considered perfect legal substitutes naturally raises the question if and why the United States needs two legal instruments that regulate the same types of international relationships. Indeed, scholarly writings have repeatedly left readers with doubt as to why the U.S. should not abolish the treaty in favor of the congressional-executive agreement.[25] In the late 2000's, these doubts transformed into strong normative claims. With an article fittingly titled "Treaties' End", Hathaway characterizes the existence of two conflicting commitment tools as an international anomaly that ultimately undermines the legitimacy and reliability of agreements the U.S. concludes with other nations.[26] According to her analysis, treaties are less reliable commitments

[25] *See* MCCLURE, *supra* note 2, at 363 (reducing the treaties' relevance to a small subset of non-controversial issues); *see also* LOUIS HENKIN, CONSTITUTIONALISM, DEMOCRACY, AND FOREIGN AFFAIRS, 60 (1990) (finding that the executive agreement is the more democratic tool); *see also* Ackerman & Golove, *supra* note 17, at 916 (concluding that the rise of the congressional-executive agreement promotes "[e]fficacy, democracy [and] legitimacy", 916).

[26] Hathaway, *supra* note 1, at 1241. ("[T]reaties have weaker democratic legitimacy, are more cumbersome and politically vulnerable, and create less reliable legal commitments.").

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than executive agreements because the treaty makes it difficult for presidents to credibly tie their hands. In particular, even after ratification, the treaty would offer the president two additional possibilities to renege on his promise, in turn making it difficult for negotiation partners to rely on promises concluded in the form of the treaty.

The first of these two opportunities to renege is rooted in the fact that non-self-executing treaties have to follow a two-step process to become enforcable U.S. law.[27] That is, after ratification, non-self-executing treaties require additional implementation through a legislative act for which a simple majority in both the House and the Senate is required. Compare this to the executive agreement, which is self-executing by default and for which otherwise the implementing legislation can be conducted in the same step as the ratification. It is argued that the treaties' two-step process makes it possible for the president to renege on his promise after ratification, whether intentionally or because the domestic political costs are too high.[28] The second argument is that treaties, unlike congressional agreements, can be more easily withdrawn from by the president unilaterally, whereas the withdrawal from congressional-executive agreements requires congressional

[27] *Id.*, at 1317.

[28] *Id.*, at 1319.

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participation.[29] Again, this would allow presidents to renege on their promise even after a treaty has gone through the Advice and Consent process.

To Hathaway, the consequence of a difference in reliability is that the treaty as the less reliable instrument should be abandoned in favor of the executive agreement.[30] This claim resonated with some scholars of international law[31] and even sparked vivid reactions in public publishing outlets. For example, in 2014, under the title *The End of Treaties?*, the online companion of the *American Journal of International Law* published several essays by prominent international legal scholars and officials in the State department, discussing whether the treaty will have any place in the future of U.S. foreign policy.[32] By today, it might be fair to describe it as the

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[29] *Id.*, at 1336 ("[T]he President is on the whole likely to find it more difficult to withdraw unilaterally from a congressional-executive agreement than an Article II treaty.")

[30] It should be noted that this conclusion is partially at odds with signaling theory. Even under the assumption that treaties are the less reliable commitment device, there may still be value in retaining both instruments in order to be able to distinguish between player types. See the discussion on signaling costs in the next paragraph.

[31] BRADLEY, *supra* note 16, at 86 (agreeing with Hathaway that the different use of treaties and executive agreements does not reflect any discernable logic).

[32] AJIL Unbound 108 (2014), available at https://www.cambridge.org/core/journals/american-journal-of-international-law/ajil-unbound.

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predominant view that treaties have (almost) no relevant function as an international policy tool that could not be similarly fulfilled by the executive agreement.

An opposing view assumes treaties not to be the less reliable, but the more reliable instrument. The argument is based on the assumption that the higher legislative hurdle to conclude a treaty imposes additional political costs on the president that are the consequence of having to assure a two-thirds majority in the Senate. Hence the constitutional requirements would make treaties a more costly commitment device that, in many instances, only those presidents are willing to incur that have the intent to follow through on their promise. Ultimately, the availability of the treaty allows presidents to indicate the seriousness of their commitment, and negotiation partners to distinguish between those presidents that are strongly committed to follow through on their promise (and thus use a treaty), and those who have weaker levels of commitment (and thus are only willing to incur the lower costs of the congressional-executive agreements).[33]

[33] Lisa L. Martin, *The President and International Commitments: Treaties as Signaling Devices*, 35 PRESIDENTIAL STUDIES QUARTERLY 440, 448 (2005) [hereinafter Martin, *The President and International Commitments*] (detailing a signaling model in which the cost of the agreement determines its credibility). For a non-formal representation of this model, *see* LISA L. MARTIN, DEMOCRATIC COMMITMENTS: LEGISLATURES AND INTERNATIONAL

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To embed this line of reasoning in the more established game theoretical vocabulary that some readers might be more familiar with, the argument is that the availability of two signaling devices with differential costs gives rise to separating equilibria in which only the "reliable" players use the treaty, whereas other types rely on the congressional-executive agreements.[34] While not explicitly addressed by Martin, it is worthwhile noting that an implication of this model is that the difference in signaling costs is especially pronounced between treaties and executive agreements that Congress has authorized *ex ante*. As pointed out, *ex ante* authorization is by far the most common form

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COOPERATION, 53 (2000) [hereinafter MARTIN, DEMOCRATIC COMMITMENTS]. For a detailed discussion of the difference in political costs, *see also* John K. Setear, *The President's Rational Choice of a Treaty's Preratification Pathway: Article II, Congressional-Executive Agreement, or Executive Agreement?*, 31 J. LEGAL STUD. S5, S17 (2002).

[34] Here, the term "reliable type" refers to a president that intends to comply with the agreement in the long term, see Martin, *The President and International Commitments*, *supra* note 33, at 448. For a formal introduction to signaling games, see MARTIN J. OSBORNE & ARIEL RUBINSTEIN, A COURSE IN GAME THEORY 237 (1994). For a non-formal overview over strategic actions and signaling in international politics, *see* James D. Morrow, *The Strategic Setting of Choices: Signaling, Commitment, and Negotiation in International Politics*, *in* STRATEGIC CHOICE AND INTERNATIONAL RELATIONS 77 (David A. Lake & Robert Powell eds., 1999).

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of statutory authorization and conditional on statutory authorization having been granted, the political costs of securing additional votes would then be zero.[35]

In addition to supposedly higher signaling value of treaties, some scholars also cast doubt on the importance of the rationale that treaties can be withdrawn from more easily by the president. As Koremenos and Galbraith point out, many agreements in the UN Treaty Collection have escape clauses and withdrawal provisions that would allow a president to legally exit an agreement, regardless of the form in which it has been concluded.[36] As such, it is alleged that the significance of unilateral withdrawal for the reliability of an agreement might be overstated.

A third view advanced by Yoo sees differences between treaties and executive agreements not only in the costs of signaling, but also in the type of information that is signaled.[37] Yoo argues that treaties are a tool to remove

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[35] However, other political costs could of course still be imposed.

[36] BARBARA KOREMENOS, THE CONTINENT OF INTERNATIONAL LAW: EXPLAINING AGREEMENT DESIGN 124 (2016) (finding that 19 percent of agreements have escape clauses and 70 percent have withdrawal provisions, based on a random sample of treaties in the UN Treaty Collection); Galbraith, *supra* note 13, at 1719 –1720 (arguing that withdrawal provisions give successors of the current president an easy way to legally withdraw from a treaty).

[37] John Yoo, *Rational Treaties: Article II, Congressional-Executive Agreements, and*

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information asymmetries regarding a state's utility function.[38] His leading example is a potential military conflict between the U.S. and China over a territory and negotiations surrounding how this territory would be divided up. In Yoo's view, the domestic struggle for approval of a treaty leads negotiators to reveal information on their true beliefs about the probability with which they could win the war. Note that this is different from signaling the U.S. intention to comply with an agreement dividing up the territory. In this latter regard, Yoo agrees with Hathaway that executive agreements are more difficult to terminate than treaties, in turn arguing that the use of the executive agreement constitutes a more durable commitment.[39]

A fourth view that is prevalent in the writings of political scientists makes the oftentimes implicit assumption that treaties and executive agreements are

International Bargaining, 97 CORNELL L. REV. 1, 25 (2011).

[38] *Id.*, at 29 ("[The Advice and Consent procedure] will reveal in public more information about the United States' expected value from the agreement, which will give the other party more information on the value of the asset and the probability of victory in the event of a conflict.").

[39] *Id.*, at 4 (arguing that "[congressional-executive agreements] may lead to more stable, longer-term cooperation than [treaties].").

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de facto interchangeable.[40] Also labeled “evasion hypothesis”,[41] this view assumes that the president’s main motivation for choosing one instrument over the other is presidential support in the Senate. If legislation is easy to push through the Senate, the argument goes, presidents will rely on the treaty. If, however, securing a two-thirds majority poses difficult, the president can simply switch to the executive agreement without any significant consequences.

C. Prior Empirical Work

Empirical evidence on whether treaties are more or less reliable than executive agreements is limited and comes to vastly different conclusions. Margolis analyzes all international agreements concluded from 1943 to 1977 and argues that the choice between treaties and executive agreements is

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[40] Terry M. Moe & William G. Howell, *The Presidential Power of Unilateral Action*, 15 THE JOURNAL OF LAW, ECONOMICS, & ORGANIZATION 132, 163 (describing how simply labeling an agreement “executive agreement” rather than “treaty” would allow the president to set foreign policy without having to involve the Senate); *see also* MATTHEW A. CRENSON & BENJAMIN GINSBERG, PRESIDENTIAL POWER: UNCHECKED AND UNBALANCED 321 (2007) (arguing that Franklin D. Roosevelt’s use of the executive agreement was motivated by a desire to circumvent the Senate).

[41] So labeled by MARTIN, DEMOCRATIC COMMITMENTS, *supra* note 33, at 53.

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simply a function of the seat map in the House and Senate.[42] A president who lacks support in the Senate would conclude congressional-executive agreements instead.

Martin conducts an analysis of 4,953 international agreements concluded between 1980 and 1999 and finds that not the seat map, but the value of the underlying relationship governed by the agreement is determinative for the choice of whether a president uses a treaty or an executive agreement.[43] Here, value is proxied using an indicator for whether the agreement is multilateral, the GNP per capita of the contractual partner, as well as the total GNP.[44] Her conclusions find further anecdotal support by Bradley and Morrison, who recount instances in which important agreements such as SALT II and a nuclear reduction agreement with Russia were originally intended as executive agreements but have later been changed to treaties under pressure by the Senate.[45]

A third study by Hathaway analyzes 3,119 agreements concluded

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[42] LAWRENCE MARGOLIS, EXECUTIVE AGREEMENTS AND PRESIDENTIAL POWER IN FOREIGN POLICY 45 (1986).

[43] Martin, *The President and International Commitments*, *supra* note 33, at 456.

[44] For a detailed description of these proxies, *see Id.*, at 454.

[45] Curtis A. Bradley & Trevor W. Morrison, *Historical Gloss and the Separation of Powers*, 126 411, 474 (2012).

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between 1980 and 2000 and argues that the instrument choice is largely the product of historical path-dependence.[46] Under this view, the prevalence of the executive agreement is the result of Congress' desire to reduce trade barriers in the post-WW II era, which necessitated giving the president more flexibility and authority in negotiating trade agreements.[47] This has then lead to the conventional use of the executive agreements in trade (and financial) matters. In other subject areas such as human rights, the debate was highly politicized and Congress had no desire to give up what was perceived as the nation's sovereignty subject to the lower legislative bar set by the executive agreement. It is argued that these and similar historical events lead to the conventional use of executive agreements in some areas, while others remained dominated by treaties.[48] These conventions established patterns that persist today, even though the underlying events that lead to their formation are no longer relevant or applicable.

All these studies follow a similar approach. The researcher analyzes the environment in which an international agreement has been concluded and

[46] Hathaway, *supra* note 1, at 1239–1240. ("Although there are patterns to the current practice of using one type of agreement or another, those patterns have no identifiable rational basis.").

[47] *Id.*, at 1304.

[48] *Id.*, at 1302.

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tries to identify patterns which are predictive of the instrument type that has been used. By uncovering choice patterns, the hope is to understand the motivation that drives the president's choice between executive agreements and treaties. If the choice pattern is reflective of a motivation that assigns different significance to treaties and executive agreements, that is taken as evidence that both instruments differ in their quality. However, note that the focus on choice patterns is a very indirect approach to identifying *de facto* differences in policy instruments that rests on a number of strong assumptions, such as a correct model specification and a causal relationship between identified patterns and hypothesized motives. Without making these assumptions, observed actions can be the result of a great number of different motivations, making it impossible to infer which instrument is more reliable.

This paper takes a more direct approach that does not require equally strong assumptions. At the heart of the inquiry into the political differences between treaties and executive agreements lies the question whether each instrument is associated with different results. It is thus instructive to shift the empirical focus from the analysis of choices to the examination of differences in outcomes. Outcomes of international agreements can be compared on a number of dimensions. One possible measure is the level of compliance with an agreement. However, comparing agreements based on compliance rates has several disadvantages in this context. Not only is "compliance" difficult

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to define. It is also notoriously hard to measure and verify in most contexts. Even if it was possible to accurately measure compliance, it would still leave open the question of how to compare levels of compliance across different agreements in different subject areas.[49]

Motivated by the theoretical work previously discussed, this article instead compares treaties and executive agreements based on their reliability. The reliability of an agreement is measured in the form of its durability. Using durability as a proxy for reliability is justified for three reasons.

First, consider an alternative concept of reliability that one might have in mind, which is the ability for an agreement to withstand shocks in the political or economic environment.[50] It is evident that the probability for shocks to occur increases with time and that agreements which are more resistant to changing circumstances are also those that last longer. Hence, durability is positively correlated even with this alternative concept of reliability. Second, from a purely practical perspective, the duration of a treaty can be measured

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[49] For instance, it is difficult to compare a breach of a tax treaty to compliance with a nuclear weapons reduction treaty. *See* Beth A. Simmons, *Treaty Compliance and Violation*, 13 ANNUAL REVIEW OF POLITICAL SCIENCE 273 (2010) for examples of the fragmented nature of studies on treaty compliance.

[50] George W. Downs & Michael A. Jones, *Reputation, Compliance, and International Law*, 31 J. LEGAL STUD. S95, S104 (2002) (presenting a model built on the notion that reliability is the ability to perform even in light of shocks).

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objectively, whereas the competing concept of reliance would require the investigator to make a number of subjective decisions, such as about the severity of the shock and the extent to which the agreement did or did not withstand the external pressures.[51] Third, even the theoretical debate uses the concepts of reliability and durability interchangeably, suggesting that both concepts are viewed as substitutes.[52]

If executive agreements are more reliable commitments than treaties, e.g. because treaties can easily be withdrawn from by the president, then it should be the case that a promise concluded as an executive agreement is more durable than a promise concluded as a treaty. If, on the other hand, treaties

[51] For one attempt at codifying the propensity for shocks to occur by issue area, as well as for a discussion of the downsides of this approach, *see* Barbara Koremenos, *Contracting Around International Uncertainty*, 99 AMERICAN POLITICAL SCIENCE REVIEW 549, 554 (2005).

[52] Martin, *The President and International Commitments*, *supra* note 33, at 448 ("At times, U.S. allies demand that long-standing executive agreements be transformed into formal treaties, explicitly stating that such changes would signal U.S. long-term commitment."); Yoo, *supra* note 37, at 41 ("[T]his reading of the Constitution removes from the nation's toolchest an instrument that could (…) lead to the most durable international agreements"); Hathaway, *supra* note 1, at 1316 ("[T]he bar in Congress is generally higher for Article II treaties—which might be thought to create a stronger assurance of political durability.").

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are the more reliable instrument because of the high legislative costs that only truly committed negotiators would incur, then the average treaty should outlast the average executive agreement.

II. DATA DESCRIPTION AND METHODOLOGY

A. The Data

The dataset consists of all agreements that have been reported in the *Treaties in Force* (TIF) series that were signed *and* ratified between 1982 and 2012.[53] TIF is the official collection of international agreements in force maintained by the U.S. Department of State. It includes information on the signing date, the parties, the subject area of the agreement as well as on when the agreement went into force. The agreements in TIF appear in the *Kavass' Guide of Treaties in Force* ("The Guide").[54] The Guide is an annual publication accompanying TIF. It was first published in 1982 and contains further information useful for researching treaties, such as the treaty subject

[53] Treaties in Force: A List of Treaties and other International Agreements of the United States (1929-2017).

[54] *See* U.S. DEPARTMENT OF STATE, A GUIDE TO THE UNITED STATES TREATIES IN FORCE (Igor I. Kavass ed., 1982-2016).

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matter, a short description as well as the parties to the agreement. TIF uses an elaborate but partially incoherent system to categorize agreements by subject area.[55] In total, there are 197 different subjects in the dataset, many with single-digit observations. I reduce the dimension of these subject areas into 38 thematically coherent categories. The grouping is detailed in the Appendix.

Of primary relevance to this analysis is the fact that the Guide contains a list of treaties which were indexed in TIF in the year preceding the year of publication, but are not indexed in the publication year's TIF any longer. Based on the Guide, it is thus possible to determine which agreement has been deleted from the TIF publication and in which year the deletion took place. An agreement that was listed in TIF in the previous year but is not listed in the current year is considered to be no longer in force by the U.S. State Department.[56]

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[55] *See*, e.g., U.S. DEPARTMENT OF STATE, A GUIDE TO THE UNITED STATES TREATIES IN FORCE vii (Igor I. Kavass ed., 2016) ("[T]here is very little correlation between the bilateral subject categories and the multilateral subject headings. The *Treaties in Force* does not have either a numerical or a subject list of bilateral and multilateral agreements in force. Neither does it attempt to draw agreements together in other manners of retrieval convenient to researchers.").

[56] This procedure is accurate, safe for some exceptions likely caused by idiosyncracies in the publication process. For instance, the Guide (2011) lists the START I agreement as

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For each agreement, the Guide further reports a "Senate Treaty Document Number". This number is assigned to any treaty submitted to the Senate under the Advice and Consent procedure. Regular executive agreements do not receive a Senate Treaty Document Number. The number can thus be used to identify which agreement in the data base is a treaty and which agreement was concluded as an executive agreement.

At this point, it is important to address a possible limitation of this dataset. While the TIF is the most comprehensive collection of international agreements to date, there is no dataset listing without omission all international agreements the United States has concluded in the past.[57] Researchers could try and complement TIF with other treaty collections in hopes to create a more comprehensive list of agreements. However, this is

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having been indexed in TIF (2010) and not indexed in TIF (2011), even though the agreement expired on December 5th 2009 (The corresponding identifier is KAV 3172, see U.S. DEPARTMENT OF STATE, A GUIDE TO THE UNITED STATES TREATIES IN FORCE 870, Igor I. Kavass ed., 2011). This is likely due to the fact that the treaty expired too close to the TIF's 2010 publication deadline. However, it should be noted that all agreements are equally affected by the underlying publication mechanism, which makes it unlikely for these errors to introduce biases in the estimation.

[57] For an overview over possible sources, *see* Marci Hoffman, *United States*, *in* SOURCES OF STATE PRACTICE IN INTERNATIONAL LAW 529 (Ralph F. Gaebler & Alison A. Shea eds., 2d ed.).

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neither advisable nor practical for several reasons.

First, and most importantly, the only known bias in TIF is the omission of secret agreements which, if publicized, could threaten national security.[58] However, since these secret agreements are not publicly known by definition, it is likely that they are also missing in other databases. Second, the agreements in TIF all follow one comprehensible selection process: They are agreements submitted to Congress pursuant to the Case Act and are considered to be in force by the State Department. Combining these agreements with other databases introduces the possibility for unknown selection biases, threatening the interpretability of any findings. Third, TIF uses its own index system, such that agreements in TIF cannot easily be compared to those from other sources. And fourth, previous attempts to combine datasets have resulted not in more, but substantially fever agreements than contained in the dataset used here.[59] For these reasons, it is suggested here that a single dataset based on TIF is preferable to a

[58] The Case Act provides that these agreements only need to be transmitted "to the Committee on Foreign Relations of the Senate and the Committee on International Relations of the House of Representatives under an appropriate injunction of secrecy to be removed only upon due notice from the President", 1 U.S.C. 112b(a) (1979).

[59] Hathaway combines multiple sources, leading to a total number of 3,119 agreements in the period of 1980-2000, *see* Hathaway, *supra* note 1, at 1258-1260. In contrast, the dataset used here contains 6,148 agreements in the same period.

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combination of different sources. While being conscious that any results cannot be extrapolated to secret agreements without making further assumptions, there are no known biases introduced by cabining the data in this way.

The dataset on international agreements was further complemented with publicly available information on the president under which an agreement was signed, Senate compositions by party, as well as "legislative potential for policy change" (LPPC) scores for the Senate as used in Martin.[60] LPPC scores reflect how difficult it is for a president to push legislation through. A higher LPPC score indicates lower political costs to implement legislation. The LPPC score is constructed according to the formula:

$$LPPC = Seats_{President} * Unity_{President} - Seats_{Opposition} * Unity_{Opposition}$$

Here, *Unity* refers to voting unity scores published by *Congressional Quarterly*.[61] Higher unity scores indicate more uniform voting patterns.

Overall, the dataset contains 7,966 agreements. In longitudinal form, each

[60] Martin, *The President and International Commitments*, *supra* note 33, at 454 (describing LPPC scores, 454).

[61] Congressional Quarterly, *Congressional Quarterly Weekly Report* (Congressional Quarterly inc. 1982–2012).

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agreement is observed once per year while it is in force and once when it goes out of force, leading to a total of 129,518 per-year-per-agreement observations.

B. Methodology

With each observation in the dataset being an agreement-year, it is now of interest how the durability between different types of agreements vary, holding other characteristics constant. Differences in durability, or survival times, can be estimated using survival time analysis. In the social sciences, these methods are also referred to as event history studies.[62] It is helpful to define a few key terms in order to prevent confusion. Survival time analysis is primarily used in the medical sciences and as such, the terminology is characterized by terms encountered most often in clinical trials. A ”subject” is a unit of observation, here an agreement. An ”event”, ”death” or ”failure” are synonyms for the occurrence of the incident of interest, here the going-out-of-force of an agreement. The ”survival time” is the time period between the start of the observation and the occurrence of the incident, here the period

[62] JANET M. BOX-STEFFENSMEIER & BRADFORD S. JONES, EVENT HISTORY MODELING: A GUIDE FOR SOCIAL SCIENTISTS 2 (2004) (describing the different terminology that survival models are referred to).

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in which an agreement is in force. Agreements that are mentioned in the last period of observation are considered ”right-censored”, i.e. with a survival time that has a known lower bound and an unknown upper bound.[63] Finally, a ”hazard rate” is the probability for an event to occur.

Survival time analysis offers different models to estimate the longevity of an observed subject, each with their individual advantages and disadvantages. The model choice is primarily governed by whether the survival times of the analyzed subjects are continuous or discrete and how they are observed.

To begin the discussion, note that international agreements can go out of force at any point in time and that survival times are thus continuous in nature. However, as described above, survival times are measured only once per year through the publication of TIF. Hence the data can best be described as continuous data that is grouped by year. For truly continuous data in which an event can happen at any point in time, the Cox proportional hazard model[64] has established itself as the preferred choice by researchers, as it is a semi-parametric model that only relies on few assumptions.[65] The Cox model is of

[63] The agreement is in force at least until 2014, possibly longer.

[64] David R. Cox, *Regression Models and Life Tables*, 34 JOURNAL OF THE ROYAL STATISTICAL SOCIETY 187 (1972).

[65] In general, *see* Danyu Y. Lin et al., *Checking the Cox Model with Cumulative Sums*

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the form

$$h_i(t|x_i) = h_0(t)e^{x_i'\beta}$$

where i is the individual agreement, t is a period in time, x denotes a set of covariates and h denotes the hazard rate, i.e. the probability for an event to occur. The popularity of this model stems from the fact that it can be estimated without making any parametric assumptions about the baseline hazard rate, $h_0(t)$. However, the Cox model assumes that there are no ties in

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of Martingale-Based Residuals, 80 BIOMETRIKA 557, 557 (1993) ("The proportional hazards model with the partial likelihood principle has become exceedingly popular for the analysis of failure time observations.") (citations omitted); *see also* Lu Tian et al., *On the Cox Model with Time-Varying Regression Coefficients*, 100 JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION 172, 172 (2005) ("The most popular semiparametric regression model for analyzing survival data is the proportional hazards (PH) model.") (citation omitted). For examples in international law, *see* Zachary Elkins et al., *Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960-2000*, 60 INT'L ORG. 811, 828 (2006) (estimating adoption times for bilateral investment treaties using a Cox model); Beth A. Simmons, *International Law and State Behavior: Commitment and Compliance in International Monetary Affairs*, 94 AMERICAN POLITICAL SCIENCE REVIEW 819, 823 (2000) (relying on the Cox model to estimate time until states accept commitments under IMF Articles of Agreement Article VIII).

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the data, meaning that no two observations have the exact same survival time. This is due to the fact that ties cannot occur if survival times are measured on a truly continuous scale. Researchers have developed several techniques to deal with ties. The most precise approach is the ”exact method” developed by Kalbfleisch and Prentice.[66] Intuitively, if two subjects i and k survive exactly n periods, the exact method considers the alternative that i survived longer than k and the alternative that k survived longer than i and opts for the one that maximizes the associated likelihood function. However, in datasets with many subjects, periods and ties, the exact method is not feasible as it is computationally very intensive. The ”Efron method”[67] provides an approximation to the exact method that does not suffer from comparable resource constraints but is less precise.

An alternative to the Cox model is a parametric survival model. Among the parametric models, the complementary log-log discrete model is the uniquely appropriate model for grouped continuous data.[68] It is of the form

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[66] John D. Kalbfleisch & Ross L. Prentice, *Marginal Likelihoods Based on Cox's Regression and Life Model*, 60 BIOMETRIKA 267 (1973).

[67] Bradley Efron, *The Efficiency of Cox's Likelihood Function for Censored Data*, 72 JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION 557 (1977).

[68] JOHN D. KALBFLEISCH & ROSS L. PRENTICE, THE STATISTICAL ANALYSIS OF FAILURE TIME DATA 47 (2d ed. 2002). The statement refers to the continuous-time proportional-hazards model, where observations have been grouped by time. McCullagh shows that this

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$$h_i(t|x_i) = 1 - \left(1 - h_0(t_i)\right)^{e^{x_i'\beta}}$$

or, if linearized,

$$\log\left(-\log\left(1 - h(t)\right)\right) = \alpha_j + x_i'\beta$$

where j denotes grouped time intervals. Note that

$$a_j = \log\left(-\log\left(1 - h_0\left(t_j\right)\right)\right)$$

is an interval-specific complementary log-log transformation of the baseline hazard rate, h0(tj). This means that the baseline hazard rate is allowed to vary with each interval, thus imposing only mild parametric assumptions.

Whether to prefer the Cox model in combination with an Efron approximation over the complementary log-log discrete model cannot be answered in a general way. Simulations show that even with heavily tied

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model is identical to the complementary log-log discrete model, *see* Peter McCullagh, *Regression Models for Ordinal Data*, 42 JOURNAL OF THE ROYAL STATISTICAL SOCIETY. SERIES B (METHODOLOGICAL) 109 (1980).

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datasets, the Efron approximation often achieves very accurate results.[69] As a rule of thumb, Chalita et al. propose to compute the quantity

$$pt = \frac{nf - r}{n}$$

where nf is the number of events (here, agreements that went out of force), r is the number of unique survival times and n is the number of agreements.[70] For $0 \leq pt < 0.2$, Chalita et al. suggest a continuous model with likelihood approximation; for $0.2 \leq pt \leq 0.25$, both discrete and continuous models can be used; for $pt > 0.25$, a discrete model is preferred. Here, $pt = 0.19$, which is why a Cox proportional hazard model with Efron approximation is used in the primary model specifications. The complementary log-log model serves as a robustness check.

Both the Cox and the complementary log-log model rely on the

[69] *See* Irva Hertz-Picciotto & Beverly Rockhill, *Validity and Efficiency of Approximation Methods for Tied Survival Times in Cox Regression*, 53 BIOMETRICS 1151 (1997); Liciana V.A.S. Chalita et al., *Likelihood Approximations and Discrete Models for Tied Survival Data*, 31 COMMUNICATIONS IN STATISTICS-THEORY AND METHODS 1215 (2002); Jadwiga Borucka, *Methods of Handling Tied Events in the Cox Proportional Hazard Model*, 2 STUDIA OECONOMICA POSNANIENSIA 91 (2014).

[70] Chalita et al., *supra* note 69, at 1220.

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assumption that the hazard is proportional to the baseline hazard ratio. This assumption can be tested using the Grambsch and Therneau method,[71] which plots the Schoenfeld residuals against the rank of the time intervals. If the proportionality assumption holds, then there should be no systematic pattern. In a formal test of non-proportionality, 31 of 264 (or 11%) covariates yield significant p-values implying a violation of non-proportionality. Reassuringly, the covariates of interest are not among them. However, even for the remaining covariates, the disproportionality is of little concern for two reasons.

First, note that the Grambsch and Therneau test was developed in the medical context where sample sizes are typically smaller than 100, making the test insensitive to minor disproportionalities. For sample sizes as large as in this study, small confidence intervals lead to significant p-values even if the data reveals negligible disproportionalities. In addition to the formal tests, visual examination of the Schoenfeld residuals is thus recommended.[72] Such

[71] Patricia M. Grambsch & Terry M. Therneau, *Proportional Hazards Tests and Diagnostics Based on Weighted Residuals*, 81 BIOMETRIKA 515 (1994).

[72] Eric Vittinghoff et al., *Survival Analysis*, *in* REGRESSION METHODS IN BIOSTATISTICS 203, 237 (Statistics for Biology and Health, 2012) ("The Schoenfeld test is widely used and gives two easily interpretable numbers that quantify the violation of the proportional hazards assumption. However, (...) in large samples they may find statistically significant evidence of model violations which do not meaningfully change the conclusions.").

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a visual examination yields no significant violations of the proportional hazards assumption for any of the subject matter covariates, and a violation only for a handful of countries, typically those with whom the U.S. has only few agreements, such as Burma, Ecuador or New Caledonia. The corresponding graphs are included in the Appendix.

Second, note that the concern for a violation of the proportional hazard assumption stems from the medical sciences, where it is of great importance whether a drug has an inverse or possibly a reverse effect on a subset of patients. However, in the social sciences, researchers are typically interested in average covariate effects across the entire sample. As Allison highlights, even in cases where the proportionality assumption is violated, estimates can still be interpreted as average covariate effects.[73] Violations of the proportionality assumption thus do not present a threat to the interpretability

[73] PAUL D. ALLISON, SURVIVAL ANALYSIS USING SAS: A PRACTICAL GUIDE 173 (2d ed. 2010) (pointing out that interactions with time are commonly suppressed and that the estimates are nonetheless meaningful averages); *see also* PAUL ALLISON, EVENT HISTORY AND SURVIVAL ANALYSIS 42 (2d ed. 2014) ("Even when the proportional hazards assumption is violated, it is often a satisfactory approximation. Those who are concerned about misspecification would often do better to focus on the possibilities of omitted explanatory variables, measurement error in the explanatory variables, and informative censoring.").

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of the coefficients for most social scientific studies such as the present one.[74]

C. Summary Statistics

Table 1 reports summary statistics. As can be seen, 5% of all agreements between 1982 and 2012 were concluded in the form of a treaty, making the use of the treaty an exception. 20% of the agreements went out of force. The average agreement was observed to be in force for 15.26 years. Among the agreements that are no longer in force, the average durability is 7.3 years. LPPC scores range from -17 to 17 with an average of -0.13. On average, 50% of the seats in the Senate were held by the president's party at the time the agreement was signed. For 71% of agreements, the Government was divided, with the White House being held by one party and either the Senate, the House or both being held by the other. Together, these numbers indicate that the average agreement could not have been passed in the form of a treaty absent a bipartisan effort, making the treaty a potentially costly instrument. 6% of agreements are multilateral while 1% is concluded with an

[74] Indeed, such a scenario is comparable to the process of fitting a linear regression model to non-linear data. The reason why the OLS regression is so popular in many social scientific applications is that the obtained coefficients can still reasonability be interpreted as average covariate effects, even though the data generating process is non-linear. That is why the linearity assumption is hardly ever validated.

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international organization.

Table 1: Summary Statistics

	Mean	SD	Min	Max	Median	IQR
In Force Year	1996	8.59	1982	2012	1995	15
Treaty	0.05	0.22	0	1	0	0
Event	0.20	0.40	0	1	0	0
Out of Force Year*	1998	7.63	1983	2012	2000	11
Durability	15.26	9.03	0	32	15	16
Durability*	7.30	5.68	0	30	6	8
LPPC	-0.13	9.46	-17	17	0	17
Share Senate	0.50	0.04	0	1	0.50	0
Divided Government	0.71	0.45	0	1	1	1
Multilateral	0.06	0.24	0	1	0	0
Intl Organization	0.01	0.12	0	1	0	0

Summary Statistics for the variables used in this dataset. An asterisk indicates that the statistics only include agreements that have gone out of force in the period of observation.

Figures 1 and 2 depict histograms indicating the number of executive agreements and treaties split by year and by the signing president. What can be seen is that the total number of agreements peaked in 1985 and declined since then. The relative share of treaties among all agreements was greatest in 2010, with 28% of agreements being concluded in the form of a treaty. However, most of these treaties were signed prior to the Obama presidency.

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Indeed, president Obama has concluded fewer agreements as treaties than any other president during the period of observation, a finding that has previously been observed by other scholars.[75] Meanwhile, agreements signed under president Clinton include the highest share of treaties with 7.6%. Together, this implies that the use of the treaty varies with the president, though executive agreements are by far the more prevalent instrument throughout.

[75] Jeffrey S. Peake, *Executive Agreements as a Foreign Policy Tool During the Bush and Obama Administrations*, UNPUBLISHED MANUSCRIPT 2 (Apr 16, 2015), *available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2594414*.

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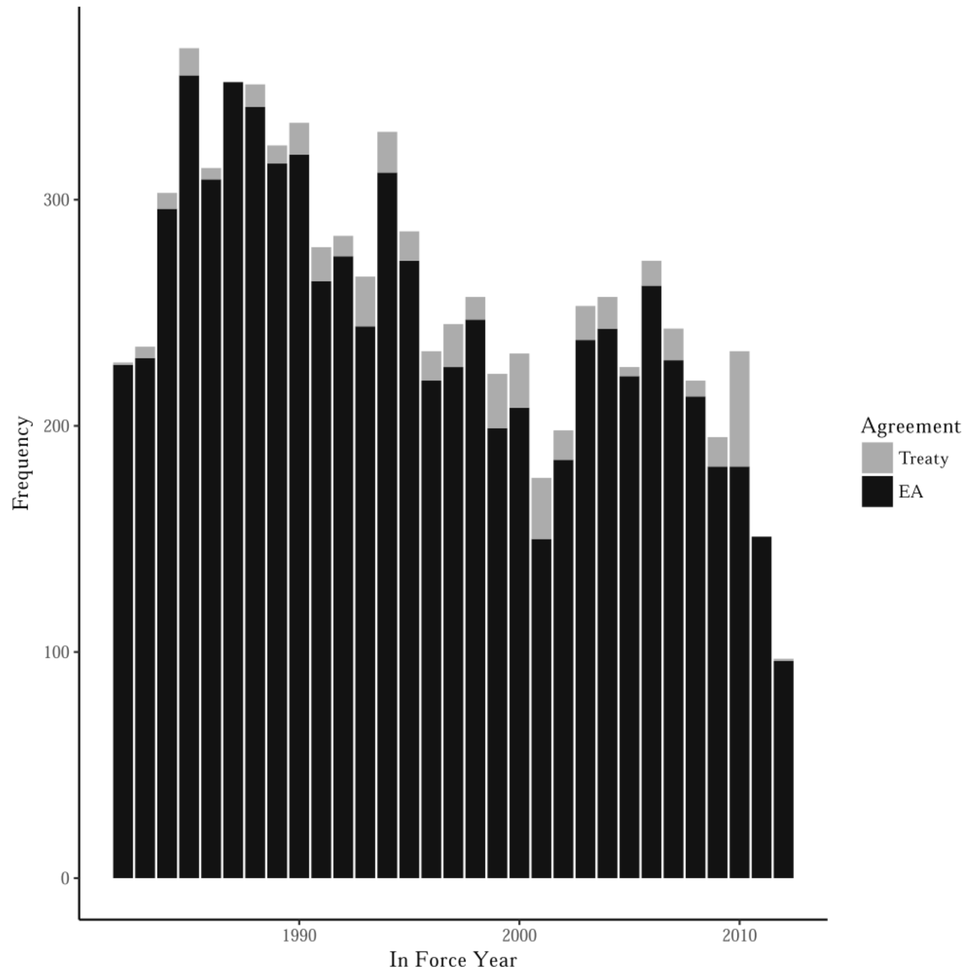
Figure 1: Agreement Types over Time



This graph depicts the use of executive agreements and treaties over time.

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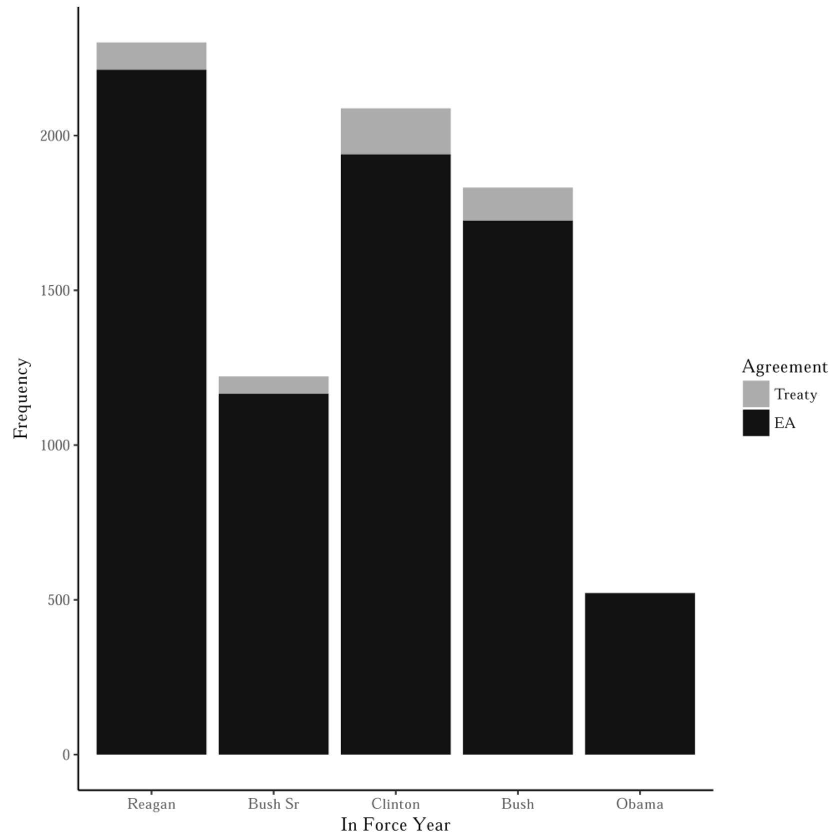
Figure 2: Agreement Types by President



This graph depicts the use of executive agreements and treaties by the different presidents.

Table 2 depicts a list of selected subject areas and the prevalence of treaties and executive agreements in them. The only subject area in which treaties are more prevalent than executive agreements is extradition, where 94% of agreements are concluded as treaties. A likely explanation for this phenomenon is the legal uncertainty surrounding the use of executive agreements to surrender individuals to foreign nations. Whether an individual can be extradited pursuant to a congressional-executive agreement was

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specifically considered in *Ntakirutimana v. Reno*,[76] a decision by the 5th Circuit from 1999. Elizaphan Ntakirutimana was to be extradited to be tried before the International Criminal Tribunal for Rwanda pursuant to an executive agreement between the U.S. and the tribunal. The majority opinion held that the extradition pursuant to an executive agreement is constitutional, relying heavily on *Valentine v. U.S*.[77] *Valentine*, a case from 1936, is the most recent Supreme Court decision that arguably could be construed to speak to the question of the constitutionality of congressional authorizations of extraditions. Here, the Supreme Court held that extraditions need to be authorized "by act of Congress or by the terms of a treaty."[78] While today's reading of the ruling might suggest that this is an explicit authorization of congressional-executive agreement, Judge DeMoss, in a minority opinion of *Ntakirutimana*, notes that the court in *Valentine* dealt with a scenario of extradition under a treaty. The mentioning of Congressional authorization may thus have been "pure dicta".[79]

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[76] Ntakirutimana v. Reno, 184 F.3d 419, 437 (5th Cir. 1999).

[77] Valentine v. U.S. ex rel. Neidecker, 299 U.S. 5 (1936).

[78] *Id.*, at 9.

[79] Ntakirutimana v. Reno, 184 F.3d 419, 437 (5th Cir. 1999) (DeMoss, J., dissenting) ("*Valentine* was a case that did involve a treaty-its stray reference to 'legislative provision' is pure dicta, and certainly not a plain holding that extradition may be accomplished by the President simply on the basis of congressional approval.").

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Like the 5th Circuit in *Ntakirutimana*, academics are split on the question of whether extraditions can be authorized by executive agreement, with some emphasizing a lack of congressional authorization[80] while others interpreting *Valentine* as an explicit authorization by the Supreme Court.[81] In an environment of such legal uncertainty, it might be reasonable for the president to rely on the treaty to guarantee the enforceability of the agreement.

Other areas in which treaties are very prevalent encompass 'judicial assistance', which includes agreements to prosecute cross-border crime such as drug trafficking or money laundering, but also stolen passports; 'taxation',

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[80] Yoo, *supra* note 20, at 812 (arguing that extradition does not clearly fall under one of the enumerated powers conferred to Congress); *see also* Hathaway, *supra* note 1, at 1346-1348.

[81] Alexandropoulos Panayiota, *Enforceability of Executive-Congressional Agreements in Lieu of an Article II Treaty for Purposes of Extradition: Elizaphan Ntakirutimana v. Janet Reno*, 45 VILL. L. REV. 107, 113 (2000) (arguing that the Supreme Court in *Valentine* has clearly determined the legality of an extradition pursuant to an executive agreement); *see also* Louis Klarevas, *The Surrender of Alleged War Criminals to International Tribunals: Examining the Constitutionality of Extradition via Congressional-Executive Agreement*, 8 UCLA J. INT'L L. & FOR. AFF. 77, 107 (2003) (providing further cases to support the interpretation that *Valentine* authorizes extradition based on an executive agreement).

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which primarily includes double taxation and taxation information agreements; and 'property', including agreements on the return of stolen vehicles and the transfer of real estate. Considering only subject areas, it seems difficult to explain the use of the treaty along one coherent dimension. For instance, if we think that treaties are especially prevalent among important agreements, we might expect them to be used frequently in agreements relating to national security and defense. However, only 1% of defense agreements are concluded in the form of a treaty. Meanwhile crime prevention, which is often thought of as having a lower priority than national security, includes a much larger share of treaties.

The data also shows that the narrative that treaty use is the result of historical convention at least leaves many subject areas unexplained. For instance, whereas it was previously argued that path-dependence would have lead to treaties being particularly common in human rights law and absent in trade, Table 2 shows that neither subject area presents a particularly striking outlier that would make an interesting test of the theory. While in the area of human rights, treaties are somewhat prevalent with 17%, treaty use in this area is still the rare exception rather than a norm. Similarly, the use of treaties in economic areas such as trade, commerce and finance is close to the average of 5%, raising questions as to whether the rarity of treaties in these areas really is best explained by historical shocks or whether it is just a reflection

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of a differently motivated aversion to the treaty that affects other subject areas as well.

Table 2: Agreement Use by Subject Area

Subject	# EAs	# Treaties	Mean Treaty
Agriculture	454	1	0.00
Education	64	0	0.00
Postal Matters	239	0	0.00
Defense	1433	9	0.01
Other	138	2	0.01
Labor	131	3	0.02
Finance	500	22	0.04
Trade and Commerce	748	35	0.04
US Boundaries	52	4	0.07
IP	23	2	0.08
Environment	196	20	0.09
Fisheries	83	9	0.10
Human and Fundamental Rights	15	3	0.17
Property	8	5	0.38
Taxation	103	75	0.42
Judicial Assistance	93	80	0.46
Extradition	5	75	0.94

The table depicts the prevalence of treaties and executive agreements for selected subject areas. Statistics for all subjects are included in the appendix.

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Overall, it seems difficult to explain the wide variety of treaty prevalence in the different subject areas using conventional theories. A full list of agreement use by subject area is included in the Appendix.

Table 3: Agreement Use by Partner Country

Country	# EAs	# Treaties	Mean Treaty
Mexico	247	6	0.02
Japan	250	2	0.01
Russia	219	4	0.02
United Kingdom	195	10	0.05
Canada	190	10	0.05
Egypt	188	2	0.01
South Korea	139	2	0.01
Germany	116	7	0.06
Philippines	116	2	0.02
France	106	10	0.09
Australia	102	4	0.04
China, Republic	104	1	0.01
Indonesia	100	2	0.02
Israel	97	3	0.03
Brazil	98	1	0.01
Ukraine	92	4	0.04
Pakistan	95	0	0.00
Peru	92	1	0.01
Italy	82	6	0.07
Jordan	85	2	0.02

The table depicts the prevalence of treaties and executive agreements for the 20 most frequent partner countries in the dataset. Statistics for all countries are included in the appendix.

The agreements in the dataset have been concluded between the U.S. and one or more of 215 countries and 52 international organizations. Table 3 depicts the 20 countries with the most agreements in the dataset. Interestingly, the three most frequent users of treaties are all Western

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European countries, namely France, Italy and Germany. In agreements that are multilateral, 20% are concluded in the form of a treaty, far exceeding the share in any bilateral relationship.

III. RESULTS

Table 4 presents results for the cox proportional hazard model. Model (1) only includes the treaty indicator. Model (2) includes president and subject area fixed effects. Model (3) additionally includes country fixed effects.[82] If the choice between executive agreements and treaties was the result of historical path-dependence without substantive relevance in the present, then the inclusion of these covariates should render the coefficient on $Treaty$ insignificant. Model (4) further controls for the president's share of seats in the Senate, as well as for a divided government. Model (5) does not control for the share of seats, but for LPPC scores, which are arguably a better proxy for the costs of pushing legislation through the Senate. If the instrument use was merely a function of the seat map in the Senate, then the inclusion of either of these covariates should render the coefficient on $Treaty$ insignificant. The standard errors for all models are clustered by agreement.

[82] Due to data sparsity, not all country fixed effects can be accurately estimated, which is why this specification is included separately.

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Table 4: Cox Proportional Hazard Model

	Dependent Variable:				
	Survival Time				
	(1)	(2)	(3)	(4)	(5)
Treaty	−1.324***	−1.313***	−1.164***	−1.176***	−1.180***
	(0.237)	(0.254)	(0.262)	(0.262)	(0.262)
Divided				−0.099	−0.086
				(0.135)	(0.129)
Senate Share				1.423	
				(0.949)	
LPPC					0.008
					(0.004)
President FEs		✓	✓	✓	✓
Subject FEs		✓	✓	✓	✓
Country FEs			✓	✓	✓
Observations	129,518	129,518	129,518	129,518	129,518
Log Likelihood	−12,790	−12,143	−11,905	−11,901	−11,900
Wald Test	31***	23,684***	149,155***	146,607***	146,560***
Note:			*p<0.05; **p<0.01; ***p<0.001		

The results of a cox proportional hazard regression of survival time on a treaty indicator and several covariates. Standard errors are clustered by agreement.

What can be seen is that in each model specification, the coefficient on the treaty indicator is negative and significantly different from 0. Note that coefficients in survival models express changes in the probability for an event to occur. Here, the event is defined as an agreement going out of force. Hence a negative coefficient indicates a decrease in the probability for an agreement

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to go out of force if it is concluded in the form of a treaty. The results imply that treaties last significantly longer than executive agreements and that the difference in durability is neither the result of arbitrary subject-matter conventions, nor a by-product of a decision-making process that is primarily driven by the seat map in the Senate.

Table 5: Complementary Log-Log Model

	Dependent Variable:				
	Event Occurrence				
	(1)	(2)	(3)	(4)	(5)
Treaty	-1.324^{***}	-1.314^{***}	-1.164^{***}	-1.176^{***}	-1.180^{***}
	(0.238)	(0.270)	(0.283)	(0.283)	(0.283)
Divided				−0.099	−0.086
				(0.128)	(0.123)
Senate Share				1.426	
				(0.939)	
LPPC					0.008
					(0.004)
Constant	−20.473	−22.219	-37.915^{*}	−38.682	−37.993
	(26.011)	(18.997)	(25.876)	(19.619)	(32.866)
President FEs		✓	✓	✓	✓
Subject FEs		✓	✓	✓	✓
Country FEs			✓	✓	✓
Interval FEs	✓	✓	✓	✓	✓
Observations	129,518	129,518	129,518	129,518	129,518
Log Likelihood	−7,708	−7,061	−6,822	−6,818.152	−6,818
Akaike Inf. Crit.	15,484	14,269	14,224	14,220	14,219
Note:			$^{*}p<0.05$; $^{**}p<0.01$; $^{***}p<0.001$		

The results of a generalized linear model with a complementary log-log link function regressing survival time on a treaty indicator and several covariates. Standard errors are clustered by agreement.

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Table 5 runs the same model specifications using a complementary loglog model. Again, the results consistently show that agreements concluded as treaties outlast those concluded as executive agreements.

Having found that treaties outlast executive agreements, consider now the plausibility of the mechanism proposed by Martin that differences in signaling costs lead to differences in reliability. The costs of the signal are determined by how difficult it is for the president to secure the required votes in the Senate. Hence in a setting where the senatorial support for the president is low, the treaty should send an especially strong signal of commitment. Meanwhile, if the president has a lot of support in the Senate, the differences in costs between executive agreements and treaties are lower and the use of the treaty sends less of a strong signal, which should lead to smaller differences in agreement durability.

Table 6 analyzes the validity of this mechanism. Model "LPPC Low" includes only agreements that have been concluded when the LPPC scores for the president were less than 0, such that the use of the treaty is especially costly. In contrast, Model "LPPC High" includes only agreements in which LPPC scores are greater than 0 and the use of the treaty is less costly. Consistent with the signaling mechanism suggested by Martin, the difference between treaties and executive agreements is more pronounced when the use of the treaty is costly, where the coefficient on $Treaty$ is -1.315. In contrast,

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when LPPC scores are high, the coefficient is -1.171. However, it is cautioned here that this evidence is merely preliminary. In particular, the costs of obtaining a two-thirds majority were high throughout the period of analysis, with the majority of agreements concluded while the president's party held 45 to 55 seats in the Senate. No agreement could be concluded as a treaty without bipartisan support. Hence, there is only limited variance to test cost differentials convincingly.

Table 6: Cox Regression by Senatorial Support

	Dependent Variable:	
	Survival Time	
	LPPC High	LPPC Low
Treaty	-1.170^{**}	-1.315^{**}
	(0.366)	(0.393)
President FEs	✓	✓
Subject FEs	✓	✓
Country FEs	✓	✓
Observations	59,619	67,972
Log Likelihood	−5,316	−5,400
Wald Test	$70{,}308^{***}$	$124{,}366^{***}$
Note:		*p<0.05; **p<0.01; ***p<0.001

The results of a cox proportional hazard regression of survival time on a treaty indicator and several covariates. Model LPPC High includes only agreements concluded when LPPC scores were greater than 0. LPPC Low includes only agreements concluded when LPPC scores were less than 0. Standard errors clustered by agreement.

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Statistical significance does not imply substantive relevance and with a large number of observations such as in this study, it is important to complement the statistical findings with evidence for substantive significance of the results. Differences in survival times are best illustrated by comparing estimated survival curves or cumulative hazard curves. A survival curve at time t depicts the probability that a subject survives in t, conditional on having survived up until t. The cumulative hazard in time t is the probability that an event occurs in or prior to t.

Figure 3 depicts estimated survival and cumulative hazard curves for the preferred Model (5), one corresponding to a treaty and one corresponding to an executive agreement. Numerical covariates have been centered around their mean. For categorical variables, the most prevalent value is used. The survival curves can thus be thought of as corresponding to a ”typical” agreement.[83] What can be seen is that for the typical agreement, there is a probability of 0.14 to break down at the end of the period of observation, conditional on having held until then. For executive agreements, that probability is 0.4, more than twice as high. Similarly, there is a 0.15 probability that a treaty breaks down within the window of observation, whereas that probability is 0.5 for executive agreements.

[83] The country is Mexico, the president is Reagan and the subject is Defense.

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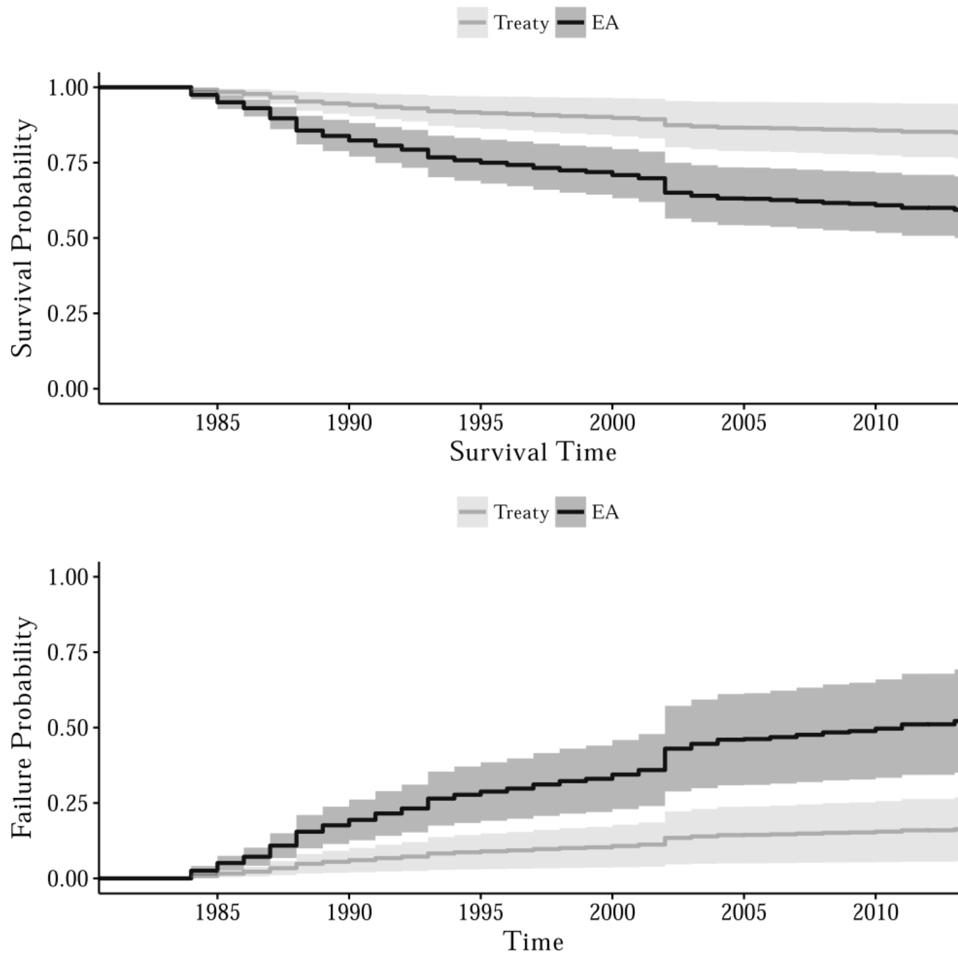
Figure 3: Survival and Hazard Curves by Type



This graph depicts estimated survival curves (top) and estimated hazard curves (bottom) for treaties and executive agreements over the period of observation. Shaded areas are 95% confidence intervals.

Recall that there are two different types of executive agreements, namely congressional executive agreements and sole executive agreements. So far, the analysis has not distinguished between different types of executive agreements, even though it can be argued that the differentiation is essential. After all, the question of substitutability is only raised with regards to

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differences between congressional executive agreements and treaties, while it is generally acknowledged that sole executive agreements are very different policy instruments that fall entirely into the president's power and do not require legislative participation. TIF does not distinguish between sole and congressional executive agreements and indeed, to distinguish between the two would require the searching for authorizing legislation regarding each executive agreement in the Statute at Large, a process that cannot be automated easily.[84] Prior studies have found that the proportion of sole executive agreements is minimal, with an estimated share between 5 and 6% of all agreements.[85] To accommodate that some agreements might be sole

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[84] Hathaway, *supra* note 1, at 1259 ("[S]eparating executive agreements that are congressionally authorized from those that are not requires a painstaking search for authorizing legislation. To determine whether an agreement is a congressional-executive agreement, it is necessary to search the Statutes at Large prior to the date the agreement went into effect for terms related to that subject area. Then it is necessary to read each statute to determine whether it actually authorizes the relevant international agreements.") (footnote omitted).

[85] *See* C.H. McLaughlin, *The Scope of the Treaty Power in the United States II*, 43 MINN. L. REV. 651, 721 (1958) (calculating that 5.9% of agreements between 1983 and 1957 were concluded as sole executive agreements, or "Presidential agreements"); *see also International Agreements: An Analysis of Executive Regulations and Practices* 22 (Senate Committee on Foreign Relations, 95th Congress, 1st Session 1977) (calculating that 5.5% of agreements from 1946-1972 relied exclusively on executive authority).

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executive agreements, this study takes the following approach:

It sorts agreements by their durability and assumes that the x quantile are sole executive agreements, where $x \in [0,0.1]$.[86] It then omits these agreements from the analysis, runs the preferred Model (5) and collects the estimated coefficient on the treaty indicator and its standard error. Note that the assumption that the least durable agreements are sole executive agreements is extremely restrictive. In reality, it is much more likely that some sole executive agreements outlast congressional executive agreements. It can thus be expected that this approach biases the survivability of congressional executive agreements upwards, making it harder to detect a difference between the durability of treaties and executive agreements. If it can be shown that even under these restrictive assumptions, treaties survive executive agreements, this can be regarded as particularly strong evidence for the longer durability of treaties.

Figure 4 reports the estimated coefficients and 95% confidence intervals for all x over the range $[0,0.1]$. What can be seen is that even under the strict assumption that the 10% shortest-lasting executive agreements are sole executive agreements, there still is a substantial difference between treaties and congressional executive agreements that is statistically different from 0.

[86] For instance, $x = 0.05$ assumes that the 5% least durable agreements are sole executive agreements.

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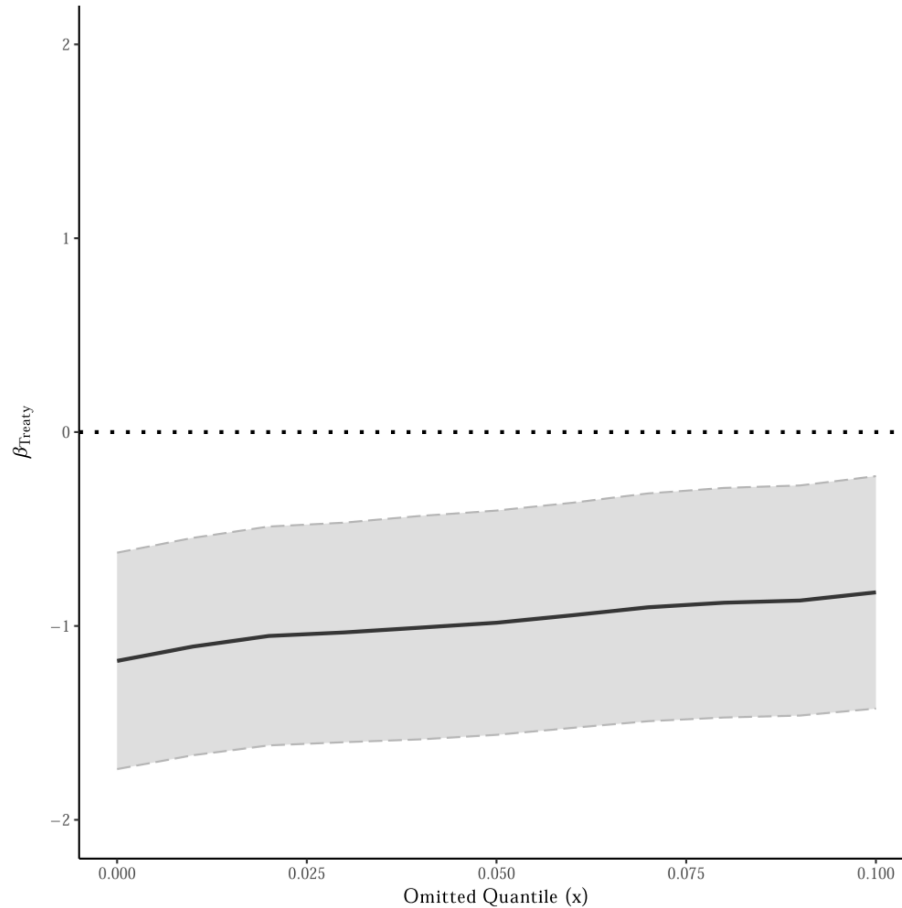
Figure 4: Omitting Sole Executive Agreements



This graph depicts the coefficient on the treaty indicator of Model (5) under the assumption that the x least durable quantile of agreements are sole executive agreements and should thus be omitted from the analysis.

IV. DISCUSSION

This study is motivated by the question of whether the treaty serves a purpose as a modern policy tool. The analysis suggests that it does. There is a statistical and substantive difference between the durability of treaties and executive agreements. Throughout all model specifications, treaties are

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estimated to have substantially longer survival times. This finding holds, even when it is assumed that the 0.1 quantile of the executive agreements with the shortest survival time are sole executive agreements to which interchangeability does not apply. Together, the findings provide strong evidence that treaties outlast executive agreements. While it cannot be ruled out that differences in survival times are also influenced by presidential preferences, the Congressional seat map and historical path-dependence, it was demonstrated that even after controlling for all these characteristics, agreements concluded as treaties last longer than those concluded in the form of an executive agreements. The results imply that the treaty is a more reliable commitment device than an executive agreement. Being able to signal different commitment levels can lead to separating equilibria in which only those with a stronger intent to perform rely on the treaty, whereas others rely on an executive agreement. Abolishing the treaty would lock negotiators out of the possibility to signal the seriousness of their promise, effectively turning separating equilibria into pooling equilibria in which all presidents use the same instrument.

It is worth noting that finding the treaty to serve a different purpose than the executive agreement does not necessarily imply that having two signaling devices is normatively desirable. Indeed, there might be reasons to argue for a reduction of international commitment devices, that, to my knowledge,

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have so far evaded the attention of international legal scholars.[87] These reasons originate from the economic literature on signaling, most importantly Spence's seminal work on signaling in the job market.[88] Spence shows that, under certain conditions, the possibility to signal ones' commitment level can lead to separating equilibria that are pareto-inferior to the pooling equilibria when signaling is impossible. This result is best demonstrated formally, but to nonetheless provide some intuition, compare an Arrow-Debreu[89] world of perfect information to a world with imperfect information with and without signaling devices. In the Arrow-Debreu world, every mutually beneficial contract will be concluded and every unbeneficial contract will not, providing a benchmark for optimality. In a world with imperfect information and without signaling, some international agreements will not be concluded because of uncertainties about the president's level of commitment. In particular, agreements that require a high level of commitment of the

[87] To be sure, this is a known result in the literature on contracts, *see* Philippe Aghion & Benjamin Hermalin, *Legal Restrictions on Private Contracts Can Enhance Efficiency*, 6 J.L. ECON. & ORG. 381 (1990) (discussing how legal restrictions that prevent signaling can increase welfare).

[88] Michael Spence, *Job Market Signaling*, 87 THE QUARTERLY JOURNAL OF ECONOMICS 355 (1973).

[89] Kenneth J. Arrow & Gerard Debreu, *Existence of an Equilibrium for a Competitive Economy*, 22 ECONOMETRICA: JOURNAL OF THE ECONOMETRIC SOCIETY 265 (1954).

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president may be foregone due to concerns that the president may not be dedicated enough. The availability of different signaling instruments reveals information about the president's commitment level, thus moving us closer to the Arrow-Debreu benchmark. At a first glance, it might then be suggested that the separating equilibria achieved under signaling are superior to the pooling equilibria if signaling is not possible. However, note that signaling comes at a cost. In particular, presidents that do not want to be perceived as having a low level of commitment need to incur the higher costs of the treaty instrument.[90] In contrast, if signaling is not possible, there are no signaling costs and presidents are always perceived as having an average level of commitment. It is then possible for the signaling costs to outweigh the benefits achieved from the additional contracts that are concluded under signaling, hence leading to a loss in overall welfare.

Whether the availability of signaling devices has welfare enhancing effects depends to a large extent on the costs of the signal, as well as the distribution of potential agreements. For instance, if most international agreements that the United States could potentially conclude promise to yield very high payoffs, compared to the costs of concluding an agreement as a treaty, then signaling is more likely to yield overall welfare gains. However, if this is not the case, the availability of signaling devices can reduce mutual

[90] Whether these are reputational costs or higher costs of concluding the agreement.

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gains. It would go beyond the scope of this study to formally analyze and discuss these conditions, to predict whether the existence of two parallel signaling devices as an anomaly of the United States should ultimately be preserved and if not, which instrument should be abolished. The remarks on Spence's signaling model are merely intended to highlight a fallacy in the current scholarship that seems to equate the positive question of whether treaties and executive agreements are distinct with the normative question of whether they are desirable.

With regards to the mechanism that is responsible for treaties outlasting executive agreements, Martin suggests that differences in reliability are the consequence of increased political costs imposed by the required two-thirds majority.[91] The evidence is at least consistent with this mechanism, as the difference between executive agreements and treaties is especially pronounced when the president has low senatorial support, making the conclusion of an agreement as a treaty particularly costly. Nonetheless, it is important to note that high political costs are not necessarily the exclusive

[91] Martin, *The President and International Commitments*, *supra* note 33, at 447 ("If the distribution of preferences is similar, then the median voter in the House will be similar to that in the Senate. Satisfying this median voter will be less difficult than satisfying the swing voter when two thirds of the Senate is required, because this swing voter will be more extreme.").

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driver of the results. Indeed, even under the assumption that treaties and executive agreements are associated with identical (or no) costs and produce the same information, repeated interaction can result in outcomes in which only those who intend to comply over the long term rely on the treaty instrument. That is because reputational concerns in repeated interactions can turn what would otherwise be considered as ”cheap talk” into credible commitments.[92] Once a president starts using treaties for agreements intended to last for a long time and preserves the executive agreements for short-term agreements, negotiation partners will form the expectation that this pattern persists in the future. The president then has an incentive to act consistent with these expectations, in order to be able to indicate his level of commitment in future interactions when it matters. In other words, even if it was purely out of convention or by chance that the treaty established itself as the more serious commitment, both promissor and promissee can benefit from the possibility to be able to signal differing levels of commitment, providing incentives to preserve differentiating signaling mechanisms, even if there is no difference in the underlying costs.[93]

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[92] Jeong-Yoo Kim, *Cheap Talk and Reputation in Repeated Pretrial Negotiation*, 27 RAND J. ECON. 787 (1996) (showing that “reputation effects” in infinitely repeated interaction may render cheap talk credible).

[93] *See* ANDREW T. GUZMAN, HOW INTERNATIONAL LAW WORKS: A RATIONAL CHOICE

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In addition to speaking to the narrower question of the treaty's purpose, this study also contributes to a broader strand of literature analyzing choices in the face of different political instruments. For example, scholars have raised questions as to why many appointments of the president follow the Advice and Consent procedure in the Senate if there is the possibility to appoint nominees unilaterally through recess appointments.[94] Similar to much of the political science literature on the treaty, it has been argued that

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THEORY 58 (2008) (arguing that, even if both agreements are costless "cheap talk", states may still suffer reputational sanctions). A simple way to illustrate this dynamic is through the use of promises among children. Children sometimes distinguish between regular promises and "pinky swear" promises. There is no underlying substantive reason to assume that the pinky swear promise is the more serious commitment. However, children that consistently comply with their pinky swear promise and sometimes break their regular promises will establish a reputation that their pinky swear promise is the more serious commitment. They then may have an incentive to preserve this distinction in order to encourage the most trust in instances where the stakes are highest.

[94] Michael A. Carrier, *When Is the Senate in Recess for Purposes of the Recess Appointments Clause?*, 92 MICH. L. REV. 2204 (1994) (discussing the constitutionality of recess appointment practice). Pamela C. Corley, *Avoiding Advice and Consent: Recess Appointments and Presidential Power*, 36 PRESIDENTIAL STUDIES QUARTERLY 670 (2006) (examining the motivation behind recess appointments empirically). For a general survey of the literature on presidential appointment considerations, *see* David E. Lewis, *Presidential Appointments and Personnel*, 14 ANNUAL REVIEW OF POLITICAL SCIENCE 47.

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the choice is a determined by the seat map in the Senate.[95] This study suggests that a different line of inquiry may lead to fruitful discoveries as well. In particular, it may be the case that the president's inclination to appoint by means of Advice and Consent presents a particularly high level of commitment towards the candidate, in turn increasing the appointee's perceived legitimacy and making her more likely to endure political turmoil or criticism.

A similar rationale focused on differences in signaling costs may further help explain the presidential choice between executive orders and statute,[96] as well as motivations for abstaining from amending the meaning of statutory provisions through signing statements.[97] Both executive orders and signing

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[95] Corley, *supra* note 94, at 678 (finding that "presidents are more likely to make a recess appointment if they do not have partisan support in the Senate."); *see also* Carrier, *supra* note 94, at 2206 (arguing that the Recess Appointments Clause is used "as a means of evading the requirement" of confirmation in the Senate).

[96] Kenneth R. Mayer, *Executive Orders and Presidential Power*, 61 THE JOURNAL OF POLITICS 445, 461 (1999) (arguing that executive orders will be used in times of "political weakness").

[97] For an overview over the development of presidential signing statements, especially under George W. Bush, *see* Phillip J. Cooper, *George W. Bush, Edgar Allan Poe, and the Use and Abuse of Presidential Signing Statements*, 35 PRESIDNETIAL STUDIES QUARTERLY 515 (2005).

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statements can be characterized as policy tools the president can use unilaterally at a relatively low cost to circumvent the more costly process of enacting policy preferences through formal legislation. The results of this study may help explain the constraints under which these unilateral tools can be used, as well as their potential disadvantages in the form of low-cost signaling.[98]

CONCLUSION

Relying on survival time analysis, this inquiry revealed that treaties are more durable commitments than executive agreements. There was a 0.15 probability that a typical agreement concluded as a treaty in 1982 broke down by 2012, compared to a 0.5 probability that it broke down when concluded as an executive agreement. In contrast to recent arguments advanced by both legal scholars and political scientists, treaties are neither solely a reflection of the seat map in the Senate, nor is their use merely a result of historical path-dependence. Instead, the results of this study imply that treaties are qualitatively different instruments than executive agreements that, on average, signal a more serious commitment related to the terms of the

[98] For a thorough formal and empirical treatment of unilateral presidential powers, *see* WILLIAM G. HOWELL, POWER WITHOUT PERSUASION (2015).

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underlying agreement. Abolishing the treaty would make it difficult for presidents to signal their intended level of commitment, in turn impacting the kinds of international agreements other states are willing to conclude with the U.S.

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APPENDIX

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Grouping of Subject Areas

Agriculture: Agriculture, Agricultural Commodities, Poplar Commission
Amity: Amity, Friendship, General Relations, Relations
Arms Limitations: Arms Limitations
Aviation: Aviation, Aerospace Disturbanes
Claims: Claims, Arbitration, Occupation Costs
Crime: Crime, Computer Crime, Smuggling, Corruption, Bribery, War Criminals, Prisoner Transfer, Trafficking in Women and Children, Organized Crime
Culture: Culture, UNESCO, World Heritage, Cultural Heritage, Cultural and Educational Relations, Cultural Property, Cultural Relations, Cultural Relations: Inter-American
Defense: Defense, Economic and Military Cooperation, Evacuation, Naval Vessels, Open Skies, NATO, Missions Military
Diplomacy: Diplomacy, Diplomatic Properties, Diplomatic Relations, Consuls, Properties: Diplomatic, Embassy Sites
Economic and Technical Cooperation: Economic and Technical Cooperation, Sewage Disposal System, Lend-Lease, Economic and Technical Cooperation and Development, Relief Supplies and Packages, Economic Assistance, Economic and Technological Cooperation and Development
Education: Education
Energy: Energy, Petroleum, Pipelines, Solar Energy, Fuels and Energy
Environment: Environment, Forestry, Seals, Whaling, Pollution, Climate, Conservation, Desertification, Chemical Safety, Environmental Cooperation, Environmental Modification
Extradition: Extradition
Finance: Finance, Multilateral Funds, Financial Institutions, Finance: World War II Related
Fisheries: Fisheries, Shellfish
Health: Health, Health and Sanitation
Human and Fundamental Rights: Human and Fundamental Rights, Human Rights, Slavery, Torture, Women - Political Rights, Children, Prisoners of War, Racial Discrimination, Red Cross Conventions, Refugees, Rules of Warfare
IP: IP, Intellectual Property, Trademark, Copyrights, Phonograms
Judicial Assistance: Judicial Assistance, Judicial Assistance and Procedure
Labor: Labor, Employment
Maritime Matters: Maritime Matters, Maritime Interdiction, Seabeds, International Maritime Organization
Nuclear Energy: Nuclear Energy, Nuclear Accidents, Atomic Energy
Other: Antarctica, Arctic, Assistance, Automotive Traffic, Cambodia, Canals, Cemeteries, Civil Emergency Planning, Commissary Facilities, Compact of Free Association, Drivers Licenses, Emergency Management, Emergency Preparedness, Fire Protection, Headquarters, Highways, Humanitarian Assistance, Immigration, Interests Sections, Judicial Assistance and Procedure, Judicial Procedure, Judicial Procedure, Hague Conventions, Maintenance, Medical Assistance, Migration, Nationality, Organization of American States, Passports, Privileges and Immunities, Publications, Regional Commission, Sanctions, Social Security, Termination, Tourism, Tracking Stations, Treaty Succession, UN
Peacekeeping: Peacekeeping, Peace Corps, Peace Treaties, Renunciation of

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War
Postal Matters: Postal Matters, Postal Arrangements
Property: Property. Industrial Property, Stolen Property, Property Transfer
Satellites: Satellites, Satellite Communications Systems, Remote Sensing
Scientific Cooperation: Scientific Cooperation, Navigation, Weather Modification, Weather Stations, World Meteorological Association, Mapping, Technical Assistance, Technical Cooperation, Technical Assistance and Cooperation, Technological Cooperation, Technology Transfer, Seismic Observations, Seismological Research, Scientific Assistance and Cooperation, Scientific and Technical Cooperation, Oceanography, Oceanographic Research, Missions: Technical, Meteorology, Meteorological Cooperation, Marine Science, Geodetic Survey, Hydrography
Space: Space, Astronauts, Space Cooperation, Space Research *Taxation:* Taxation
Telecommunication: Telecommunication, Telecommunication - Inter-American Agreements, Telecommunication - International Telecommunication Union
Trade and Commerce: Trade and Commerce, Coffee, Commerce, Containers, Copper, Cotton, Customs, GATT, Grains, Industrial Cooperation, Investment Disputes, Investments, Jute, Law: Private International, Liquor, Rubber, Schedules, Shipping, Sugar, Timber, Trade, Trade and Commerce:
GATT-Related Agreements Trade and Investment, Transportation, Transportation-Foodstuffs, Wheat, Wine
US Boundaries: US Boundaries, Boundaries, Boundary Waters
Visas: Visas
Weapons: Weapons, Chemical Weapons, Chemicals, Nuclear Risk Reduction, Nuclear Test Limitation, Nuclear War
WW II Aftermath: WW II Aftermath, Germany, Holocaust Memorial, International Tracing Service, Reparations

Table 1: Agreement Use by Subject Area

Electronic copy available at: https://ssrn.com/abstract=3133833

Subject	# EAs	# Treaties	Mean Treaty
Agriculture	454	1	0.00
Claims	28	0	0.00
Education	64	0	0.00
Energy	72	0	0.00
Health	45	0	0.00
Peacekeeping	73	0	0.00
Postal Matters	239	0	0.00
Satellites	40	0	0.00
Scientific Cooperation	533	1	0.00
Space	140	0	0.00
Visas	11	0	0.00
Aviation	538	3	0.01
Defense	1433	9	0.01
Econ. and Techn. Cooperation	674	4	0.01
Nuclear Energy	355	4	0.01
Other	138	2	0.01
Culture	63	1	0.02
Labor	131	3	0.02
Weapons	169	4	0.02
Crime	260	12	0.04
Finance	500	22	0.04
Trade and Commerce	748	35	0.04
Maritime Matters	87	5	0.05
Telecommunication	111	7	0.06
US Boundaries	52	4	0.07
IP	23	2	0.08
Environment	196	20	0.09
WW II Aftermath	10	1	0.09
Fisheries	83	9	0.10
Diplomacy	32	4	0.11
Arms Limitations	34	5	0.13
Human and Fundamental Rights	15	3	0.17
Amity	7	3	0.30
Property	8	5	0.38
Taxation	103	75	0.42
Judicial Assistance	93	80	0.46
Extradition	5	75	0.94

The table depicts the prevalence of treaties and executive agreements for all subject areas.

Table 2: Agreement Use by Partner Country

Electronic copy available at: https://ssrn.com/abstract=3133833

Country	# EAs	# Treaties	Mean Treaty
Mexico	247	6	0.02
Japan	250	2	0.01
Russia	219	4	0.02
United Kingdom	195	10	0.05
Canada	190	10	0.05
Egypt	188	2	0.01
South Korea	139	2	0.01
Germany	116	7	0.06
Philippines	116	2	0.02
France	106	10	0.09
Australia	102	4	0.04
China, Republic	104	1	0.01
Indonesia	100	2	0.02
Israel	97	3	0.03
Brazil	98	1	0.01
Ukraine	92	4	0.04
Pakistan	95	0	0.00
Peru	92	1	0.01
Italy	82	6	0.07
Jordan	85	2	0.02
EU	84	2	0.02
Bolivia	83	2	0.02
Hungary	81	4	0.05
Soviet Union	80	4	0.05
Colombia	82	0	0.00
Poland	75	5	0.06
Jamaica	75	2	0.03
Honduras	73	2	0.03
Spain	65	6	0.08
Dominican Republic	70	0	0.00
Romania	63	5	0.07
Argentina	63	3	0.05
Afghanistan	65	0	0.00
India	62	3	0.05
Netherlands	58	6	0.09
Kazakhstan	60	3	0.05
Sri Lanka	57	4	0.07
Panama	56	4	0.07
Turkey	54	2	0.04
Greece	53	2	0.04
El Salvador	54	0	0.00
Ecuador	52	1	0.02
Sweden	46	7	0.13
Norway	50	0	0.00
Chile	49	0	0.00
Finland	44	5	0.10
Morocco	47	2	0.04
Thailand	44	4	0.08
Bangladesh	43	2	0.04
Costa Rica	44	1	0.02
Guatemala	44	1	0.02
Senegal	44	1	0.02
Mongolia	42	2	0.05
Venezuela	42	2	0.05
Singapore	43	0	0.00
Switzerland	41	2	0.05

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Country	# EAs	# Treaties	Mean Treaty
Bulgaria	37	4	0.10
Congo, Republic	40	1	0.02
South Africa	38	3	0.07
Denmark	31	6	0.16
Latvia	31	6	0.16
Liberia	37	0	0.00
Tanzania	35	0	0.00
Uruguay	33	2	0.06
Nicaragua	34	0	0.00
China, Peoples	30	3	0.09
Czech Republic	27	6	0.18
Georgia	32	1	0.03
Haiti	33	0	0.00
Kenya	33	0	0.00
Lithuania	26	7	0.21
Malaysia	31	2	0.06
Mozambique	32	1	0.03
Ghana	32	0	0.00
Portugal	28	3	0.10
Tunisia	27	4	0.13
Czechoslovakia	30	0	0.00
Sierra Leone	30	0	0.00
Belgium	23	6	0.21
Estonia	23	6	0.21
Guyana	29	0	0.00
Vietnam	29	0	0.00
Madagascar	28	0	0.00
Zambia	27	0	0.00
Austria	20	6	0.23
Marshall Islands	26	0	0.00
Ethiopia	25	0	0.00
Micronesia	25	0	0.00
Uganda	25	0	0.00
Bahamas	22	2	0.08
Nigeria	23	1	0.04
Ireland	17	6	0.26
Croatia	21	1	0.05
Iceland	20	2	0.09
Sudan	22	0	0.00
Trinidad and Tobago	19	3	0.14
Yugoslavia	22	0	0.00
Antigua and Barbuda	19	2	0.10
Armenia	20	1	0.05
Belarus	21	0	0.00
United Arab Emirates	21	0	0.00
Yemen	21	0	0.00
Albania	19	1	0.05
Belize	17	3	0.15
Grenada	17	3	0.15
Luxembourg	15	5	0.25
New Zealand	18	2	0.10
Slovenia	17	3	0.15
Uzbekistan	20	0	0.00
Congo	18	1	0.05
Guinea	19	0	0.00
Maldives	19	0	0.00
Mauritius	19	0	0.00
Azerbaijan	17	1	0.06

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Country	# EAs	# Treaties	Mean Treaty
Botswana	18	0	0.00
Cote d Ivoire	18	0	0.00
Cyprus	13	5	0.28
Rwanda	17	1	0.06
Slovak Republic	16	2	0.11
Bahrain	16	1	0.06
Gabon	17	0	0.00
Macedonia	17	0	0.00
Niger	17	0	0.00
Oman	17	0	0.00
Saudi Arabia	17	0	0.00
Cameroon	15	1	0.06
Kyrgyzstan	15	1	0.06
Mali	16	0	0.00
Moldova	15	1	0.06
Nepal	16	0	0.00
Paraguay	15	1	0.06
Cuba	15	0	0.00
Barbados	9	5	0.36
Bosnia Herzegovina	14	0	0.00
Cape Verde	14	0	0.00
Central African Republic	14	0	0.00
Djibouti	14	0	0.00
Saint Kitts and Nevis	12	2	0.14
Cambodia	13	0	0.00
Chad	13	0	0.00
Fiji	13	0	0.00
Malta	10	3	0.23
Saint Vincent and the Grenadines	11	2	0.15
Benin	12	0	0.00
Dominica	10	2	0.17
Algeria	10	1	0.09
Iraq	11	0	0.00
Kuwait	11	0	0.00
Laos	11	0	0.00
Mauritania	11	0	0.00
Saint Lucia	9	2	0.18
Gambia	10	0	0.00
Namibia	10	0	0.00
Papua New Guinea	10	0	0.00
Somalia	10	0	0.00
Zimbabwe	9	1	0.10
Lebanon	9	0	0.00
Suriname	9	0	0.00
Tajikistan	9	0	0.00
Malawi	8	0	0.00
Palau	8	0	0.00
Turkmenistan	8	0	0.00
Burkina Faso	7	0	0.00
Burundi	7	0	0.00
Guinea Bissau	7	0	0.00
Kosovo	7	0	0.00
Montenegro	7	0	0.00
Qatar	7	0	0.00
Seychelles	7	0	0.00
Equatorial Guinea	6	0	0.00
Samoa	6	0	0.00
Sao Tome and Principe	6	0	0.00

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Country	# EAs	# Treaties	Mean Treaty
Timor Leste	6	0	0.00
Togo	6	0	0.00
Tonga	6	0	0.00
Angola	5	0	0.00
Brunei	5	0	0.00
Comoros	5	0	0.00
Eritrea	5	0	0.00
North Korea	5	0	0.00
Lesotho	5	0	0.00
Solomon Islands	5	0	0.00
Swaziland	5	0	0.00
Kiribati	4	0	0.00
Libya	4	0	0.00
Liechtenstein	3	1	0.25
Nauru	4	0	0.00
Serbia	4	0	0.00
Serbia and Montenegro	4	0	0.00
Slovakia	2	2	0.50
Bhutan	3	0	0.00
Cook Islands	3	0	0.00
Iran	3	0	0.00
Tuvalu	3	0	0.00
Turks and Caicos Islands	3	0	0.00
Vanuatu	3	0	0.00
Aruba	2	0	0.00
Burma	2	0	0.00
Monaco	2	0	0.00
United Kingdom Anguilla	2	0	0.00
African Union	1	0	0.00
Andorra	1	0	0.00
Hong Kong	1	0	0.00
East Timor	1	0	0.00
Gibraltar	1	0	0.00
New Caledonia	1	0	0.00
Niue	1	0	0.00
Bermuda	1	0	0.00
British Virgin Islands	1	0	0.00
Guernsey	1	0	0.00
Isle of Man	1	0	0.00
Jersey	1	0	0.00

The table depicts the prevalence of treaties and executive agreements for all partner countries in the dataset.

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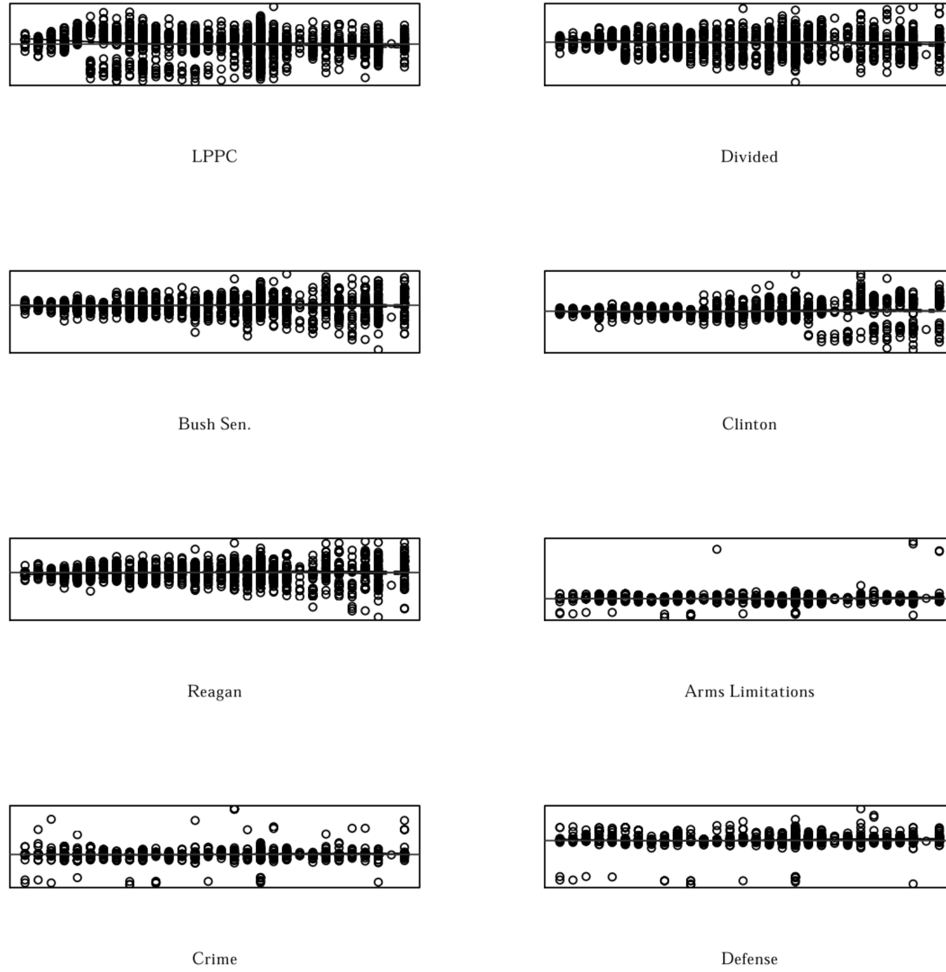
Figure 1: Schoenfeld Residual plots



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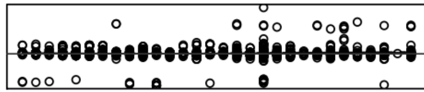

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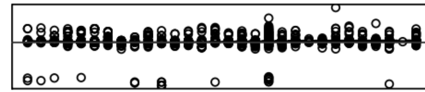

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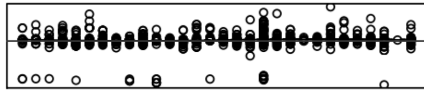

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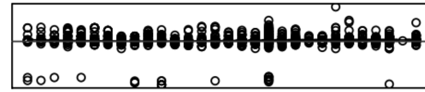

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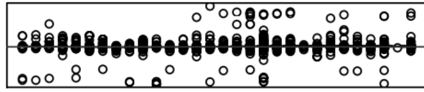

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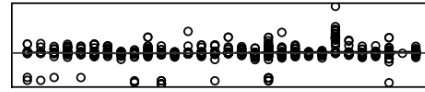

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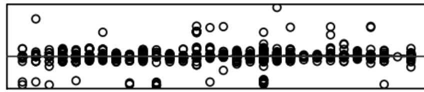

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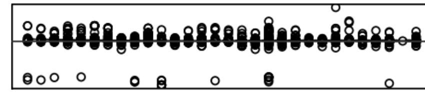

Trade and Commerce

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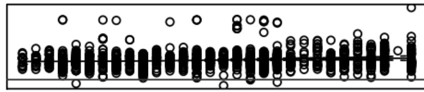

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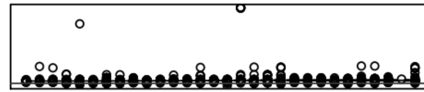

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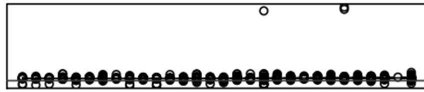

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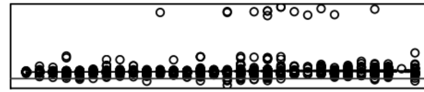

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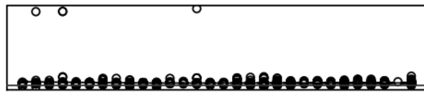
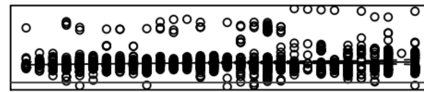


Haiti



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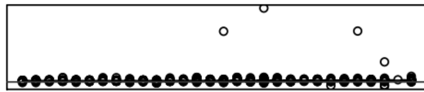

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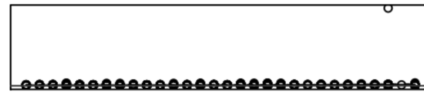

Maldives

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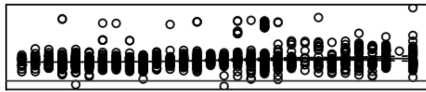
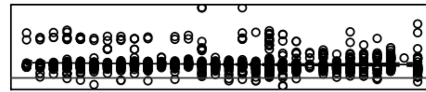
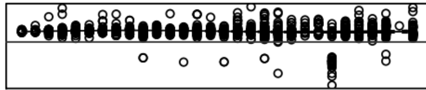


Mauritius



Mexico



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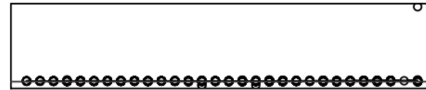

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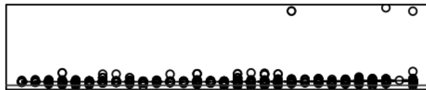
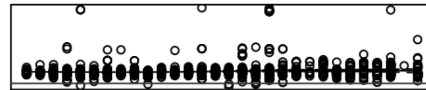


UAE



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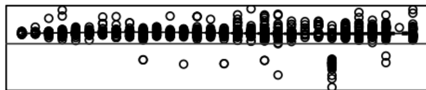

Vanuatu

Schoenfeld residual plots for all covariates that yield significant p-values when testing for non-proportionality.

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