Report

U.S. Security-Related Agreements in Force Since 1955

Introducing a New Database

Jennifer Kavanagh

RAND CORPORATION

For more information on this publication, visit www.rand.org/t/RR736

Library of Congress Cataloging-in-Publication Data is available for this publication.

ISBN: 978-0-8330-8737-9

Published by the RAND Corporation, Santa Monica, Calif.
© Copyright 2014 RAND Corporation

RAND® is a registered trademark.

Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of its research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.html.

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

Support RAND

Make a tax-deductible charitable contribution at

www.rand.org/giving/contribute

www.rand.org

Preface

Treaties and agreements are powerful foreign policy tools that the United States uses to build and solidify relationships with partners and to influence the behavior of other states. As a result, the overall U.S. portfolio of treaties and agreements can offer insight into the distribution and depth of U.S. commitments internationally, including its military commitments and "presence" in a given country or region. However, despite their importance, there is currently no comprehensive record of current or historical security-related treaties signed by the United States that can be used for empirical analysis. To address the shortcomings in existing datasets and indexes to contribute to the study of U.S. security treaties and agreements, we have developed a new, more comprehensive treaty database that will enhance the ability of researchers to study the full portfolio of U.S. security agreements. This report discusses our approach to data collection and coding and also presents a summary of the database's content. Its appendixes define each individual variable used in the analysis.

The database was developed as part of a larger project focused on estimating the economic value of U.S. military presence overseas. In the context of this larger project, the treaty database provided an alternative way to measure "military presence." In addition to using numbers of troops as a measure of presence, we also used numbers of security-related agreements, drawing on the information in the treaty database described in this report. This measure provided us with additional insight into the value and role of U.S. engagement and operations in overseas areas.

This research was co-commissioned by the Office of the Air Force Assistant Vice Chief of Staff, Air Force Quadrennial Defense Review Directorate. The work was conducted within the Strategy and Doctrine Program of RAND Project AIR FORCE as part of a fiscal year 2013 project "Assessing the Value of Overseas Military Presence."

RAND Project AIR FORCE

RAND Project AIR FORCE (PAF), a division of the RAND Corporation, is the U.S. Air Force's federally funded research and development center for studies and analyses. PAF provides the Air Force with independent analyses of policy alternatives affecting the development, employment, combat readiness, and support of current and future air, space, and cyber forces. Research is conducted in four programs: Force Modernization and Employment; Manpower, Personnel, and Training; Resource Management; and Strategy and Doctrine. The research reported here was prepared under contract FA7014-06-C-0001.

Additional information about PAF is available on our website:

http://www.rand.org/paf/

Contents

Preface iii
Figures vii
Tables ix
Summary xi
Acknowledgments xix
Abbreviations xxi

1. Why Study U.S. Security Treaties and Agreements? 1
   Background and Motivation 1
   Existing Treaty Data Sources: Coverage and Shortcomings 5
   Developing a New Treaty Database 7

2. Collection and Coding of Data 9
   Data Collection and Sources 9
   Methodological Issues 10
      Extended Treaties and Agreements 10
      Treaties with Newly Independent States 11
      Treaties with Countries After Official Relations Suspended 13
      Multilateral Agreements 14
   Coding the Treaties 15

3. Basic Descriptive Statistics and Illustrative Use Cases 19
   Regional Distribution of Treaties and Agreements 19
   Exploring Temporal Trends in Agreements 21
   Treaty Types 24
   Treaty Context 32
   Treaty Characteristics 33
   Additional Applications of the Treaty and Agreement Database 35
   Summary 36

4. Conclusion 37
   Limitations 37
   Next Steps 37

Appendix A. Full Codebook of Variables for Database.....41
Appendix B. Partners and Number of Agreements.....49

References.....59

Figures

Figure 3.1 Distribution of Security-Related Treaties (Treaty Pairs), by Combatant Command....20
Figure 3.2 Security-Related Treaties "Entering into Force" (Treaty Pairs), by Year....22
Figure 3.3 Security-Related Treaties in Force (Treaty Pairs), by Year....23
Figure 3.4 Bilateral Security-Related Treaties in Force (Treaty Pairs), by Combatant Command....24
Figure 3.5 Frequency of Security-Related Treaty and Agreement Types (Treaty Pairs), by Primary Subject....25
Figure 3.6 Frequency of Security-Related Treaty and Agreement Types (Treaty Pairs), by Secondary Subject....26
Figure 3.7 Frequency of New Security-Related Bilateral Treaties and Agreements over Time, by Primary Subject....28
Figure 3.8 Frequency of New Security-Related Multilateral Treaty Types over Time (Treaty Pairs), by Primary Subject....29
Figure 3.9 Security-Related Bilateral Treaties in Force, by Primary Subject....31
Figure 3.10 Security-Related Treaties and Agreements (Treaty Pairs), by Treaty Context....33
Figure 3.11 Security-Related Treaties and Agreements (Treaty Pairs), by Treaty Characteristics....35

Tables

Table 3.1 Distribution of Treaty Pairs Representing More Than 5 Percent of the Total, Bilateral Treaties 27
Table 3.2 Distribution of Treaty Pairs Representing More Than 5 Percent of the Total, Multilateral Treaties 27
Table 3.3 Distribution of Treaty Types, by Combatant Command, Bilateral Treaties 30
Table 3.4 Distribution of Treaty Types, by Combatant Command, Multilateral Treaty Pairs 30
Table 3.5 Distribution of Treaty Types, by Combatant Command, Multilateral Treaty Pairs 31
Table B.1 Total Number of Bilateral Security-Related Treaties and Agreements, by Partner Country 49
Table B.2 Total Number of Multilateral Security-Related Treaties and Agreements, by Partner Country 55

Summary

Background and Motivation

Treaties and agreements are powerful foreign policy tools that the United States uses to build and solidify relationships with partners and to influence the behavior of other states (Simmons, 1998; Keohane, 1984; Brierly, 1963; Keohane, 1993; Friedmann, 1964).[1] This is especially true of security-related treaties and agreements, which can include military alliances, joint training agreements, materiel transfers, and access treaties. Security treaties may provide guarantees of protection, deterrence, dissuasion, reassurance during peacetime, the addition of friendly capabilities used for balancing or augmentation during wartime, military training or financial assistance, and specialized intelligence (Morrow, 2000). However, security agreements also come with risks and costs, including constraints on behavior and the chance that the United States will be pulled into conflicts by allies (Morrow, 2000). As a result, understanding the types and numbers of agreements that the United States signs with partner nations becomes a valuable way to study U.S. foreign and defense policy objectives, constraints, commitments, and relationships.

There is some disagreement within the academic community about why states choose to sign and comply with international agreements that constrain their behaviors and activities (Simmons, 1998). Some arguments suggest that states rely on agreements to govern their interactions or to promote and institutionalize normative convergence (Keohane, 1984; Bull, 1977). Others argue that states use treaties to increase regularity and predictability in their interactions in the economic and security spheres, to influence the behavior of other states, or to signal their own commitment to a set of rules or norms (Friedmann, 1964; Keohane, 1993).

There are similar arguments about the purpose of military alliances more specifically. Most basically, alliances serve as formalized signals of commitment and intention from one signatory power to other states as well as to domestic audiences (Morrow, 2000). They may be used to balance or bandwagon with powerful states, to gain protection from powerful states, or to exert influence over the affairs of less powerful states (Morgenthau, 1973; Waltz, 1979; Morrow, 1994). Using a new dataset of military alliances, Leeds (2003a, 2003b) finds evidence that alliances do in fact influence the behavior of signatory states and potential adversaries. As a result, additional investigation into types of treaties and agreements that the United States signs

[1] Throughout this report, we consider only formal treaties and agreements between two or more states that have formal legal standing. We exclude informal agreements and understandings as well as covert and secret agreements.

as well as information on who exactly the United States signs treaties with may provide insight into the types, numbers, and depth of U.S. commitments across countries and regions.

A better understanding of the numbers and types of treaties signed by the United States would be valuable to scholars and policymakers. Such an understanding might offer insight into the most common treaty partners and the types of issues and substantive areas where treaties and agreements are most valuable for the United States and its partners. It might also include an assessment of areas that are not typically addressed by treaties and agreements and an investigation into U.S. foreign policy priorities, commitments, and relationships and how these priorities and relationships have changed over time.

Developing a New Treaty Database

While there are a number of existing data sources focused on treaties and agreements, these data sources all have gaps in their coverage of these agreements and none are well-suited to empirical analysis. To address the shortcomings in existing datasets and indexes and to contribute to the study of U.S. security treaties and agreements, we have developed a new database of security-related treaties and agreements that integrates information from the *Treaties in Force* and the *Kavass's Current Treaty Index,* two of the most comprehensive sources of information on U.S. bilateral and multilateral treaties and agreements, into a single dataset that documents the subject and start and end dates of each agreement, while also capturing other key characteristics.[2] The database includes treaties, memoranda of understanding, conventions, charters, and other types of agreements, as well as associated annexes, protocols, and amendments.[3] Importantly, the database includes only formal, public agreements and treaties and does not include secret agreements or informal understandings between states. Informal agreements and understandings and secret agreements between states are important to bilateral relationships and often affect commitments and capabilities, so their exclusion from the database, while necessary, will also affect any assessment of U.S. commitments and relationships.

The dataset will enhance the ability of researchers to study the full portfolio of U.S. security agreements, including their distribution over time and across regions or partner nations, their subject matter, their duration, and their function or purpose. As noted above, the treaty database will provide insight into the types, numbers, and depth of U.S. commitments across countries and regions as well as insight into the types of partner capabilities that the United States may be able

[2] The database can be found on the enclosed CD or can be accessed at http://www.rand.org/t/RR736.

[3] The United States distinguishes between the terms "treaty" and "agreement." Treaties are part of federal legislation and must go through Senate approval before they enter into force. Conventions, covenants, charters, memoranda of understanding, protocols, and declarations are all types of treaties that typically undergo a ratification process. Agreements, in contrast, are authorized by the Secretary of State and the President and do not have to be ratified by the Senate before they enter into force. In this report, we consider treaties and agreements together because both imply a similar level of state commitment and are usually binding on signatories.

to rely on as a result of its security-related agreements. The dataset will also provide insight into how U.S. security agreements and commitments have changed over time. An analysis of treaty types could be useful to policymakers seeking to understand the assets, facilities, and capabilities that the United States might have access to as well as to identify liabilities that might create risk for U.S. interests. Finally, the dataset may be combined with additional data on the behavior of partner states used in an analysis of whether the United States appears successful in using treaties to reach its desired ends. This type of information would be valuable for policymakers seeking to understand value of security-related agreements.

Data Collection

The dataset includes all treaties and agreements that were in force at any time between 1955 and 2012. This means that it includes treaties signed before 1955, so long as the treaty remained in force through the 1955 cutoff date. The dataset does not include agreements that were signed before 1955 and terminated before 1955.

The foundational source of information for our dataset was the 2012 *Treaties in Force,* which includes all treaties in force in 2012, including those signed before 1955 when the *Treaties in Force* itself was first published. For this database, we are most interested in security-related agreements. We collected agreements across subcategories including mutual defense, defense, weapons, terrorism, patents, pacific dispute settlement, military missions, lend lease, security, mutual security, amity, and prisoners of war. In the first iteration of the database, we took an intentionally inclusive approach to defining what constitutes a security-related agreement—essentially any treaty that mentioned defense, military, or security in the title was included.

In addition to the 2012 *Treaty in Force,* we consulted the *Treaty in Force* publication for other years as necessary to fill in missing information, including treaty termination or lapsed dates. We supplemented our review of the *Treaty in Force* reports with a review of the *Kavass Guide to the United States Treaty in Force* and *Kavass's Current Treaty Index*. With this triangulation of sources and an iterative cross-checking process, we believe that we have been able to construct a nearly comprehensive database of treaties.

Methodological Issues

As we developed the treaty database, we faced some methodological issues that we addressed using a set of clearly defined and consistent coding rules.

- **Extended Treaties and Agreements:** The first challenge was dealing with treaties that terminate but are renewed or extended in the same year, so that there was no real lapse in the actual commitment or agreement. We chose to include these treaties as a single entry in the database, since they do not represent a new or unique commitment.

- **Treaties with Newly Independent States:** In our dataset, no treaty can have a start date before its signatory state's year of independence. If the state chooses to adopt agreements signed by the parent country, then the entry into force date is the year of independence. Similarly, the parent country, if it ceases to exist (as was the case for the Union of Soviet Socialist Republics [U.S.S.R.]), cannot have treaties that continue past its own existence as a nation. Decisions about which treaties are assumed by which successor or newly independent states are, by necessity, country-specific, so we carefully reviewed the historical context for each case.[4]
- **Treaties with Countries After Official Relations Suspended:** We code treaty dates so that the United States cannot have treaties with nations until it has official relations with that country or after it severs official ties with (or ceases to recognize) the partner.
- **Multilateral Agreements:** We include multilateral agreements with 30 or fewer signatories, thus excluding large conventions signed by all or nearly all nations. For the purpose of the dataset, we break each multilateral agreement into a set of bilateral agreements between the United States and each other signatory.

Coding the Treaties

We coded the treaties using their titles and only brief reviews of the actual text where specific questions about the content of the treaty arose. First, we coded basic information about the treaty: the date it entered into force, the year of termination, the partner country, the region and combatant command of the partner country, and whether it was bilateral or multilateral. We also have two "in progress" data fields that we have partially populated. These include the "signed" dates of treaties and agreements (which are often different from their dates of entry into force) and the official U.S. statute and treaty numbers assigned to the treaties or agreements when they are ratified by Congress or entered into a governmental or intergovernmental treaty depository. If future iterations of the dataset are possible, we will continue to populate these fields.

The next set of codes captures additional information about the context in which a treaty or agreement was signed. We have a code for treaties that are under review and, thus, have some ambiguous legal standing. Next, we have a code for "colonies" that identifies treaties signed by the parent country that are inherited by a now independent colonial state. We also include an

[4] The process becomes somewhat more complicated, however, when the status of a treaty remains "under review" after the independence of the new state. Treaties are under review when one or both sides choose to review the status of the agreement before deciding to continue or terminate the commitment. There is significant legal disagreement over whether these treaties are legally binding and enforceable or effectively lapsed until a final determination on their status is made (Miron, 2001). We do list the these treaties in the database, but we note that their status is under review.

indicator that flags all treaties related to the North Atlantic Treaty Organization (NATO). The third set of codes addresses the subject of the treaty or the treaty type. Treaties are given two subjects, from a list of six possible subjects, defined below. In each case, we identify the primary and secondary subject.

- **Operational:** Operational treaties deal with the execution of military operations, including joint exercises, training, deployments, and personnel exchange.
- **Access:** Access treaties deal with access to facilities, infrastructure, bases, or air space in another country either for peacetime or contingency operations.
- **Financial:** Financial treaties deal with grants or other financial assistance (e.g., funds for training or equipment purchases) as well as the settlement of financial or taxation issues.
- **Materiel**: Materiel treaties deal with equipment transfer or sale as well as construction and facilities or maintenance, joint research and development projects, or coproduction agreements.
- **Guarantees:** Guarantee treaties address commitments for future cooperation. This may include alliances or neutrality pacts or commitments to such principles as nonproliferation.
- **Administrative and Legal:** Administrative and legal (admin and legal) treaties focus administrative and legal issues related to the treaty and its implementation.

The final set of codes in the database captures treaty characteristics or attributes of treaties that may be important to their function within the treaty portfolio.

- **Amity:** This characteristic applies to treaties that are broadly focused on promoting cooperation, nonaggression, and peaceful dispute settlement between partner nations.
- **Mutual Defense:** This characteristic applies to treaties with a mutual defense or collective security provision.
- **Training:** This characteristic applies to treaties that address joint training, international military education and training, or U.S.-provided training.
- **SOFA:** This characteristic applies to all Status of Forces Agreements (SOFAs) and treaties that deal with the rights of U.S. military personnel or civilian employees in overseas areas.
- **Troops:** Treaties with this characteristic explicitly involve the deployment or commitment of U.S. troops to overseas locations.
- **Air Force Specific:** This applies to treaties that are directly related to the Air Force.

Basic Descriptive Statistics and Illustrative Use Cases

This initial version of the data includes 5,548 individual entries, once the multilateral agreements are decomposed into bilateral pairs. Of this number, 3,223 are individual bilateral treaties and the rest are bilateral pairs created from multilateral agreements (2,325). The treaties and agreements can be analyzed in any number of ways to address a number of different types of questions.

For example, the regional distribution of treaties and agreements would be important for analysts and researchers studying the geographic spread of U.S. security relationships and commitments, including where the United States is heavily committed and where there may be gaps and vulnerabilities. Treaties with European Command (EUCOM) countries dominate the portfolio of bilateral and multilateral agreements. This is followed by Central Command (CENTCOM) and Southern Command (SOUTHCOM), regions made up of the Middle East/South Asia and Central and South America, respectively. We can also look at specific partners with which the United States is especially likely to sign bilateral or multilateral agreements. The top ten partners when both bilateral and multilateral are considered (each with over 100 agreements, though not necessarily at the same time) include (in order) the United Kingdom, Canada, Germany, France, Italy, The Netherlands, Norway, Japan, Spain, and Belgium.

We can also explore temporal trends in treaty-making behavior, by examining the numbers of treaties entering into force each year and the total number of treaties that are in force in any given year. This analysis shows a sharp increase in the number of new treaties, both bilateral and multilateral, entering into force in 1992, just after the end of the Cold War. This may reflect an increase in treaty formation following the collapse of the U.S.S.R. as well as the transfer of key treaties (and formation of new treaties) from the U.S.S.R. to the independent states that emerged in its wake. Finally, there has been an increase in total commitments over time, both for total bilateral agreements and total multilateral agreements. An analyst can also combine regional and temporal patterns. For bilateral agreements, this analysis shows that agreements with countries in EUCOM have been the most frequent, and the predominance of EUCOM agreements has increased over time. Agreements with countries in CENTCOM have also increased relative to other agreements, as have agreements with countries in Pacific Command (PACOM).

Another way to study the distribution of treaties is to look at the relative frequency of primary treaty types for multilateral and bilateral treaties. For bilateral treaties, materiel is the most common primary treaty type, followed by guarantees, operational, and administrative and legal treaties. For multilateral agreements, guarantees are the most common, followed by materiel, operational, administrative and legal, financial, and access agreements. The different distribution of types across bilateral and multilateral agreements suggests that while bilateral

agreements are likely to deal with such substantive issues as transfers of funds and equipment operational activities, multilateral treaties tend to address guarantees and broader commitments.

Analysts may also study how the nature of U.S. commitments and relationships has evolved over time by looking at trends in treaty type. Focusing on bilateral agreements, materiel treaties experienced a relatively larger increase in the 1950s and 1960s, as well as in the 1980s and early 2000s, than did other types of treaties and agreements. These increases appear to have been driven by increases in U.S. security assistance agreements, first with rebuilding European countries and, later, new and developing countries. Second, new guarantees increased sharply around the end of the Cold War. Finally, the increase in operational treaties has also been significant since the end of the Cold War, a trend likely driven by the expanded global role played by the United States.

The database can also be used to explore how the total number of treaties of each type has changed over time. While the numbers of all treaty types have experienced some increase over time, the increase has been most significant for materiel treaties signed with new and developing countries. The increase in operational treaties has also been significant since the end of the Cold War.

We can also analyze the treaties and agreements in the database by looking at the relative frequency of treaty characteristics. The most common characteristic is that related to the commitment of troops for training, advisory missions, humanitarian missions, and contingency operations. The least common characteristic is "amity," those treaties signed to preserve pacific relations and friendship between signatories.

Finally, in addition to the simpler descriptive analyses described in this report, the country-year transformation of the dataset can also be combined with other country-year datasets for the purpose of running large multivariate regressions. These regressions could be used to link the number and types of agreements between the United States and partner nations with a range of outcomes of interest, including bilateral trade and frequency of conflict.

Limitations and Next Steps

While the treaty database described in this report represents a substantial improvement over other existing datasets on alliances and compendiums of military and other agreements in terms of its comprehensive record of U.S. security commitments over time, there are still a number of limitations and ways that the data could be improved. First, we would like to integrate information from additional treaty indexes to improve the completeness of the data included in the database. Second, we plan to conduct an additional review of treaty texts to refine our coding decisions. Third, we plan to develop more finely grained definitions of certain treaty types and characteristics, such as "operational," "guarantees," and "troops." Finally, we would like to capture other treaty characteristics, including indicator variables that flag agreements that deal

explicitly with U.S. troops in contingency operations; that are specific to the Army, Marine Corps, or Navy; or that constrain rather than increase U.S. international flexibility.

In addition to these areas for further refinement, some broader limitations to the database are also worth considering more carefully. First, the database includes only formal agreements and treaties. However, in some cases, informal arrangements may be as important as more formalized treaties and agreements in their effect on U.S. commitments and actions in overseas areas. Their omission means that the database may understate the numbers of commitments that the United States has with partner nations and also the set of capabilities and assets that the United States has in overseas areas. The database also does not include acts of Congress that may affect commitments overseas but that are not formally treaties or agreements with other nations. Once again, as a result of this omission, the dataset will understate and sometimes misrepresent the extent of U.S. commitments and relationships in overseas areas.

Despite these limitations, however, the database makes a valuable contribution in documenting, categorizing, and summarizing the treaties and agreements that it does include. It takes the large volume of information captured in the *Treaties in Force* and turns it into a usable database that researchers can employ to answer empirical questions. It also begins the work of identifying and summarizing patterns and trends in these data that may inform policymakers.

Acknowledgments

Many people contributed to the development of this database. The author thanks Leila Mahnad, John Fei, Stephen Worman, Adam Grissom, Howard Shatz, Daniel Egel, McKenzie O'Brien, and Neema Iyer who assisted with the development coding framework, the collection and coding of the data, and subsequent analysis and interpretation. The author also thanks Eric Larson and Stacie Pettyjohn for their helpful reviews of the report and the database.

Abbreviations

AFRICOM	Africa Command
CENTCOM	Central Command
DoD	Department of Defense
EUCOM	European Command
NATO	North Atlantic Treaty Organization
NORTHCOM	Northern Command
PACOM	Pacific Command
SOFA	Status of Forces Agreement
SOUTHCOM	Southern Command
TIAS	Treaty and Other International Agreement Series
U.N.	United Nations
USAF	U.S. Air Force
U.S.S.R.	Union of soviet Socialist Republics

1. Why Study U.S. Security Treaties and Agreements?

Background and Motivation

Treaties and agreements are powerful foreign policy tools that the United States uses to build and solidify relationships with partners and to influence the behavior of other states (Simmons, 1998; Keohane, 1984; Brierly, 1963; Keohane, 1993; Friedmann, 1964).[1] This is especially true of security-related treaties and agreements, which can include military alliances, joint training agreements, materiel transfers, and access treaties. Security treaties may provide guarantees of protection, deterrence, dissuasion, reassurance during peacetime, the addition of friendly capabilities used for balancing or augmentation during wartime, military training or financial assistance, and specialized intelligence (Morrow, 2000). Treaties can also be asymmetric, and written in ways that give the United States some influence over the affairs of another state in return for grants, equipment, or protection (Morrow, 1994).

Security agreements also come with risks and costs. From the U.S. perspective, these costs include resources devoted to any alliance or partnership with another state, any constraints on behavior, and the chance that the United States will be pulled into conflicts that it would otherwise avoid by overly aggressive allies (Morrow, 2000). For an agreement to be formalized and signed, therefore, the perceived benefits must outweigh the costs of the relationship (Morrow, 2000; Olson and Zeckhauser, 1966). For this reason, even treaties that contain few important provisions may serve as meaningful signals of commitments and formal relationships between key signatories simply because they are written down and codified (Morrow, 2000). As a result, understanding the types and numbers of agreements that the United States signs with partner nations becomes a valuable way to study U.S. foreign and defense policy objectives, constraints, commitments, and relationships.

There are other ways to explore U.S. military commitments and relationships, of course. As fiscal constraints on the military become increasingly stringent, there is growing attention in policy and defense circles to U.S. military posture, that is, where military forces are located, how many troops are in different locations, and what these forward-deployed forces are able to do when called upon. Pettyjohn and Vick (2013) discuss some of the challenges associated with defining and implementing an appropriate force posture for the U.S. Air Force (USAF), exploring where the USAF currently has bases and access, where it needs bases and access, and which types of security partnerships are most conducive to ensuring peace team access in key locations. They also discuss how much of a forward presence the USAF needs to protect U.S.

[1] Throughout this report, we consider only formal treaties and agreements between two or more states that have formal legal standing. We exclude informal agreements and understandings as well as covert and secret agreements.

security interests and priorities. Their work provides extensive insight into the current posture of the USAF and where gaps and vulnerabilities may exist as well as into the capabilities that the current posture provides to the Air Force and military more broadly. However, what this work does not capture are the other ways that the United States may project power and build relationships and capabilities with partner nations. This complementary perspective can be gained through a more in-depth study of U.S. security treaties and agreements. As noted above, studying the network or portfolio of treaties and agreements that the United States has signed with other states offers information about the extent and nature of U.S. security and military commitments with partner nations, what the United States provides to its partners, what it receives from its partners, where treaties and agreements enhance U.S. power and influence, and where these same treaties and agreements impose constraints.

Despite the apparent importance of treaties and agreements as sources of commitment, partnership, capabilities, and obligations, there is some disagreement within the academic community about how much and how often treaties and agreements actually affect state behavior and about why states choose to sign and comply with international agreements that constrain their behaviors and activities (Simmons, 1998). Starting with the question of why states choose to form agreements in the first place, some arguments suggest that states rely on agreements to govern their interactions in an era of rising interdependence among states (Keohane, 1984). Others argue that states use treaties to increase regularity and predictability in their interactions in the economic, social, and security spheres (Friedmann, 1964). Still other theorists suggest that states are willing to compromise their own sovereignty to secure policy changes or to influence the behavior of other states (Keohane, 1993). A final explanation focuses on normative convergence, both voluntary and coercive, as a key motivation for states that sign and comply with international agreements (Bull, 1977).

There are also many perspectives on the issue of compliance with international agreements, specifically over how often and why it occurs. As a starting point, many scholars suggest that it is difficult to measure when compliance has occurred, given the ambiguity inherent (and often intentional) in these agreements and because compliance is often not a transparent and binary choice (Jacobson and Brown Weiss, 1997). For realists, even those who admit that compliance does occur, international laws and treaties affect state behavior only when their interdictions or provisions overlap with the state's interests (Morgenthau, 1985). Another school of thought argues instead that states are indeed constrained by international law and are willing to comply with it anyway because of the benefits derived from the existence of a rule-based system. Thus, states comply with agreements and accept certain near-term costs because they expect that the long-run costs of noncompliance will be greater (Keohane, 1984; Schachter, 1991). In this conception, international agreements create focal points that define and guide "acceptable" behavior (Garrett and Weingast, 1993). Other scholars suggest that states use international agreements as a tool to combat powerful domestic interest groups. In this context, international

agreements and treaties "tie the hands" of leaders and allow them to pursue a set of policies that is unpopular among certain constituencies but may be beneficial for the nation as a whole (Downs and Rocke, 1995). Of course, these same domestic pressures may also be a reason that states sometimes choose not to comply with agreements. This will be especially true in democracies where electoral pressures and considerations can drive leaders to break or violate international commitments and agreements. However, in general, scholars suggest that democracies are more likely than other regime types to comply with agreements they have signed because they are generally used to respecting the rule of law in their internal affairs and processes and are also willing to do so in their international affairs (Doyle, 1986; Dixon, 1993). This final argument is relevant to the treaty and agreement database described in this report because it suggests that treaties and agreements signed by the United States will indeed affect its behavior, commitments, and capabilities, making the treaties and agreements themselves a useful source of information about U.S. security relationships and partnerships.[2]

Related to the literature on treaty compliance and also relevant to the database of treaties and agreements discussed in this report is the literature focused more specifically on military alliances. This literature is relevant to the treaty database because the database also focuses on security-related agreements, many of which may be similar in form and intent to formal military alliances. Some work suggests that states form alliances and military agreements to achieve a balance or some parity with important adversaries (Morgenthau, 1973; Waltz, 1979). For example, during the Cold War, the United States and Union of Soviet Socialist Republics (U.S.S.R.) each formed many alliances as a sort of balancing behavior. Other arguments suggest that states use military agreements to bandwagon or join forces with the most powerful actor (Morgenthau, 1973; Waltz, 1979). States in East Asia may use alliances with the United States, from this perspective, to bandwagon with the strongest actor in the region against a rising threat from China. These alliances and agreements make sense for the smaller powers that are able to increase their own security, but, at first glance, make less sense for strong states that become burdened with security commitments and guarantees. Addressing this perplexing question is the notion of asymmetric alliances, the argument that while small states use alliances to gain protection, large powerful states also benefit from alliances that allow them to exert influence over the affairs of their less powerful partners (Morrow, 1994). This explanation seems to apply to many of the security agreements signed by the United States. While the partner gains security protection, weapons, or information, the United States sometimes gains influence and the ability to project power to overseas areas. Alliances may also be used and formalized as a signal of commitment and intention from one signatory power to other states as well as to domestic audiences. From this perspective, alliances may allow a leader to "tie his own hands," effectively mandating a certain type of behavior for compliance, even in the face of domestic

[2] The database can be found on the enclosed CD or can be accessed at http://www.rand.org/t/RR736.

opposition (Morrow, 2000). Thus, military agreements and alliances can serve a number of different functions for signatory states. Importantly, analysis of the treaty database may provide insight into the ways in which the United States uses security agreements and treaties most often as well as whether the function of these agreements seems to vary across regions or partners.

A final question addressed in the literature is whether military alliances themselves affect state behavior. The answer to this question is important to the treaty database: Studying treaties and agreements will be most valuable if these agreements do indeed affect state behavior and are likely to influence the behavior of the United States and its partners. Using a new dataset of military alliances, Leeds (2003a) argues that they do indeed affect state behavior, including the decisions of challengers about initiating conflict. She finds that the commitments made in military alliances are upheld 75 percent of the time and that violations are most likely when changing conditions reduce the costs of violations or the interests of the states that signed the alliance in the first place (Leeds, 2003b). While the treaty database includes a broader set of security-related agreements rather than only security alliances, it seems reasonable that these agreements will also affect state behavior, particularly the behavior of states that choose to sign the agreements. As a result, additional investigation and analysis of the numbers and types of treaties and agreements that the United States signs with other countries as well as information on who exactly the United States signs treaties with may be valuable to scholars of international relations and policymakers alike. Specifically, this type of information may provide insight into the types, numbers, and depth of U.S. commitments across countries and regions as well as insight into the types of partner capabilities that the United States may be able to rely on as a result of its security-related agreements.

Security-related treaties and agreements take many different forms and may serve many different functions for the states that choose to sign them, but existing work suggests that they do affect state behavior and that leaders typically sign these agreements intentionally, rather than haphazardly or randomly. For these reasons, a better understanding of the numbers and types of treaties signed by the United States would be valuable to scholars and policymakers. Such an understanding might include insight into the most common treaty partners and the types of issues and substantive areas where treaties and agreements are most valuable for the United States and its partners. It might also include an assessment of areas that are not typically addressed by treaties and agreements and an investigation into how U.S. foreign policy priorities, commitments, and relationships have changed over time. Analysis of the database might also highlight gaps in the existing network of agreements that might make the United States vulnerable to external threats as well as areas where too many treaty commitments might themselves be considered vulnerabilities.

Existing Treaty Data Sources: Coverage and Shortcomings

Despite the seeming importance and insights that can be gleaned from this area of research and analysis, there is currently no comprehensive record of current or historical security-related treaties signed by the United States that can be used for empirical analysis. The *Treaties in Force* publication released by the State Department each year aims to be this complete source of treaty information. It provides an extensive listing of treaties that the United States has signed with each partner nation, categorized by subject areas ranging from trade to technology to weapons, but it contains many inconsistencies—missing treaties, treaties that do not appear in the file until years after they enter into force, and treaties that have uncertain legal status. Interim monthly reports to Congress and supplementary treaty databases address some of these discrepancies and gaps, but they still do not provide a complete picture of U.S. security commitments. Limitations are most significant for the early years of the *Treaty in Force* publication, when coverage was not as comprehensive, and in recent years, where new agreements have often not yet been included. Furthermore, the entries as they appear in the *Treaties in Force* publication and supplementary publications are not amenable to empirical analysis.

Other supplementary treaty indexes have tried to fill some of the gaps left by the *Treaties in Force* publication but have not been able to provide a comprehensive empirical database of security treaties. For example, existing datasets on military alliances developed within the academic community, such as the Correlates of War (Gibler, 2009) and the Alliance Treaty Obligations and Provisions data (Leeds et al., 2002), tend to focus narrowly on formal military alliances and defense pacts, which constitute an important but small percentage of the total number of treaties in existence. *Kavass's Guide to the United States Treaties in Force* is another valuable treaty resource that includes treaties omitted by the *Treaties in Force* and also provides an expanded indexing system to categorize existing treaties, by subject, chronologically and geographically. However, even this index has limitations. It also seems to be missing some agreements that are included in the *Treaties in Force* and is also not structured for empirical analysis. Furthermore, because treaties are listed separately on their "signed" and "entry into force" dates, it is sometimes difficult to tell which entries are new treaties and which are already signed treaties finally entering into force. A final challenge affecting both the *Treaties in Force* and *Kavass's Guide* is that neither provides treaty end dates—instead, treaties simply drop out of the index when they are terminated or lapse. For recent years, *Kavass's Guide* has begun to include a list of terminated treaties, but because this list exists for a limited number of years, the challenges created by unrecorded lapsing treaties remains.

There are also treaty indexes that cover treaties and agreements from a more international perspective. For example, the *World Treaty Index* provides a valuable source of information about Treaties and Agreements signed in the 20th century. It includes agreements signed by all countries and in its current form is searchable by country, date, topic, and several other fields.

However, while it constitutes a valuable source of information, it is limited as a research tool because it is not available in a downloadable dataset that can be used for empirical analysis and also because it is not yet complete: It does not include treaties signed since 2000. This significant shortcoming limits the utility of the database, as scholars will not be able to investigate the commitments and relationships that the United States has established (or broken) since 2000. The implications of this gap are made more significant by the fact that since 9/11, U.S. foreign policy and international behavior has changed significantly. The *WorldLII Treaty Collection* also includes a large number of international treaties and agreements, both bilateral and multilateral, and incorporates the full texts of over 60,000 treaties. Once again, however, while the data are searchable, they do not exist in a form that is amenable to empirical analysis. They are also not comprehensive and do not capture the full set of treaties signed by the United States.

Another valuable treaty resource is the U.S. Treaties and Agreements Library maintained through HeinOnline. Included in this resource are indexes of historical treaties signed by the United States before 1955 (the first year of the *Treaty in Force)*, including *United States Treaties and Other International Agreements (1950–1954); Treaties and Other International Agreements of the United States of America 1776–1949* (Bevans), *Treaties, Conventions, International Acts, Protocols and Agreements 1776–1937* (Malloy)*;* and *Treaties and Other International Acts of the United States of America 1776–1873* (Miller). These predecessors of the *Treaties in Force* publication are good sources of information on historical treaties, including many that are no longer in force. They are similar to the *Treaties in Force* in their gaps and shortcomings and are difficult to use as empirical tools because they include only lists of treaties with dates of signature and entry into force, rather than existing as a downloadable dataset that can be used to study trends and patterns in the types of treaties the United States has signed.

For multilateral United Nations (U.N.) treaties, the *United Nations Treaty Collection Database* is typically a good source of information. It includes the United Nations Treaty Series as well as other multilateral agreements that have been deposited with the Secretary General of the U.N. While this is one good source of multilateral treaties, it does not capture the many bilateral agreements that the United States has signed and is party to. It is also another searchable database and so has limits as a tool for empirical analysis. Finally, the *Avalon Project* maintained by Yale Law School provides a good collection of older treaties and includes the full text of many agreements. However, it does not include an empirical dataset and is not comprehensive, limiting its use as an empirical tool.

There have also have been efforts to compile comprehensive databases of treaties on specific topics. For example, the University of Minnesota has a large collection of important human rights treaties and other international human rights documents and agreements. The International Red Cross maintains a database focused specifically on the Geneva Conventions and Protocols.

The database is valuable as a legal reference on these specific agreements but has limited utility as a source for the study of U.S. treaty commitments and relationships.[3]

Therefore, there are a number of valuable resources for scholars interested in studying treaties and agreements. These resources will be particularly valuable for scholars interested in searching for specific treaties or for agreements on particular topics. However, none of these data sources appears complete and few are appropriately structured to be useful for empirical analyses of the portfolio of treaties and agreements signed by the United States. As a result, there remains a significant demand for a comprehensive security treaty resource that can be mined and analyzed empirically by scholars interested not in specific agreements but in identifying trends and patterns in the full set of existing treaties and agreements.

Developing a New Treaty Database

To address the shortcomings in existing datasets and indexes and to contribute to the study of U.S. security treaties and agreements, we have developed a new database of security-related treaties and agreements that integrates information from the *Treaties in Force* and the *Kavass's Current Treaty Index,* two of the most comprehensive sources of information on U.S. bilateral and multilateral treaties and agreements, into a single dataset that documents the subject and start and end dates of each agreement, while also capturing other key characteristics. The database includes treaties, memoranda of understanding, conventions, charters, and other types of agreements, as well as associated annexes, protocols, and amendments.[4]

The dataset will enhance the ability of researchers to study the full portfolio of U.S. security agreements, including their distribution over time and across regions or partner nations, their subject matter, their duration, and their function or purpose. As noted above, the treaty database presented in this summary will provide insight into the types, numbers, and depth of U.S. commitments across countries and regions as well as insight into the types of partner capabilities that the United States may be able to rely on as a result of its security-related agreements. The dataset will also provide insight into how U.S. security agreements and commitments have evolved over time. For example, the dataset can be used to assess whether the most common U.S. treaty partners or treaty subjects and characteristics have changed over time or to study

[3] For a good list of treaty databases and resources, see New York University Law Library (2014).

[4] The United States distinguishes between the terms "treaty" and "agreement." Treaties are part of federal legislation and must go through Senate approval before they enter into force. Conventions, covenants, charters, memoranda of understanding, protocols, and declarations are all types of treaties that typically undergo a ratification process. Agreements, in contrast, are authorized by the Secretary of State and the President and do not have to be ratified by the Senate before they enter into force. In this report, we consider treaties and agreements together because both imply a similar level of state commitment and are usually binding on signatories. Future iterations of the dataset, if they are possible, may include additional detail that distinguishes between different types of treaties and agreements from a legal perspective.

which regions have the greatest concentration of U.S. security arrangements. An analysis of treaty types could be useful to policymakers seeking to understand the assets, facilities, and capabilities that the United States might have access to as well as to identify liabilities that might create risk for U.S. interests. The dataset may also be used by researchers from academic and policy communities to investigate why the United States signs certain types of treaties, that is, whether treaties seem to respond to specific types of events or to be likely in specific types of security contexts. Finally, the dataset may be used in an analysis of whether the United States appears successful in using treaties to reach its desired ends if combined with additional data on the behavior of partner states, such as willingness to grant U.S. access or overflight rights or similarity in international votes within the U.N. or other intergovernmental body. This type of information would be valuable for policymakers seeking to understand the practical value of security-related treaties and agreements as well as those interested in identifying gaps and vulnerabilities created by the current portfolio of treaties that may be addressed by additional agreements (or other policies) in the future.

We have focused on security-related treaties and agreements rather than other types of treaties included in the *Treaties in Force* because of how we intended to use the data once collected. The database was developed as part of a project intended to measure the effect of U.S. military presence on international and intrastate conflicts as well as the economic value of this military presence. We used two measures of U.S. military presence: numbers of U.S. troops stationed in a given country and the number of U.S. security-related treaties and agreements signed with the country. Certainly, other types of U.S. treaties and agreements also constitute an important part of U.S. foreign policy and U.S. international presence that are likely to affect trade flows and even the likelihood of conflict. However, economic treaties are less appropriate as a measure of U.S. military presence than security-related agreements. For this reason, the dataset focuses on security-related agreements. Constructing a similar dataset for economic treaties and agreements would be a valuable follow-on project and an avenue for future work.

This report summarizes the approach that we used to identify and code treaties included in the database. It provides a definition of each data field as well as a brief discussion of the methodological decisions made during the development of the database. It also offers a general review of the treaties included in the database and a limited treatment of the country-year dataset that can be used in empirical analysis. In doing so, it provides some insight into the ways in which the treaty database may be used for empirical analysis. Finally, it discusses some of the dataset's limitations and possible next steps to expand the database and its utility.

2. Collection and Coding of Data

Data Collection and Sources

The dataset includes all treaties and agreements that were in force at any time between 1955 and 2012. This means that it includes treaties signed before 1955, so long as the treaty remained in force through the 1955 cutoff date. The choice of 1955 as the start date for our analysis was driven by our intended use of the initial version of the data. Specifically, we needed a dataset that would generate counts of the number of agreements between the United States and partner countries for each year from 1955 on. The dataset, therefore, does not include agreements that were signed before 1955 and terminated before 1955.[1]

The foundational and initial source of information for our dataset was the 2012 *Treaties in Force,* which includes all treaties in force in 2012, including those signed before 1955 when the *Treaties in Force* itself was first published. The *Treaties in Force* categorizes treaties by partner country and topic and then includes a section on multilateral treaties, which is also categorized by subject area. For this database, we are most interested in security-related agreements. However, the *Treaties in Force* file does not have a "security" subcategory. Instead, treaties that fall into this issue area are spread across such subcategories as mutual defense, defense, weapons, terrorism, patents, pacific dispute settlement, military missions, lend lease, security, mutual security, amity, and prisoners of war. We also collected security-related financial treaties as well as treaties related to defense patents and defense information sharing. Further complicating our collection, the set of fields included for each country is somewhat different and the set of subcategories also varies by year. In the first iteration of the database, we took an intentionally inclusive approach to defining what constitutes a security-related agreement—essentially any treaty that mentioned defense, military, or security in the title was included in the database. Because we include treaty names in the database, we can easily revisit these decisions

[1] While in most cases this does not exclude a large number of treaties, sometimes the exclusion does have more significant implications. For example, the Treaty of Amity and Commerce signed with Thailand in 1833 lasted in its original form only until 1856. It was then modified several times, taking on a slightly different name and form in each iteration. Our database picks up the treaty only in 1938, as the Treaty of Friendship, Commerce, and Navigation, because this treaty lasted until 1968, crossing into our post-1955 window of visibility. After 1968, it becomes the Treaty of Amity and Economic Relations, which is still in force today. Our dataset clearly captures the fact that a treaty of amity and cooperation currently exists with Thailand, but it can capture the historical evolution of this treaty only so far back in time using our existing data sources. Ideally, we would like to be able to research each treaty sufficiently to uncover these historical connections, but with over 3,000 agreements, we did not have the time or resources in this iteration of the dataset to conduct deep dives on each treaty. Once again, these omissions will affect the picture that the database presents of the portfolio of U.S. commitments and relationships. In this case, certain relationships will be truncated leading researchers to incorrectly identify the oldest U.S. security partners or to understate the length and importance of certain types of relationships. However, the database will still provide an accurate view of the current portfolio of security treaties and agreements.

and create more limited datasets that include only more traditional "defense" agreements if necessary.

In addition to the 2012 *Treaty in Force,* we also collected data from the publication in 1955, 1965, 1975, and 1995 to identify treaties that were in force during our period of interest but which lapsed or were terminated before 2012. We consulted the *Treaty in Force* publication for other years as necessary to fill in missing information, including treaty termination or lapsed dates. We also used key word searches of the treaty index (through HeinOnline) to develop additional lists of defense and security-related treaties. We supplemented our review of the *Treaty in Force* reports with a review of the *Kavass's Guide to the United States Treaty in Force* and *Kavass's Current Treaty Index,* which has more complete coverage of early agreements and more up-to-date records of treaties signed and entered into force since 2005. With this triangulation of sources and an iterative cross-checking process, we believe that we have been able to construct a nearly comprehensive database of treaties. As we completed the iterative process of adding treaties to the database, we found that with each round of data collection, the number of new treaties was reduced and those treaties that were added in the final rounds of data collection were small administrative agreements for the most part. While we expect that the dataset is still missing some agreements, we also believe that this number is small and that the agreements missing likely constitute commitments of limited importance.

Methodological Issues

As we developed the treaty database, we had to make a number of decisions about how to code the start and end dates of treaties with certain partners and how to integrate multilateral treaties into the database and dataset. In this section, we summarize the approaches that we took to address these issues. Although somewhat technical, understanding how we addressed these methodological issues is essential to understanding how different types of agreements are incorporated into the database and to gaining a complete perception of what is and is not included in the dataset.

Extended Treaties and Agreements

The first challenge was dealing with treaties that terminate but are renewed or extended in the same year, so that there was no real lapse in the actual commitment or agreement. We chose to include these treaties as a single entry in the database, since they do not represent a new or unique commitment. Where necessary, we reviewed the treaty text to ensure that the substance of the commitment also remained the same. We added a new entry where the nature or scope of the treaty changed or if there was a period between the first and second agreements where no agreement was in place. We chose this approach for a number of reasons. We did not want to inflate the count of new agreements by including renewals and extensions that did not mark real changes in the nature of the commitment. For example, certain agreements are written so that

they must be renewed each year. If we entered each yearly or five-yearly renewal as its own agreement, these types of agreements could appear more important in the final dataset than they are in actuality. In addition, because our focus is on understanding the nature and distribution of U.S. security commitments, we did not want to conflate new treaties and truly new commitments with commitments that were most accurately ongoing, extended ones.

Treaties with Newly Independent States

In a number of cases during the time period under consideration (1955–2012), newly independent states emerge following the break-up of a larger confederation or union of states or after a period of colonial rule. This would include countries in Africa after they emerged from British rule, the former Soviet states after 1991, the newly formed Czech and Slovak Republics, and the states that made up the former Yugoslavia. Another important example involved not the disintegration of a larger state but the reunification of Germany in 1990. The final example is that of Yemen. Before unifying in 1990, Yemen existed as South and North Yemen.

In our dataset, no treaty can have a start date before its signatory state's year of independence. If the state chooses to adopt agreements signed by the parent country, then the entry into force date is the year of independence. Similarly, the parent country, if it ceases to exist, as was the case for the U.S.S.R, cannot have treaties that continue past its own existence as a nation. This means that treaties with the Soviet Union that are then adopted by Ukraine as an independent state will terminate with the U.S.S.R. in 1991 and start with Ukraine in 1992. Similarly, a treaty between Britain and the United States governing use of land in Bermuda will terminate when Bermuda becomes independent, but a new agreement between the United States and Bermuda will begin in that year (assuming that both parties agree to continue the relationship).

In each case of a newly independent or newly reunified state, the newly independent state had to make some determination about which existing treaties, signed by the parent country or colonial power, it would be party to after independence. For example, Germany took on the treaties of both East and West Germany whereas the Czech Republic adopted an explicit subset of treaties formerly held between Czechoslovakia and the United States. In the case of Yemen, at the point of unification the new nation assumed the treaties of both parties, so we similarly merge the two sets of treaties: all treaties with either South or North Yemen terminate with these countries in 1989 and resume with the unified nation in 1990. The states of the U.S.S.R. and Yugoslavia each took their own stance on existing agreements. Ukraine, Georgia, and Belarus adopted some but not all of the treaties between the United States and the U.S.S.R., whereas states such as Kazakhstan and Uzbekistan adopted a somewhat smaller number of existing treaties, but the Baltic states took none. Russia adopted most outstanding agreements. The case of Yugoslavia is considered in the next section.

The process becomes somewhat more complicated, however, when the status of a treaty remains "under review" after the independence of the new state. Treaties are under review when

one or both sides chooses to review the status of the agreement before deciding to continue or terminate the commitment. While they are under review, their legal status is ambiguous. There is significant legal disagreement over whether or not these treaties are legally binding and enforceable or have effectively lapsed until a final determination on their status is made. After a review of relevant legal journals and after consulting with treaty experts, we still could not find a consensus or authoritative ruling on the status of treaties under review, that is, whether they remain in force or whether they are no longer legally binding. While the review process should last for some finite period, a number of treaties in the *Treaties in Force* have been under review for an extended period. Most significantly, all of the arms control agreements between the United States and the U.S.S.R. (e.g., "The Treaty Between the United States of America and ... on the Elimination of Their Intermediate-Range and Shorter-Range Missiles" and the "Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War") remain under review after the collapse of the Soviet Union, as do a number of treaties with Yugoslavia and the former Czechoslovakia.

As one example of the confusion and complication created by under review treaties, consider the specific case of Russia and arms control treaties. Russia has, in some cases, agreed to accept the obligations of treaties signed by the U.S.S.R. However, the continuing under review status of these agreements suggests that technically the United States has not formally decided that it will continue to abide by or enforce agreements signed with the Soviet Union, creating additional ambiguity about the power of the treaty as a legal instrument. The weight of international legal scholarship suggests that, in fact, treaties signed by the U.S.S.R. do not pass automatically to the successor states and instead must be renegotiated by the new states before they can be considered "in force." This means that treaties that are still under review are not, in fact, legally binding (Miron, 2001). However, the actions and statements by the United States and Russia on under review treaties are often contradictory. For instance, the Intermediate Range Nuclear Forces Treaty is technically under review, meaning that it may not be legally binding on either party. That has not stopped Russia and the United States from coming into conflict over Russia's decision to no longer comply with the agreement after 2007. Similar issues surrounded the status of the Treaty on the Limitation of Anti-Ballistic Missile Systems (the Anti-Ballistic Missile Treaty) before the United States officially withdrew in 2001, with some experts arguing that the treaty was no longer legally binding after the collapse of the Soviet Union and others suggesting that it was indeed still a valid international commitment (see, for example, Miron, 2001).

Given the continued controversy surrounding these agreements, we do list treaties under review in the database, but we note their status as under review so that researchers can decide for themselves whether to include or exclude these treaties in their analyses.[2]

[2] The graphs and tables in Chapter 3 include the under review treaties for completeness.

Treaties with Countries After Official Relations Suspended

Another challenging issue we faced in our data collection has to do with the status of treaties that remain after the United States severs official ties with a former partner or does not recognize a successor state as a result of an international disagreement, revolution, or other international situation. There are five important cases of this that we deal with in our database: Libya after the 1986 Lockerbie bombing, Iran after the 1979 Islamic Revolution, the case of Taiwan and China, the status of the successor states to the former Yugoslavia (particularly Serbia and Montenegro), and Vietnam. In general, we code treaties so that the United States does not have treaties with nations with which it does not have official relations. For instance, in the case of Iran after the 1979 Islamic Resolution and Libya after the 1986 Lockerbie bombing, we code all agreements as terminated once official relations cease and until diplomatic relations resume. Once diplomatic relations resume, we code as new treaties any treaties that enter into force. This decision again reflects our focus on mapping U.S. security commitments. The nation cannot have commitments to a country with which it has no diplomatic relations.

The third instance is the case of Taiwan and China. Until 1972, the United States did not recognize the People's Republic of China and held agreements only with Taiwan, the Republic of China. Starting in 1972, however, it recognized both the People's Republic of China and Taiwan. We code all agreements before 1972 as being only with Taiwan. Those after 1972 are coded as new treaties signed with each state separately.

The fourth case pertains to the states of the former Yugoslavia. Yugoslavia itself fell apart in 1992, so all treaties with Yugoslavia are coded as terminating in that year. Successor states emerged after this point: Bosnia-Herzegovina (1993), Croatia (1993), Macedonia (1994), and Slovenia (1993). They are party only to treaties that they actively accept and new treaties that they sign after independence. The status of the other successor states, Serbia, Montenegro, and Kosovo, known from 1992–2003 as the "Former Yugoslav Republic," is somewhat more complicated. From 1992 to 2003, the state claimed to be the rightful successor state to the former Yugoslavia with the right to hold its seat in the U.N. and other international organizations. However, it did not receive this recognition from the international community. During this period, Serbia, Montenegro, and Kosovo do not appear in the data as the United States had no relationship with the state and all treaties were under review. The final successor state was eventually recognized as Serbia and Montenegro in 2003, but the two entities, Serbia and Montenegro, split into two states starting in 2006. In 2008, the republic of Kosovo declared independence from Serbia. For the purpose of the dataset, we consider only new treaties signed with these successor states since their formal independence.

The final case is Vietnam, which passes through a number of different arrangements during our period of observation. From the start of the dataset through 1972, the United States recognized only one Vietnam, the Republic of Vietnam (which later became South Vietnam), which had a number of security agreements with the United States. Until 1972, the United States

did not recognize North Vietnam and had no relations with it. In 1972, however, the United States recognized North Vietnam and signed a handful of security agreements with the country. This lasted until 1975, when North Vietnam took over South Vietnam, reunifying the country. From 1975 through 1997, the United States had no official relationship or treaties with the new Socialist Republic of Vietnam. Treaties originally signed with South Vietnam continue to exist in the *Treaties in Force*, but we do no include these, as Vietnam's new leaders rejected them after unifying the country. After 1997, the United States established relations with the Socialist Republic of Vietnam, and treaties signed after this date are recorded as new agreements.

Multilateral Agreements

We include a select set of multilateral agreements in the database. In this first iteration of the dataset, we include only agreements with 30 or fewer signatories, thus excluding large U.N. conventions signed by all or nearly all nations. We excluded these treaties because we believe that they are signed for a fundamentally different purpose than smaller multilateral and bilateral agreements and suggest a type of commitment that should be considered separately from the other agreements in the database. It is true that these large multilateral agreements tend to involve affirmation of a set of broad principles and serve to establish international norms. These norms often do influence state behavior and so are important agreements in their own right. For example, Thomas (2001) argues that the Helsinki Accords contributed directly to the end of communism in the Eastern Bloc countries. Similarly, the Convention on Chemical Weapons played an important role in recent actions taken against Syria after the use of chemical weapons during the country's civil war.[3]

However, broad multilateral agreements are often some of the least well enforced, lacking in specific monitoring, compliance, and enforcement mechanisms that are typically included in bilateral and small multilateral agreements (Bayefsky, 2001). These agreements are also different in kind than smaller bilateral and multilateral agreements in that they do not typically establish the same sort of military commitment or obligation by signatories and are even, in some cases, nonbinding and unenforced (Hathaway, 2007; Neumayer, 2005). For instance, some of the most egregious violators of human rights are party to U.N. conventions on human rights, despite the fact that their violations are well known (Neumayer, 2005; Hathaway, 2007; Goldsmith and Posner, 2005). Because they do seem different in kind than smaller agreements, we chose in the first iteration of the dataset to exclude them. However, we plan to incorporate these treaties into

[3] The exclusion of treaties with more than 30 signatories does exclude some more significant and important treaties and agreements. For example, it will exclude the Proliferation Security Initiative, the Chemical Weapons Convention, and the treaty forming the foundation of the Organization for Security and Cooperation in Europe. These are certainly important agreements and if future iterations of the dataset are possible, we will include these and all multilateral agreements. The fact that the database does exclude them currently means that a summary of the agreements in the dataset will somewhat understate the extent of U.S. multilateral commitments. While this will be addressed in future iterations if they are possible, for now researchers should just keep in mind this limitation when using the database to summarize U.S. commitments to international partners and organizations.

the database in a subsequent iteration, to analyze both how they are unique and how they are the same as bilateral agreements.

We include each multilateral agreement in the dataset as a set of bilateral agreements between the United States and each other signatory of the agreement. This approach again reflects our focus on *U.S. commitments* as reflected through treaties and agreements with partner nations. When a new signatory joins the agreement, this also enters the data as a new bilateral agreement between the United States and the signatory. We use an indicator variable to distinguish between true bilateral agreements and bilateral entries that result from the splitting of a multilateral agreement. This allows us to conduct empirical analysis on both types of treaties separately as well as together.

Coding the Treaties[4]

We coded the treaties using their titles and only brief reviews of the actual text where specific questions about the content of the treaty arose. A more precise approach, had we had the time and resources, might have included additional review of the treaty texts. However, in most cases, the information in the title of the treaty was sufficient to support the application of the codes we defined for the database. Future iterations of the dataset, if they are possible, may include a refined coding that reflects additional reading of treaty texts and allows for more nuanced classification. For example, the dataset currently identifies "access" treaties that govern the access of U.S. forces to the territory, ports, airspace, and airfields of foreign countries. It would be desirable to further categorize access treaties according to the type of access granted. Similarly, one of our primary treaty subjects codes "operational agreements." These agreements involve some sort of operational commitment including the commitment of troops, the establishment of joint training, or the planning of exercises, among other activities. It would be desirable to break this category down into the more specific activities involved. In this initial iteration of the dataset, however, we have limited the coding to broad categories only.

We included several different types of codes. First, we coded basic information about the treaty: the date it entered into force, the year of termination, the partner country, the region of the partner country, and whether it was bilateral or multilateral. For some treaties, we also include the date on which the treaty was signed and a list of "treaty numbers" assigned to the treaty when it is signed and deposited with U.S. government or intergovernmental bodies, such as the U.N. Some treaties also receive a U.S. statute number when they are ratified by Congress. These treaty and statute numbers can be used as unique identifiers of the treaties and so may be useful for researchers interested in locating treaty texts or locating all the signatories to a large multilateral agreement. These final two fields are not completed in this first iteration of the database. For the

[4] Readers should see Appendix A, the full codebook, for more detailed definitions of each variable included in the database.

first iteration of the data, we have begun collecting the information needed, but we have not been able to complete the coding of these fields for all treaties. If future iterations of the data are possible, we will complete the coding of these fields for all treaties.

The next set of codes captures additional information about the context in which a treaty or agreement was signed or other contextual factors that affect its current status. We have a code for treaties that are under review, a code for treaties initially signed by a colonial power, a code for related agreements (agreements that explicitly reference another agreement in their title, either to modify or supplement it or to extend it with substantive changes), and an indicator that flags all treaties related to the North Atlantic Treaty Organization (NATO) (either bilateral or bilateral treaties built from multilateral arrangements).[5]

The third set of codes addresses the subject of the treaty or the treaty type. Treaties are given two subjects, from a list of six possible subjects, defined below. In each case, we identify the primary and secondary subject. In some cases, both subjects seem equally important. For these treaties, we include an equal weight variable that signals that both the primary and secondary subfields should be equally weighted. We also ranked our treaty subjects by order of depth, which we define as the level of commitment implied by the agreement. In addition to having a primary and secondary subject, then, treaties also have a "deepest" subject that identifies the deepest implied commitment relevant to that agreement. The six subjects are defined below and are listed in order of the depth of commitment. According to our scale, operational treaties, listed first, are considered the deepest, and administrative and legal treaties are considered to have the least depth.[6]

- **Operational:** Operational treaties deal explicitly with the execution of military operations, including joint exercises, training, or other activities, deployments for peacekeeping or contingency activities, personnel exchanges, and assignment of liaison officers (but only military). Also included are information and intelligence sharing as well as other defense/security related activities to support military operations.

[5] Importantly, the NATO-related code applies only to treaties signed after the formation of NATO in 1949 and only to treaties that explicitly refer to NATO in their titles. Treaties and agreements signed with future NATO partners are not coded as being related to NATO. Similarly, bilateral treaties formed with NATO partners that are signed independent of the NATO infrastructure also do not receive the NATO-related flag.

[6] It is worth noting that the different treaty types are not necessarily independent of each other and that there may be spillover across types. For example, financial and materiel treaties in which the United States provides grants of money or equipment may be about "buying" access and administrative and legal treaties may be required to cement an operational commitment. We have attempted to assign the two most appropriate categories to each treaty, but as we note, we hope to improve and clean out coding in future iterations of the dataset, if they are possible. Another important caveat related to treaty depth is that the depth of each type of agreement is likely to vary significantly. For example, access agreements may vary significantly in the depth of the implied commitment, ranging from a significant commitment to a very weak one. We have developed our scale of depth based on our understanding of the average level of commitment implied by each agreement type. Researchers can choose to define depth differently than we have for the purposes of our work.

Operational treaties often include commitment of troops, but this is not always the case and is not a requirement for the treaty to be an operational one.

- **Access:** Access treaties deal with access to facilities, infrastructure, bases, or air space in another country either for peacetime or contingency operations. Some access treaties involve a commitment of troops, but others deal exclusively with the access rights. Other access treaties also address financial issues (if there is some cost) and others are operational.
- **Financial:** Financial treaties deal with grants or other financial assistance (including funds for training, equipment purchases, and other investments) as well as the settlement of financial claims (e.g., due to damage in wars) or taxation issues.
- **Materiel:** Materiel treaties deal with equipment transfer or sale as well as agreements on construction and facilities or maintenance, commitment to joint research and development projects, or coproduction agreements. Materiel treaties may also include research and development on communications systems and similar types of technology. Many treaties are characterized as both financial and materiel, as many security force assistance treaties include provisions for both in a single agreement. In many cases, these joint materiel and financial agreements are the first that the United States signs with new treaty partners. Materiel treaties also often include provisions for training associated with the new equipment and sometimes provided by U.S. military personnel.
- **Guarantees:** Guarantee treaties address commitments for future cooperation. This may include alliances or neutrality pacts that govern the behavior of one or both states in the event of a future conflict or it may involve long-term commitments to nonproliferation, weapons reductions, or general amity and cooperation. Although guarantee treaties sometimes imply a potentially significant level of commitment, they fall toward the bottom of our scale of depth of commitment for two main reasons. First, the commitment is potential in the sense that many guarantees are never tested or acted upon. Second, unlike the other types of treaties above, they do not require any action or active commitment by the partners (e.g., no money is transferred, no equipment given, no access granted, no commitment of operational forces). Of course, this is not universally true, but our reading and assessment of these treaties shows that they are typically significantly more passive than the types we code as implying a more significant depth.
- **Administrative and Legal:** Administrative and legal (admin and legal) treaties focus on administrative and legal issues related to the treaty, its implementation, or its enforcement. Because treaties and agreements are by their nature legal documents, many treaties fall into this category, at least as a secondary agreement type. The code is not used for all treaties, however. We apply the code to treaties that spend considerable time enumerating legal considerations and provisions related to the administration of the treaty or the rights and responsibilities of relevant parties. Many financial, access, and materiel

treaties include administrative and legal components, but some treaties deal exclusively with administrative and legal issues.

The final set of codes in the database captures treaty characteristics. Treaty characteristics are closely related to, but not the same as, treaty types. Treaty characteristics are features or attributes of treaties that may be important to their purpose or function within the treaty portfolio, but they are not subjects of the treaty and would not fully describe what the treaty is about. A treaty may have only two subjects but may be assigned as many treaty characteristics as apply. In some cases, treaty characteristics and types appear to overlap, but inclusion of the treaty characteristic allows us to capture more information about a treaty than we might otherwise. The inclusion of treaty characteristics also provides flexibility for researchers. They may choose to focus on treaty types or characteristics or some combination of the two. Treaty characteristics captured in the first iteration of the dataset include mutual defense (all treaties that include mutual defense or collective security provisions),[7] amity (treaties that promote amity, cooperation, and peaceful dispute settlements), troops (treaties that address the commitment of U.S. troops for training, observing, or contingency operations), training (treaties that address joint training, international military education and training, or U.S. provided training), SOFAs (Status of Forces treaties and agreements that govern the status and rights of U.S. military personnel and their dependents when in overseas areas),[8] and Air Force specific (treaties that pertain explicitly to the U.S. Air Force because they deal with airfields, overflight, or space-related issues).[9]

In this first iteration of the database, we coded only a small number of treaty characteristics that were easy to capture based on the titles of the agreements and minimal additional research. Ideally, future iterations of the database will include additional treaty characteristics that will enhance the value of the database to researchers. For example, we might like to code for certain types of enforcement mechanisms; to identify treaties that are relevant specifically to the Army, Navy, or Marine Corps; to capture treaties that address specific subjects such as human rights or terrorism; and to flag treaties that address information sharing, the construction of joint facilities, or specific types of cooperation such as acquisition and cross-servicing.

---

[7] Notably, we do not include treaties titled "mutual defense assistance agreements." Despite their titles, these treaties are somewhat different from the collective security agreements that we intend to capture with this code.

[8] See Mason (2012) for more on SOFAs.

[9] We include only an Air Force–specific code because the dataset was originally collected for an Air Force sponsor and we wanted the dataset to flag agreements and commitments that might be of particular importance to this particular branch of the military. Future iterations of the dataset, if they are possible, may add a similar code for other branches of the Armed Forces (Navy, Marine Corps, and Army). It is likely that the agreements that are most relevant to each service will be different and exploring this variation may be an interesting avenue for researchers to pursue. Full definitions of treaty characteristics are included in Appendix A.

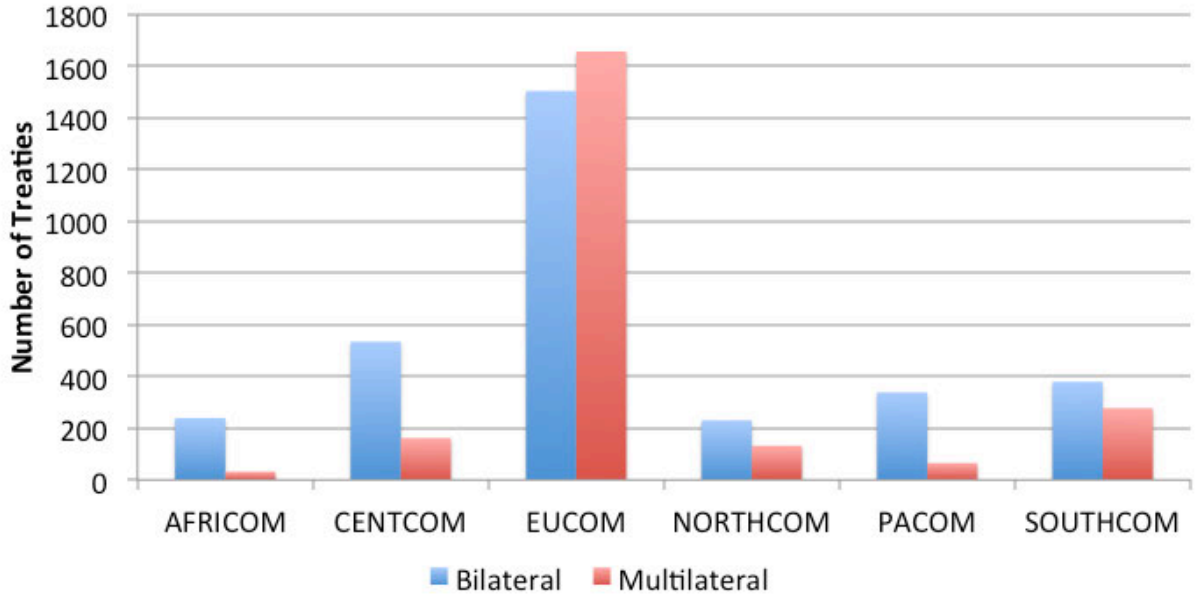
3. Basic Descriptive Statistics and Illustrative Use Cases

This chapter provides some initial descriptive statistics that summarize the information contained in the treaty database and discusses some of the ways in which the database can be used and analyzed to answer questions about the security-related treaties and agreements signed by the United States. This initial version of the data includes 5,548 individual entries, once the multilateral agreements are decomposed into bilateral pairs. Of this number, 3,223 are individual bilateral treaties and the rest are bilateral pairs created from multilateral agreements (2,325).

Regional Distribution of Treaties and Agreements

A first issue an analyst might be interested in exploring with the database is the regional distribution of treaties. The regional distribution would be important for analysts and researchers studying the geographic spread of U.S. security relationships and commitments, including where the United States is heavily committed and where there may be gaps and vulnerabilities in existing security relationships. The dataset assigns each country to a Combatant Command as well as a more narrowly defined region. One approach to the regional analysis that would be useful for defense policymakers would be to focus specifically on Combatant Commands. Figure 3.1 takes this approach and shows the distribution of treaties for each Combatant Command. The figure shows clearly that treaties with European Command (EUCOM) countries, comprising states in Europe, dominates the portfolio of bilateral and multilateral agreements. This is followed by Central Command (CENTCOM) and Southern Command (SOUTHCOM) countries, regions made up of the Middle East/South Asia and Central and South America, respectively. This is followed by Pacific Command (PACOM) countries. The smaller number of agreements signed with PACOM countries is surprising given the strong U.S. commitment to countries in this region but appears to derive from the numbers of countries within each region. It is also possible that relationships with PACOM countries tend to be based on a smaller number of deeper and more encompassing agreements rather than many smaller ones. While a full analysis of the dataset is outside the scope of this report, these types of regional trends and differences in numbers and types of agreements are something that can be studied easily using the database in its current form.

Figure 3.1 Distribution of Security-Related Treaties (Treaty Pairs), by Combatant Command[1]



Analysts may wish to drill down further, to identify specific partners with which the United States has many bilateral and multilateral commitments. This would be relevant for researchers interested in identifying countries with which the United States may have the strongest or most extensive security treaty relationships, especially if the number of treaties and agreements signed with another country can be interpreted as an indication of the depth of the bilateral security relationship. This is another question that can be answered using the database and the tables provided in Appendix B. The top ten partners when both bilateral and multilateral are considered (each with over 100 agreements, though not necessarily at the same time) include (in order) the United Kingdom, Canada, Germany, France, Italy, The Netherlands, Norway, Japan, Spain, and Belgium. The set of countries is mostly the same when we look only at bilateral agreements. The top ten partners in this analysis include the United Kingdom, Canada, Japan, Germany, South Korea, the Philippines, France, Australia, Italy, and Russia. These lists are not surprising, as they include a number of key strategic allies, including countries that the United States has mutual defense agreements with and fellow members of NATO. Countries at the bottom of these lists, with few treaties with the United States, include a number of African countries as well as small island nations that we would not expect to have deep enduring partnerships with the United States.

[1] In most of the figures in this chapter, multilateral agreements are counted in the treaty pair format (this is denoted in the title of the figure), meaning that each multilateral agreement is broken down into a bilateral agreement between the United States and each signatory of the multilateral agreement. We take this approach because we are interested in the number of individual commitments and relationships that the United States has as a result of its treaties and agreements.

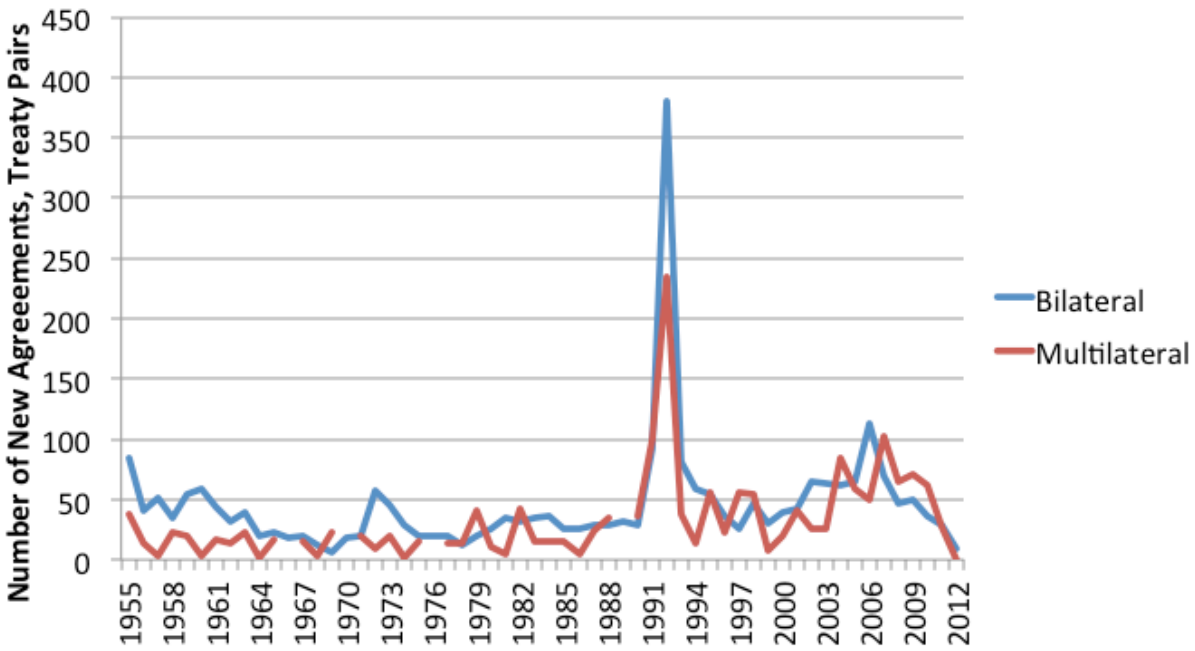
Exploring Temporal Trends in Agreements

Analysts may also wish to explore temporal trends in the data, both to observe how the treaty-making activity of the United States changes over time and to investigate whether specific events or contexts appear most likely to foster new agreements and treaty relationships. Figure 3.2 plots the number of new treaties and agreements, both bilateral and multilateral treaty pairs, included in the dataset that enter into force in each year (as a reminder, this includes all treaties and agreements that are in force for at least some period of time since 1955 but not treaties and agreements signed and terminated before 1955). The most striking observation is the sharp increase in 1992, after the end of the Cold War, in both bilateral and multilateral agreements. Closer analysis suggests that this trend reflects the transfer of key treaties (and formation of new treaties) from the U.S.S.R. to the independent states that emerged in its wake. Specifically, when the Soviet Union broke up, a number of treaties and agreements between the United States and the U.S.S.R. went from being one bilateral agreement to being a larger number of individual bilateral agreements with each successor state. In addition, the United States signed additional agreements with these new states, to foster stronger relationships with the former Soviet states.

The graph can also be used to identify other periods of significant treaty activity. For example, there appears to be an increase in new bilateral and multilateral treaty pairs in the 1950s and again between 1999 and 2011. Closer analysis of the treaties that make up the database can shed light on both of these trends. The increase in the 1950s reflects the large number of agreements signed following the end of World War II, including peace treaties and agreements intended to set the foundation for a new world order. The 1950s increase also seems to include large multilateral agreements as part of the new U.N. and bilateral agreements, such as those covering lend lease provisions with European countries. The increase since 1999 is somewhat more difficult to untangle. In part, it appears to reflect an expanding of U.S. treaties and agreements with new partner nations in Africa and elsewhere. This expansion and diversification may indicate an attempt by the United States to expand its network of relationships following the 9/11 attacks as well as to broaden the set of partner capabilities on which it can rely when operating in overseas areas (such as Afghanistan and Iraq).

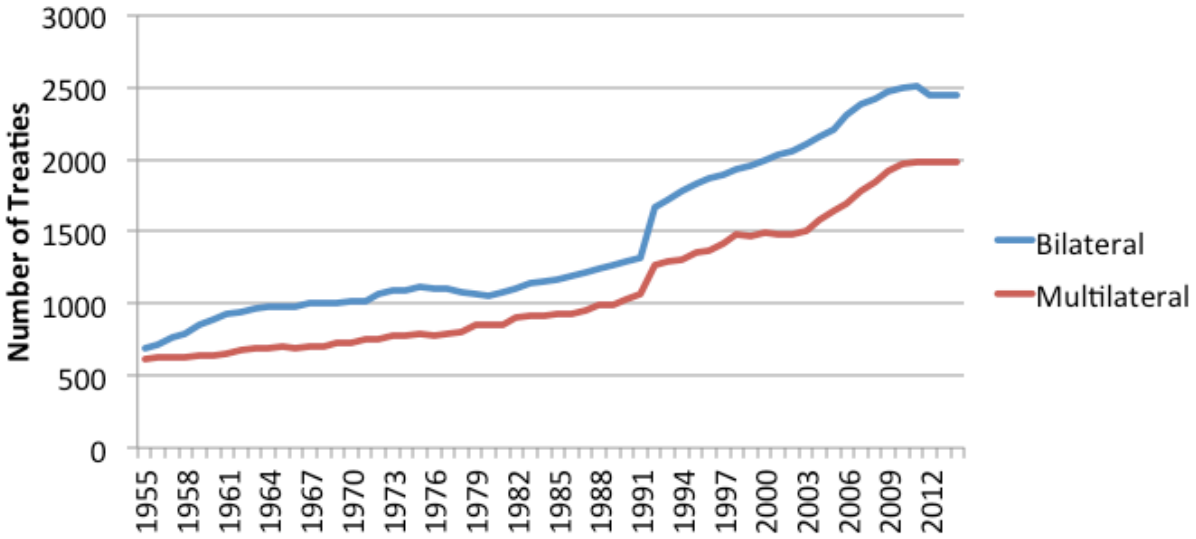
Analysts may seek to study the existence of any correlation between bilateral and multilateral treaties and agreements over time. The existence of a positive correlation would indicate that there may in fact be periods of higher and lower treaty-making activity, stimulated either by external events, as described above, or by the discretion and foreign policy preferences of specific presidents or secretaries of state. Calculating this correlation using the data underlying Figure 3.2 shows a strong positive relationship of 0.85. This suggests that there is indeed a strong relationship between the number of treaties and agreements entering into force in a given year.

Figure 3.2 Security-Related Treaties "Entering into Force" (Treaty Pairs), by Year



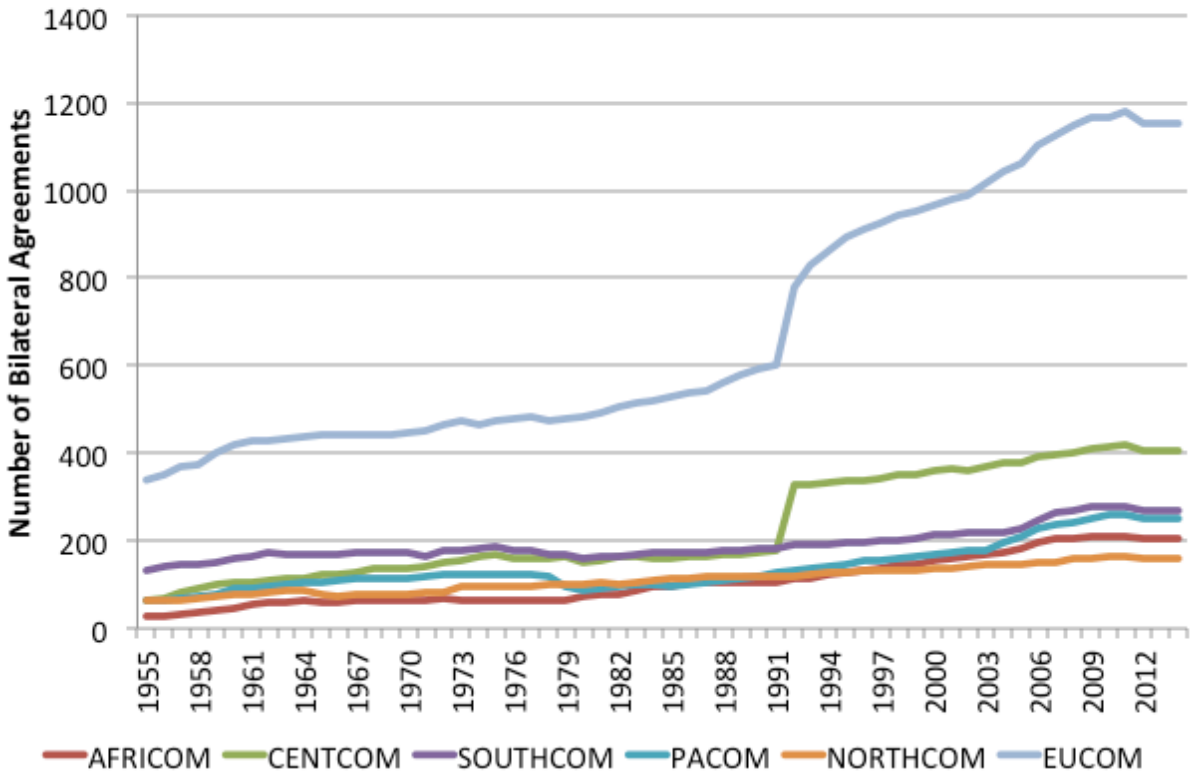
While the analyses above have used the standard treaty database, another type of temporal analysis could be completed by transforming the database into a country-year format. In this version of the dataset, each observation is not a treaty but a country-year and count of the number of treaties in force in that particular year. Using the country-year version of the dataset, an analyst could investigate the number of treaties in force in a given year. This analysis would allow the analyst to say something about the number and extent of relationships and commitments that the United States was bound by at any given point in time. Interpreting the meaning of these relationships and commitments might be more difficult without a closer investigation of the nature and types of treaties involved, as any given security treaty might simultaneously create an obligation for the United States and provide it with additional capabilities and support from the partner nation. Figure 3.3 shows the number of ongoing security-related treaties and agreements that the United States is party to in any given year. The graph starts at 1955 and goes through to 2012. Showing data from years before 1955 would be misleading in this case, as the dataset only includes agreements before 1955 if they extend beyond 1955 and so would drastically undercount the total number of U.S. commitments during these earlier time period. Looking at Figure 3.3, it seems that the number of ongoing U.S. treaties and agreements has increased significantly since 1955, in terms of both bilateral and multilateral commitments. The increase in the number of treaties in force has been relatively steady over the time period considered but does appear to increase at a more rapid rate around the 1991 collapse of the U.S.S.R. This trend is consistent with the trend in new treaties entering into force each year and is driven, at least in part, as noted above, by the emergence of a number of new states with the break-up of the Soviet Union.

Figure 3.3 Security-Related Treaties in Force (Treaty Pairs), by Year



Finally, in addition to the analyses discussed above, analysts could also link the temporal and geographic dimensions of the database to investigate how the regional distribution of treaties and agreements has changed over time, in terms of both ongoing agreements and newly signed agreements. An investigation of treaties and agreements entering into force in each region by year would provide insight into the most active geographic areas of treaty-making and agreement formation and how these areas have changed over time. Analysts may be able use these insights to say something about how security-related policy priorities have evolved over time. Figure 3.4 shows the regional distribution for ongoing agreements, specifically for bilateral agreements. This graph may be useful to analysts interested in studying how the number and extent of U.S. treaty commitments have changed and evolved differently across regions. For example, the figure shows that the number of bilateral relationships with all regions has increased over time. Agreements with countries in EUCOM have consistently been the most frequent, and the predominance of agreements with EUCOM countries has increased over time. Agreements with countries in CENTCOM have also increased relative to other agreements, as have agreements with countries in PACOM. Finally, calculating the correlation of the different series shows a strong correlation across regions, meaning that, in general, changes in the numbers of treaties in

Figure 3.4 Bilateral Security-Related Treaties in Force (Treaty Pairs), by Combatant Command



force, and by extension the number of security relationships, across regions have moved together. Similar analysis could be completed for multilateral agreements as well.

Treaty Types

The database can also be used to explore the nature and types of commitments, using the assigned treaty types described in the previous chapter and in the codebook. This type of analysis will be important to researchers and policymakers seeking to understand how the overall nature and types of U.S. international security-related commitments vary at different times or with specific partners or in specific regions. It may also be of interest to analysts interested in identifying gaps and vulnerabilities in existing U.S. security relationships. For example, if analysis suggests that the United States has few access agreements in particular locations, this might suggest a gap worth filling. Similarly, if analysis suggests that the United States has only shallow administrative and legal agreements with a particular set of countries, this may suggest another type of gap that policymakers might choose to fill with new partnerships, treaties, or agreements.

Figures 3.5 and 3.6 summarize the distribution of primary and secondary treaty types of bilateral and multilateral treaties and agreements. For bilateral treaties, materiel is the most common primary treaty type, followed by guarantees, operational, and administrative and legal

treaties. For multilateral agreements, guarantees are the most common, followed by materiel, operational, administrative and legal, financial, and access agreements. The different distribution of types across bilateral and multilateral agreements is important because it suggests that different types of agreements are used for different purposes. While bilateral agreements are likely to deal with such substantive issues as transfers of funds and equipment or other operational activities, multilateral treaties are more likely to address guarantees and other broader types of commitment. Finally, it seems significant that access treaties are the least common for both bilateral and multilateral security-related treaties and agreements. Looking at the secondary treaty types, administrative and legal treaties are the most common for bilateral and multilateral treaties, followed by materiel and operational agreements. Interestingly, treaties rarely have guarantees as a secondary subject, suggesting that when treaties and agreements cover guarantees, they do so as a primary focus. The dominance of administrative and legal treaties as a secondary agreement field confirms the importance of administrative and legal

Figure 3.5 Frequency of Security-Related Treaty and Agreement Types (Treaty Pairs), by Primary Subject

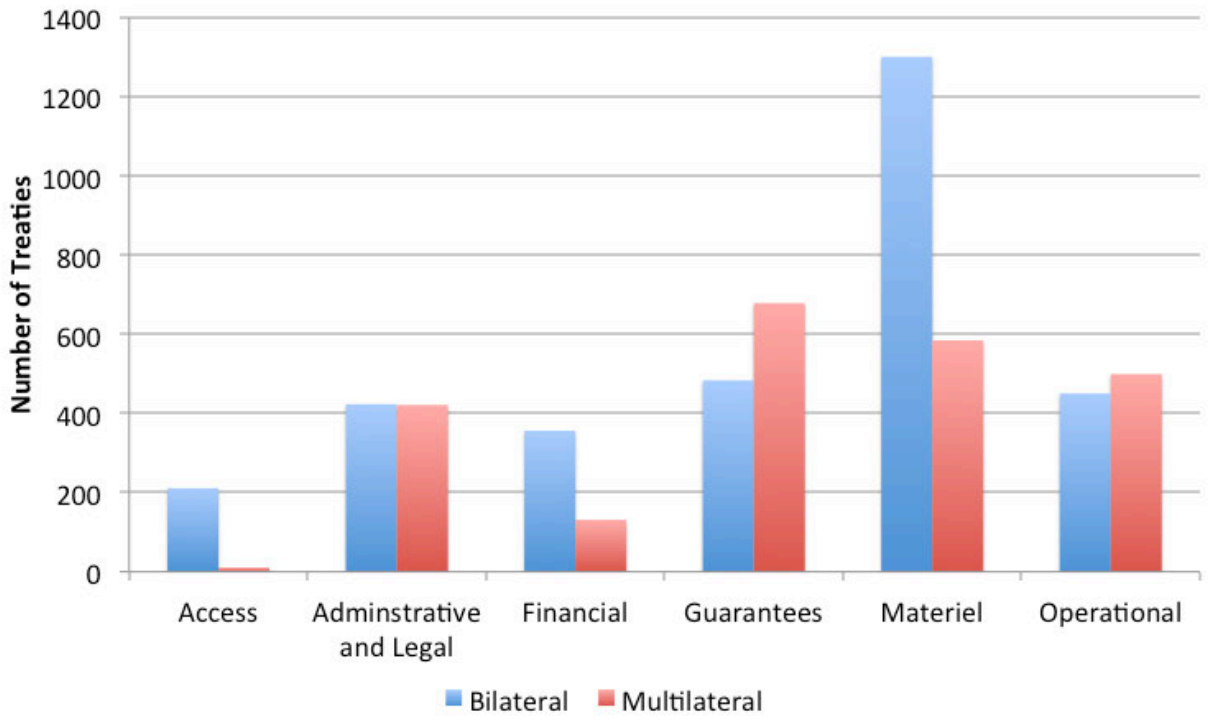
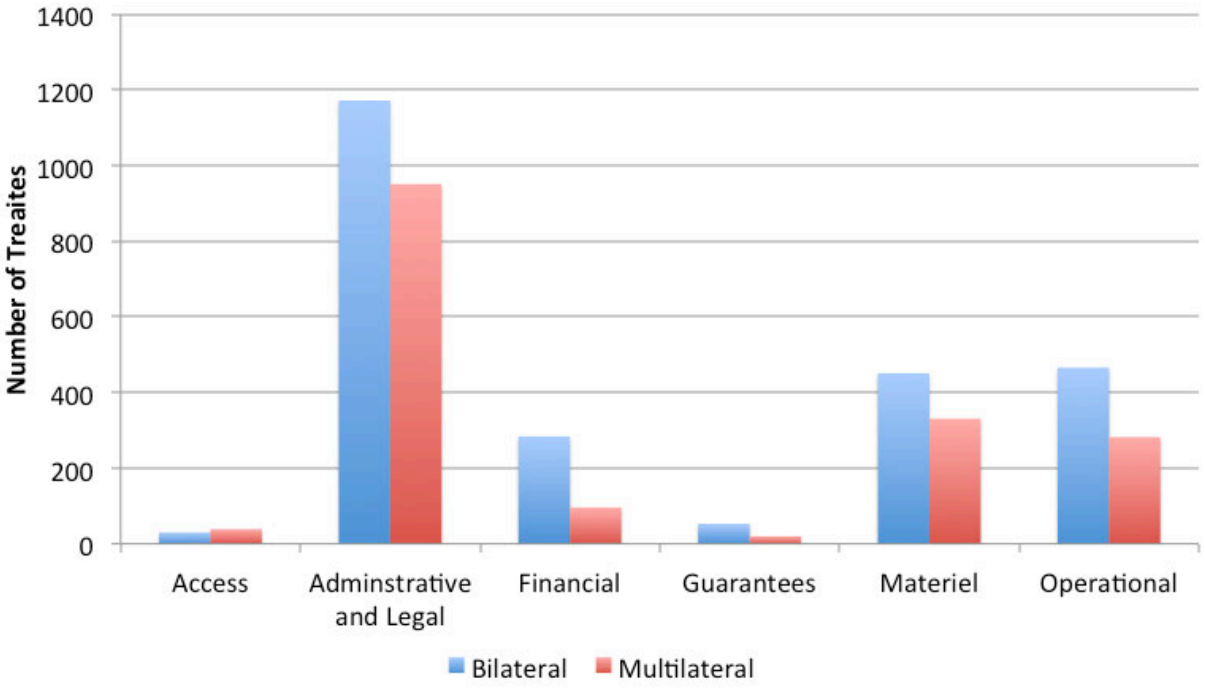


Figure 3.6 Frequency of Security-Related Treaty and Agreement Types (Treaty Pairs), by Secondary Subject



aspects of treaties but also suggests that most treaties and agreements are about more than legal and administrative matters. Finally, while these graphs show the distribution of treaties in raw counts, similar graphs showing the distribution of treaties by percentage could also be calculated as another perspective on the relative frequency of different treaty types among bilateral and multilateral agreements.

As noted above, most (but not all) treaties are given both a primary and secondary type. Certain combinations of treaty types are more likely than others. Table 3.1 provides the percentage of total treaty pairs that fall into each category, for treaty pairs that include at least 5 percent of the total treaty pairs, focusing on bilateral agreements. Table 3.2 shows the same analysis but includes only multilateral agreements. Pairs that include administrative and legal agreements as the secondary subject are by far the most common (with primary types that include guarantees, materiel, and operational), both when we consider all treaties and when we focus on bilateral treaties. At the bilateral level, pairings between materiel and financial treaties are also more common than others. The higher frequency of these two types of treaties is likely driven by the large number of military assistance treaties signed by the United States that include

Table 3.1 Distribution of Treaty Pairs Representing More Than 5 Percent of the Total, Bilateral Treaties

Primary Subject	Secondary Subject	Percentage of Total Treaty Pairs (N=2,456)[a]
Materiel	Administrative and legal	19
Operational	Administrative and legal	12
Materiel	Financial	10
Guarantees	Administrative and legal	9
Financial	Materiel	8
Materiel	Operational	8
Administrative and legal	Operational	6
Financial	Administrative and legal	6

[a] Includes only treaty pairs that have both a primary and secondary subject.

Table 3.2 Distribution of Treaty Pairs Representing More Than 5 Percent of the Total, Multilateral Treaties

Primary Subject	Secondary Subject	Percentage of Total Treaty Pairs (N=1,719)[a]
Guarantees	Administrative and legal	26
Operational	Materiel	13
Materiel	Administrative and legal	12
Operational	Administrative and legal	12
Administrative and legal	Operational	10
Financial	Administrative and legal	6

[a] Includes only treaty pairs that have both a primary and secondary subject.

both transfers of equipment and materiel and financial assistance. Treaties that include the operational and administrative and legal pairing are also common. This reflects the large number of SOFA arrangements as well as the fact that any deployment of U.S. forces into another country is likely to involve legal and administrative guidelines to govern their activities and responsibilities. These tables combined with Figures 3.5 and 3.6 also show that access treaties are by far the least common type of agreement signed by the United States. Those access agreements that are signed exist almost entirely at the bilateral level.

Analysts may also want to know how the total distribution of treaty types entering into force in any given year has changed over time. This type of analysis will be of use to researchers or policymakers interested in studying how the nature of U.S. commitments and relationships has evolved over time. The analysis might be used to determine whether there are particular types of agreements that seem more or less likely in particular international contexts or to identify types

of commitments and relationships that have become more or less common over time. This information might be purely descriptive or it might be used to assess the types of agreements the United States should consider signing in response to a particular international event. The analysis might also be used to identify emerging gaps in the U.S. security-related treaty and agreement portfolio. Figure 3.7 shows the trend in primary treaty types entering into force in each year for bilateral treaties and agreements, and Figure 3.8 shows the same for multilateral treaties and agreements. Although the levels are different, the general trends and rankings (in terms of frequency) are similar for the sample of bilateral treaties and the sample of multilateral treaties and agreements. The graphs suggest a number of interesting observations. First, looking at the graph for bilateral agreements, materiel treaties experienced a relatively larger increase in the 1950s and 1960s as well as in the 1980s and early 2000s than did other types of treaties and agreements. These increases appear to have been driven by increases in U.S. security assistance agreements during these periods, first with rebuilding European countries and later with new and developing countries. These agreements have involved the transfer or sale of materiel, including weapons, aircraft, ground vehicles, and other advanced technologies. Second, new guarantees increased sharply around the end of the Cold War. This may reflect an increase in treaties formed

Figure 3.7 Frequency of New Security-Related Bilateral Treaties and Agreements over Time, by Primary Subject

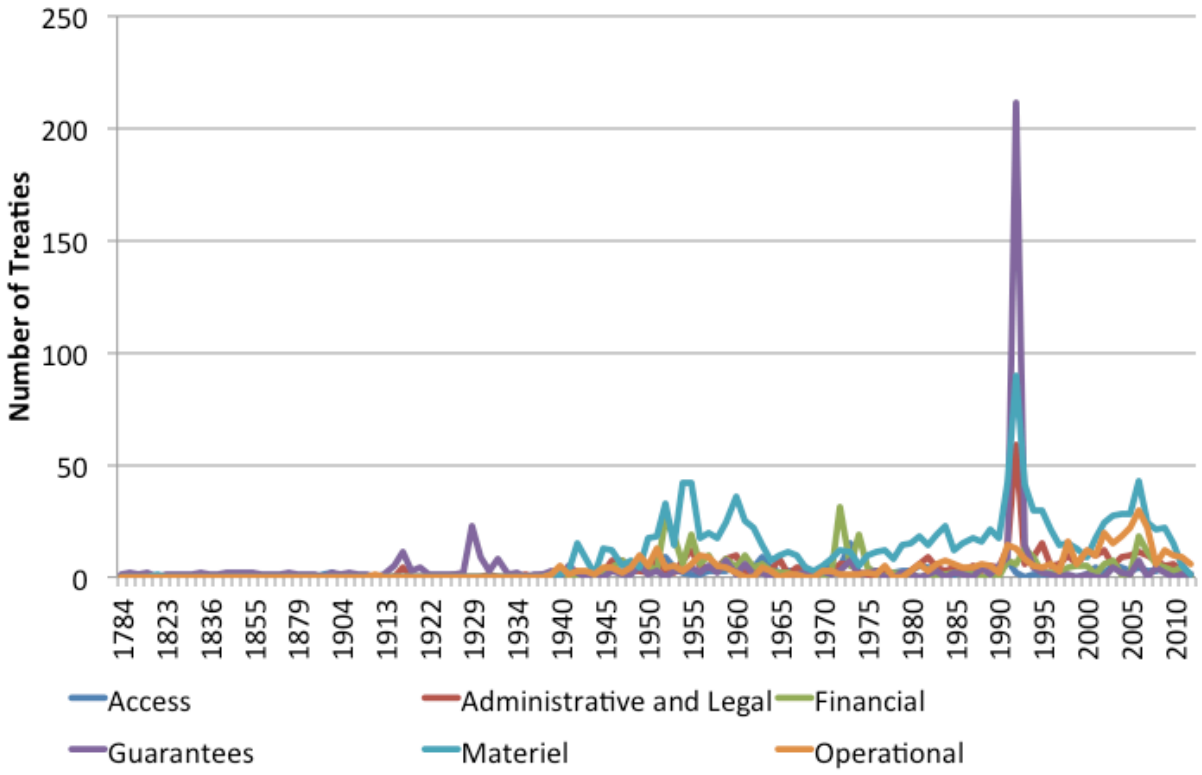
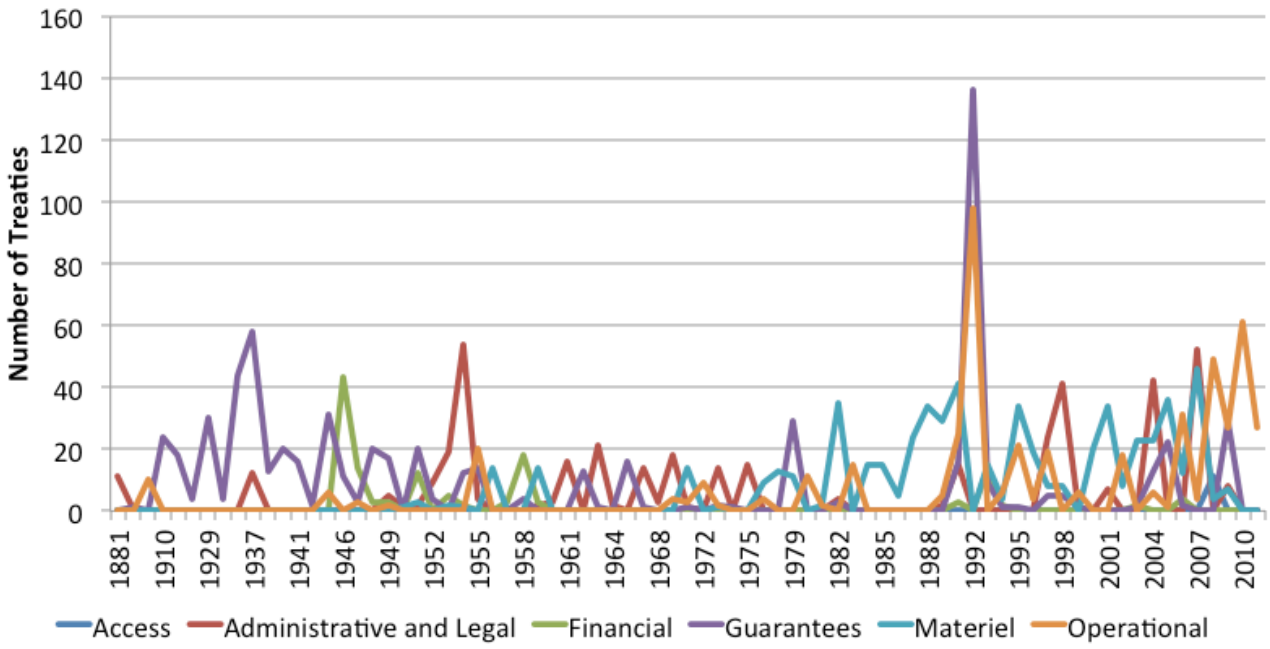


Figure 3.8 Frequency of New Security-Related Multilateral Treaty Types over Time (Treaty Pairs), by Primary Subject



with former Soviet states and former satellite countries as well as an increase in treaties related to disarmament or other types of long-term relationships following the end of the Cold War, including a large number of arms control agreements and other foundational agreements intended to establish stronger relationships with newly independent states after the collapse of the U.S.S.R. Finally, the increase in operational treaties has also been significant since the end of the Cold War, a trend likely driven by the expanded global role played by the United States and the U.S. military since the fall of the U.S.S.R. The trends in guarantees and operational agreements seem also seem to hold for multilateral agreements, shown in Figure 3.8.

An analysis of treaty types can also be combined with the regional analysis described above. This type of investigation can explore whether certain types of treaties and agreements are most likely to be signed in certain regions. Tables 3.3 and 3.4 show this breakdown for multilateral and bilateral agreements, providing the percentage of treaties falling into each type in each region. Looking at Table 3.3, two types of observations can be made. First, looking down each column, it appears that materiel treaties are consistently the most common type of bilateral security-related agreement between the United States and partner nations. Second, looking across each row, the highlighted cells identify the region with the highest frequency of each treaty type. While countries in Africa Command (AFRICOM) are most likely to see financial agreements, PACOM has the largest percentage of materiel agreements. Operational agreements constitute the largest percentage of agreements with SOUTHCOM countries, and CENTCOM countries are the most likely to have guarantee treaties. These relationships make intuitive sense. For instance,

Table 3.3 Distribution of Treaty Types, by Combatant Command, Bilateral Treaties

	AFRICOM	CENTCOM	EUCOM	NORTHCOM	PACOM	SOUTHCOM
Access	4.2%	6.9%	5.0%	21.3%	8.0%	3.4%
Administrative and legal	16.3%	14.0%	14.2%	10.4%	8.0%	11.9%
Financial	24.7%	12.5%	8.8%	7.0%	6.8%	15.3%
Guarantees	5.9%	21.7%	19.1%	3.9%	5.6%	10.0%
Materiel	36.8%	34.3%	41.3%	44.8%	57.1%	29.6%
Operational	12.1%	10.5%	11.6%	12.6%	14.5%	29.8%

Table 3.4 Distribution of Treaty Types, by Combatant Command, Multilateral Treaty Pairs

	AFRICOM	CENTCOM	EUCOM	NORTHCOM	PACOM	SOUTHCOM
Access	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%
Administrative and legal	31.3%	4.3%	22.6%	12.1%	12.3%	1.8%
Financial	6.3%	4.9%	6.4%	4.5%	6.2%	1.8%
Guarantees	18.8%	55.6%	14.6%	34.8%	41.5%	96.4%
Materiel	40.6%	3.1%	30.4%	33.3%	27.7%	0.0%
Operational	3.1%	32.1%	25.2%	15.2%	12.3%	0.0%

a large portion of our relationship with African countries involves financial transfer, whereas our relationship with PACOM involves the transfer of materiel and other equipment. Table 3.4 presents the same type of information for multilateral agreement pairs and shows several interesting trends. First, multilateral access agreements do not exist in the database. Financial agreements are similarly likely in AFRICOM, EUCOM, and PACOM. Guarantees seem most predominant with SOUTHCOM countries, while multilateral materiel treaties are most likely with AFRICOM countries. Finally, operational agreements that are multilateral are most frequent with CENTCOM countries. Important to interpreting these trends, however, is the fact that frequency for multilateral agreement types is influenced by the size of the treaty, that is, the number of partners that have signed the agreement. Also worth noting is that total percentages of treaties in each case are affected by the total number of treaties signed with each region. The total number of treaty pairs for each region is provided in Table 3.5.

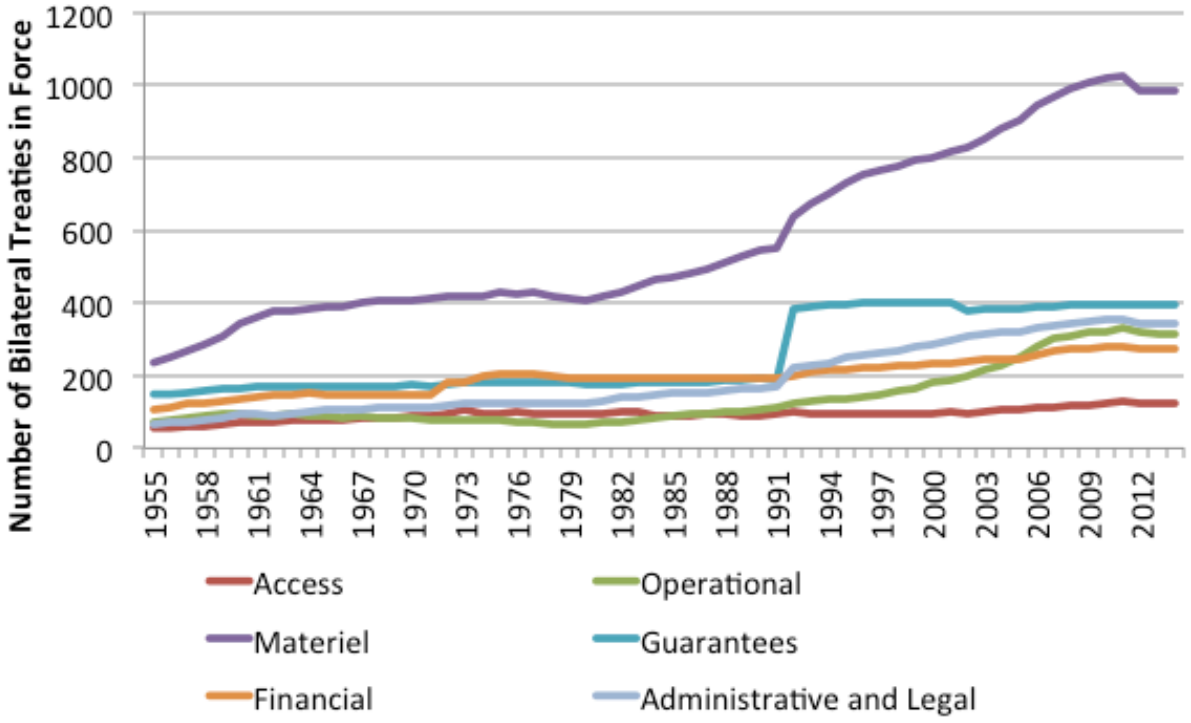
Finally, an analyst could turn to the country-year version of the dataset to explore how the number of ongoing agreements by type differs over time. This will provide insight into whether the nature of U.S. security commitments and relationships has always been roughly the same or whether this relationship has varied more significantly in response to changing external conditions. Figure 3.9 shows the number of ongoing bilateral treaties by type, again starting with

1955. The figure shows that materiel treaties have been the most common since 1955, and their predominance has even increased since the early 1990s. Financial treaties, by contrast, seem to

Table 3.5 Distribution of Treaty Types, by Combatant Command, Multilateral Treaty Pairs

COCOM	Number of Bilateral Agreements	Number of Multilateral Treaty Pairs
AFRICOM	239	32
CENTCOM	534	162
EUCOM	1,503	1,656
NORTHCOM	230	132
PACOM	338	65
SOUTHCOM	379	277

Figure 3.9 Security-Related Bilateral Treaties in Force, by Primary Subject



have become relatively less common since the early 1990s, surpassed in terms of frequency by guarantees and operational agreements. The number of guarantees experiences its most rapid increase in the early 1990s, following the fall of the Soviet Union, but the number of operational agreements increases most quickly in the early 2000s, likely driven by an increasing U.S.

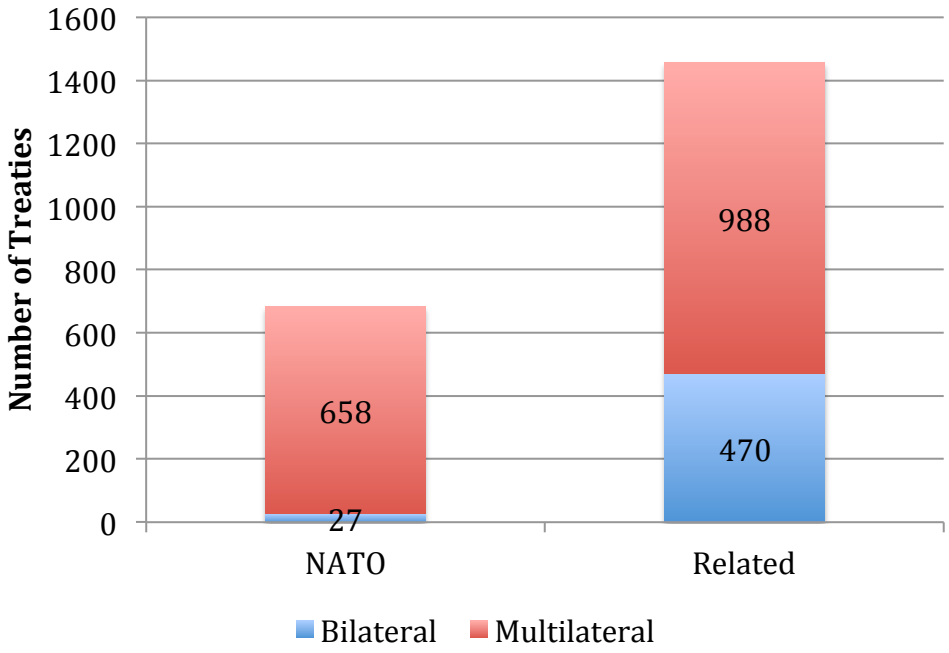
international presence and the country's involvement in Iraq and Afghanistan. Similar analysis could be conducted for multilateral agreements as well as to investigate secondary treaty subjects.

Treaty Context

Another set of questions an analyst might be interested in investigating concerns the treaty context or the context in which the international agreement is completed. Treaty context variables identify certain details about when and how the treaty was signed and so may be useful for analysts seeking to understand some of the reasons and motivation behind the decision to enter security-related treaties and agreements. The initial iteration of the dataset does not include a large number of treaty context variables, although additional variables may be added in the future. Figure 3.10 illustrates the total number of treaties falling into two treaty context categories included in this iteration of database for bilateral and multilateral treaties and agreements. In both cases, the "related to another agreement" characteristic is the most common, and the NATO characteristic is less common. This makes intuitive sense. While NATO-related agreements are formed with a select group of countries and over a very specific time period, treaties and agreements are often related to others. For example, they may overlap, be extended, and lead to new agreements with the same and other countries. It is also worth noting that the vast majority of NATO-related agreements are multilateral.[2] Analysts might take away from this analysis that one of the best ways to build stronger treaty relationships with a set of states would be to build off existing treaties and relationships in a gradual or iterative process.

[2] As a reminder, the NATO code is applied only to agreements that are directly related to NATO rather than to all agreements with NATO partners.

Figure 3.10 Security-Related Treaties and Agreements (Treaty Pairs), by Treaty Context



The analysis of treaty context could be expanded by linking it with other fields in the database, for example, treaty type or treaty region. An analyst might be interested to know if treaties of a particular type are more likely to be "related" to other security-related treaties and agreements. Conducting this analysis only for the bilateral agreements suggests that, by percentage of total treaties, access treaties are the most likely to be related to other agreements, followed by financial and materiel agreements. Interestingly, this is consistent with our interpretation of the "related" treaty field in the previous paragraph. Access relationships, which often formalize a relatively significant level of cooperation, tend to evolve over time and build off previous relationships. Similarly, transfers of money and equipment tend to be longer-term relationships that evolve and change over time.

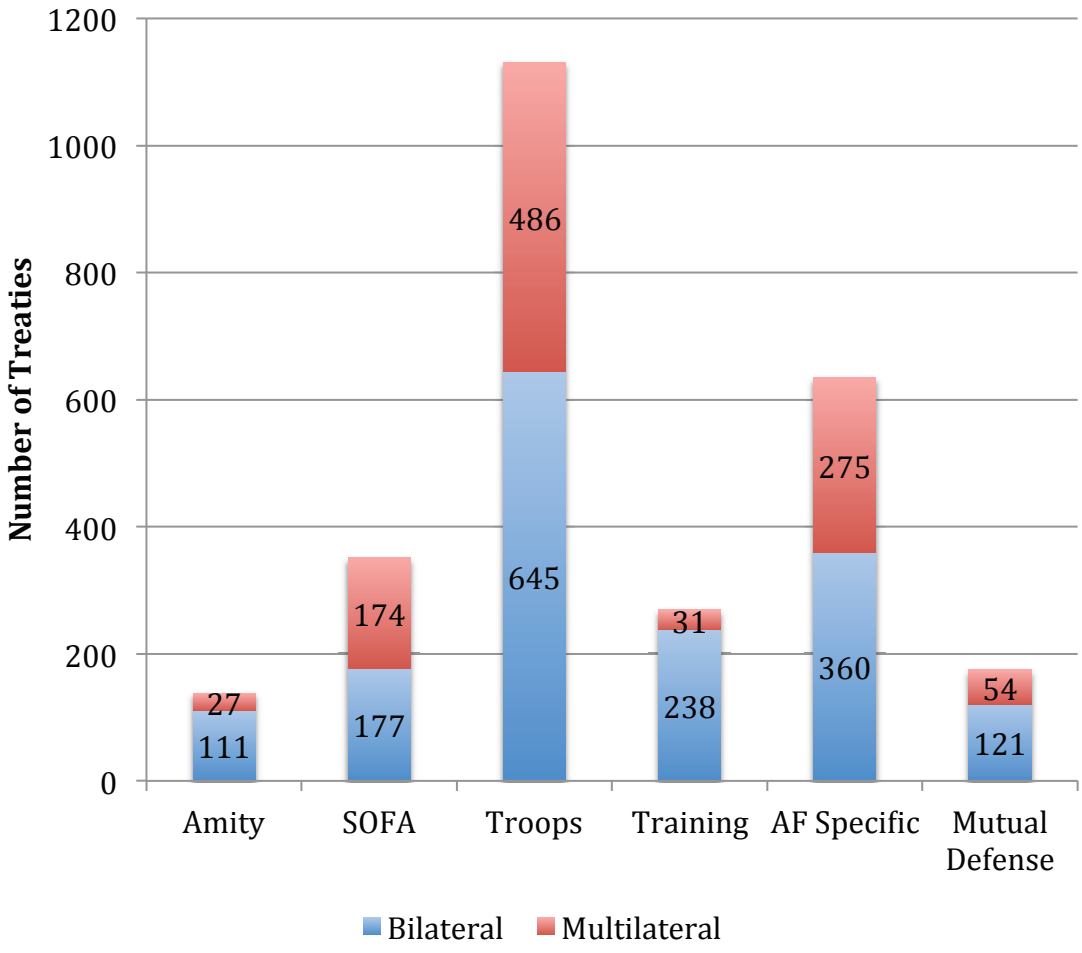
Treaty Characteristics

A final line of inquiry that analysts might choose to pursue using the treaty database is to study the distribution of treaty characteristics. As noted above, treaty characteristics are attributes or types of information contained within the treaty that are distinct from its type or subject but that may be valuable for researchers studying the nature and distribution of U.S. security commitments. Figure 3.11 shows the distribution of treaty characteristics for both bilateral and multilateral agreements. The most common characteristic is that related to the commitment of troops. It is worth noting that this may include troops sent for training, advisory missions, humanitarian missions, and other reasons, so the "troops" characteristic does not reflect U.S. contingency operations in all cases. The next most common are the treaties with specific

relevance to the Air Force, including treaties that address basing, aircraft sales, Air Force exchanges, and other agreements having to do with weapons development and space/cyber security, which often fall under the Air Force's purview. In the first version of the dataset, we did not code for agreements specific to other Services, so we cannot say whether the number of Air Force–specific treaties is higher or lower than the number of treaties relevant to other Services. The least common characteristic is "amity"—those treaties signed to preserve pacific relations and friendship between signatories. While the United States has many of these treaties, it tends to sign only one with a specific partner nation, rather than signing multiple agreements over time as is done for other types of security commitments.

Although we do not complete the analysis here, analysts could use the country-year format of the data to explore ongoing treaties in force by treaty characteristic over time. An analyst could also use the database to explore the distribution of treaty characteristics or to look for correlations between treaty types and treaty characteristics. Investigation into the relationship between treaty types and characteristics will be particularly valuable for analysts interested in understanding more about the actual formation of treaties and agreements, that is, how the United States structures agreements and commitments with partner nations over time.

Figure 3.11 Security-Related Treaties and Agreements (Treaty Pairs), by Treaty Characteristics



Additional Applications of the Treaty and Agreement Database

In addition to the simpler descriptive analyses described in this report, the country-year transformation of the dataset can also be combined with other country-year datasets for the purpose of running large multivariate regressions. These regressions could be used to link the number and types of agreements between the United States and partner nations with a range of outcomes of interest, including bilateral trade and frequency of conflict. For example, by adding some of the agreement variables, such as number of agreements or number of agreements of a specific type, to standard statistical models that are used to study the occurrence of intrastate and interstate conflicts, an analyst could investigate any link between security-related agreements, either bilateral and multilateral, and conflict incidence. Similarly, by adding agreement variables to models used to study the drivers of bilateral trade, analysts can explore the possible relationship between security-related and economic relationships. As a final example, regressions

could be used with the treaty data to specifically explore characteristics of security relationships and commitments themselves. For instance, analysts might wish to explore more rigorously any relationship between decade or region and the likelihood of a security-related agreement being signed with the United States. Multivariate regression might also be used to study whether agreements are more or less likely in certain types of international environments, under specific types of domestic political systems (e.g., a Democratic or Republican presidency), or following specific types of events, such as wars or major international crises.

Summary

This chapter of the report provided summary statistics on the database as well as additional details on the types of questions that can be answered using the database. It also provided some preliminary answers to these questions, using graphs and tables that are created based on the database and a country-year transformation of the database. The analyses presented in this chapter are by no means comprehensive, however, and the dataset could be used in other ways to answer other, more complex types of questions, including those alluded to in the final section of the chapter. The fact that it can be incorporated into so many different types of analysis and can be added to existing work on a range of topics increases the value and flexibility of the dataset for policymakers and researchers.

4. Conclusion

Limitations

While the treaty database described in this report represents a substantial improvement over other datasets that consider security agreements and military alliances and existing data sources on security treaties and agreements in terms of its comprehensive record of U.S. security commitments over time and its ability to support empirical analysis, there are still a number of limitations and ways that the data could be improved. First, the treaty data rely on only two of the existing treaty and agreement data sources described at the outset of this report: records kept and reported publicly by the State Department and the Kavass treaty compilations that we reviewed. We found numerous anomalies and discrepancies, which we attempted to correct, but it seems likely that some agreements are missing, especially in early years and even recent years (because of the lag in reporting mentioned above). Furthermore, while we made every effort to enter every single security- and defense-related agreement, we did not have the time or resources to individually review each *Treaty in Force* publication or cross-check these publications with each possible data source. This means that treaties that lasted only one or two years before lapsing may be missing in the dataset. We hope that future versions of the dataset, if possible, will be gradually made more comprehensive.

Second, we relied primarily on the treaty titles to code treaty subjects and characteristics, supplementing this information where necessary with more in-depth review of the text itself where titles were ambiguous and to spot-check our title-based coding. While we have reasonable confidence in the quality of our coding decisions, they certainly could be refined with additional review. In addition, initial empirical work has suggested that somewhat finer-grained definitions of certain treaty types and characteristics, such as "operational," "guarantees," and "troops," might have been more useful in our analysis. Another next step for the database will be to review our treaty coding and refine both our codes and their application.

Third, already mentioned above, we focused on bilateral agreements and decided to exclude multilateral agreements with more than 30 signatories. If updates to the existing data are possible, we will include all multilateral agreements, facilitating analysis focused only on multilateral agreements as well as analysis that combines multilateral and bilateral agreements into a single dataset.

Next Steps

Finally, while we have included a number of interesting treaty characteristics in this first version of the dataset, we would like to capture other characteristics. For example, including indicator variables that flag agreements that deal explicitly with U.S. troops in contingency

operations; that are specific to the Army, Marine Corps, or Navy; that provide explicit security guarantees; or that constrain rather than increase U.S. international flexibility may be valuable next steps for any future iterations of the database and dataset.

In addition to these areas for further refinement, there are also some broader limitations to the database that are worth considering more carefully. First, the database includes only formal agreements and treaties. It does not capture informal and ad hoc arrangements, despite the fact that these informal arrangements may be very important to U.S. behavior, capabilities, and commitments in overseas areas. In some cases, this omission is appropriate, as informal arrangements may cover less important topics or govern peripheral interactions between states. In other cases, informal arrangements may be as important as more formalized treaties and agreements in their effect on U.S. commitments and actions in overseas areas. For example, the original access agreement with the United Kingdom that remains in force today was based on an informal understanding that was not initially codified. Similarly, following the First Gulf War, the United States did not have a formal access agreement with Saudi Arabia despite the frequent presence and activity of U.S. military forces in the region because of domestic sensitivities within Saudi Arabia. Similar situations may characterize U.S. activities and relationships with other Middle Eastern or African states as well as states in South Asia, including Pakistan. These omissions mean that the database may understate the numbers of commitments that the United States has with partner nations and also the set of capabilities and assets that the United States has in overseas areas. The omission may also exclude specific types of agreements, for example, access agreements, more often than it does others. This would skew the overall picture of U.S. security arrangements presented by the treaty database.

The database also does not include acts of Congress that may affect commitments overseas but that are not formally treaties or agreements with other nations. Once again, as a result of this omission and others like it, the dataset will understate and sometimes misrepresent the extent and nature of U.S. commitments and relationships in overseas areas, especially if the types of relationships covered by acts of Congress are fundamentally different from the types of relationships captured in agreements and treaties. For instance, the Taiwan Relations Act is a foundational pillar that shapes U.S. foreign policy decisions in East Asia and constitutes a major security commitment. However, because it is a law and not a treaty or agreement, it is not included in the dataset.

Despite these limitations, the database makes a valuable contribution in documenting, categorizing, and summarizing the treaties and agreements that it does include. Specifically, it presents a more comprehensive and empirically exploitable dataset of treaties and agreements than any existing summary of U.S. security-related treaties and agreements to date. It takes the large volume of information captured in the *Treaties in Force* and turns it into a usable database that researchers can use to answer empirical questions. It also begins the work of identifying and summarizing patterns and trends in this data that may inform policymakers. The database will

advance the study of U.S. security treaties and agreements, both in this initial iteration and in any future versions as the data are refined and expanded to include more detail and information.

Appendix A. Full Codebook of Variables for Database

This appendix provides a detailed codebook that defines each variable included in the database, explains coding options, gives some illustrative examples, and offers some additional details on the process we used to collect and code the treaty and agreement data.

Data Sources and Collection

As noted in the main body of the report, our primary data source is the *Treaty in Force* publication released annually by the State Department. We used not only the 2012 version of the publication but also those from previous years (since its first publication in 1955) to fill in gaps and ensure comprehensive coverage of treaties that have been in force at any time between 1955 and 2012.[1] We supplemented these data with data from *Kavass's Current Treaty Index*, using this additional source to fill in treaties missed by the *Treaties in Force.*

The dataset includes all security-related treaties and agreements in the *Treaties in Force* publication. These treaties are spread across such subcategories as mutual defense, defense, weapons, terrorism, patents, pacific dispute settlement, military missions, lend lease, security, mutual security, amity, and prisoners of war. We took an inclusive approach, adding to the dataset any treaty that had defense or security in the title as well as financial and other agreements that seemed related to defense and security issues. We coded the agreements primarily using the titles of the agreements. This approach was less optimal than a more detailed reading of each treaty text but was necessary because of time and resource constraints, and future iterations of the dataset may have refined coding that makes use of the full text of the treaties in addition to the titles.

We faced a number of empirical challenges as we collected the treaties and agreements into the database, including how to determine appropriate start and termination dates and how to treat agreements with countries that break up, emerge as newly independent states, or have severed diplomatic relations with the United States. In our coding, we followed the conventions below.[2]

- Treaties that terminate but are renewed or extended in the same year are coded as a single agreement. We added a new entry where the nature or scope of the treaty changed or if there was a period between the first and second agreements where no agreement was in place.

[1] As noted in the full text, any treaty that has been in force for any portion of the period between 1955 and 2012 is included in the database, including those that were signed before 1955. Agreements that are signed and lapse before 1955 are not included.

[2] Readers should see the full report for additional discussion of these methodological issues and decisions.

- Treaties with nations that break apart terminate with the original state in the year the state breaks up and pass to the successor states in their year of independence *if the successor states explicitly agree to be bound by the treaties.* If the successor states do not accept the treaties signed by the parent state, these treaties terminate permanently or remain under review (see below for a definition).
- Treaties that are under review are included in the database but are flagged as such. Analysts may choose not to include these treaties in the analysis, given their uncertain legal status (Miron, 2001).
- Treaties with nations with which the United States either does not have official relations or has suspended relations terminate in the year in which official relations end.
- Multilateral agreements with more than 30 signatories are not included in this initial iteration of the dataset. Multilateral agreements are entered as bilateral agreements between the United States and each other signatory.

Database Variables and Definitions

treaty_no: number assigned to a treaty within the database, sorted by country and year entered into force.

treaty_name: text name of the treaty.

official_treaty_number: includes the statute number and official treaty series numbers assigned to the treaty. *This field is not completed for all treaties but may be completed in the future if additional iterations of the database are possible.* Treaties are generally assigned a number when they enter into force and are deposited with a governmental or intergovernmental body (either the state department or the U.N. for example). Common treaty series numbers include the *Treaty and Other International Agreement Series* (TIAS), the *Treaty Series*, the *U.S. Treaties and Other International Agreements*, *Treaties and Other International Agreements of the United States of America 1776–1949, compiled under the direction of Charles I. Bevans* (Bevans), *Executive Agreement Series* (replaced by TIAS in 1945), U.S. Statutes, the U.N. Treaty Series, and the League of Nations Treaty Series. Some treaties are deposited in several places and have several agreement numbers. Others have only one number. When there are multiple treaty numbers, we enter all of these numbers in this field. If future versions of the data are possible, there should be at least one treaty series number associated with each treaty or agreement. These may be used by researchers interested in locating treaty texts and will also identify all the bilateral pairs associated with a single multilateral agreement.

yr_signed: year the treaty is signed. *This field is not completed for all treaties but may be completed in the future if additional iterations of the database are possible.*
For certain types of agreements, an exchange of notes occurs in lieu of a "signing." In these cases, the year of the exchange of notes is provided.

yrenter: year treaty enters into force.

yrenter_r: year treaty enters the dataset.
This variable is relevant when a treaty enters the dataset for a particular country in a year different from the year in which it enters into force originally. This might occur for a number of reasons. One example is the case of newly independent states formed after the breakup of a larger state (e.g., the U.S.S.R or F.R.Y) or after the collapse of a colonial empire. For instance, when the U.S.S.R. collapsed, Ukraine chose to retain certain agreements originally signed by the U.S.S.R. and the United States. These agreements originally entered into force at a time when Ukraine did not exist as an independent state. However, the agreements entered into force for the United States and Ukraine in 1992, the year in which Ukraine became an independent state. The yrenter variable in this instance would be the date the treaty was signed with the U.S.S.R., and the yrenter_r will be Ukraine's year of independence, 1992. Similarly, if a former colony chooses to retain treaties signed between the parent state (or colonial power) and the United States, the yrenter_r will be the year of independence, regardless of the year in which the treaty was actually signed.

yrterm: year treaty terminates.

yrterm_r: year treaty leaves the dataset.
This variable is relevant when a treaty leaves the dataset for a particular country in a year different from the year the treaty itself actually terminates. For example, treaties and agreements signed with the U.S.S.R. effectively terminate or leave the dataset in 1991 even if the treaty itself remains in force with successor states (in this case, a new agreement between the United States and the successor state would be added). Similarly, treaties signed with South Vietnam, which remain under review according to the Treaties in Force *leave the dataset in 1975, when South Vietnam ceased to exist. In this case, the yrterm_r would be 1975, and the yrterm would record a treaty that had not terminated.*

Colonies: takes a value of 1 for treaties that were originally signed by a colonial power and later assumed by the colony itself.

ur: marks treaties that are under review according to the *Treaties in Force.* Treaties that are under review are coded with a 1. All other treaties receive a 0.
Treaties that are under review have ambiguous legal standing for various reasons. First, treaties signed with a state that later breaks into several states are typically under review and do not pass immediately to the successor states. Instead, they must be reviewed individually and either accepted or rejected as remaining in force by both the United States and the new partner. For

example, treaties signed by the U.S.S.R. did not pass immediately to successor states and remain, in most cases, under review until both the United States and the successor state agree that the treaty will remain in force. Treaties signed with Czechoslovakia similarly remain under review unless the successor states (the Czech and Slovak Republics) and the United States explicitly agree that a specific agreement will remain in force. Treaties with states that have been subsumed by another state similarly remain under review. For example, treaties signed with South Vietnam remain under review in the Treaties in Force *because South Vietnam no longer exists as an independent state and because the unified Vietnam has not agreed to be bound by the agreements signed by South Vietnam and the United States. We include treaties that are under review in the database. The official legal status of treaties under review is an issue of debate among legal scholars, and there is some disagreement about whether these treaties remain binding legal commitments. The more common opinion seems to be that under review treaties are not legally binding until they are officially accepted by both signatories. However, states are often not consistent in how they treat these agreements, sometimes adhering to them while other times arguing that they are no longer binding. See Miron (2001).*

parties: non-U.S. signatories of the treaty.
All treaties are entered in a bilateral format, but the multi_bi variable tells the user whether the initial treaty was multi- or bilateral.

Treaty Subjects

Treaties are given two subjects, from a list of six possible subjects, defined below. In each case, we identify the primary and secondary subject. In some cases, both subjects seem equally important. For these treaties, we include an "equal weight" variable that signals that both the primary and secondary subfields should be equally weighted. We also ranked our treaty subjects by order of depth, which we define as the level of commitment implied by the agreement. In addition to having a primary and secondary subject, then, treaties also have a "deepest" subject that identifies the deepest implied commitment relevant to that agreement. The six subjects are defined below and are listed in order of the depth of commitment. According to our scale, operational treaties, listed first, are considered the deepest, while administrative and legal treaties are considered to have the least depth.[3]

[3] It is worth noting that the different treaty types are not necessarily independent of each other and that there may be spillover across types. For example, financial and materiel treaties in which the United States provides grants of money or equipment may be about "buying" access, and administrative and legal treaties may be required to cement an operational commitment. We have attempted to assign the two most appropriate categories to each treaty, but, as we note, we hope to improve and clean out coding in future iterations of the dataset. Another important caveat related to treaty depth is that the depth of each type of agreement is likely to vary significantly. For example, access agreements may vary significantly in the depth of the implied commitment, ranging from a significant commitment to a very weak one. We have based our scale of depth on our understanding of the average level of commitment

psubj: primary subject assigned to the treaty.

ssubj: secondary subject assigned to the treaty.

We defined six subject areas:

Operational: Operational treaties deal explicitly with the execution of military operations, including joint exercises, training, or other activities, deployments for peacekeeping or contingency activities, personnel exchanges, and assignment of liaison officers (but only military). Also included are information and intelligence sharing as well as other defense/security-related activities to support military operations. Operational treaties often include commitment of troops, but this is not always the case and is a requirement for the treaty to be an operational one.

Access: Access treaties deal with access to facilities, infrastructure, bases, or air space in another country either for peacetime or for contingency operations. Some access treaties involve a commitment of troops, but others deal exclusively with the access rights. Other access treaties also address financial issues (if there is some cost) and others are operational.

Financial: Financial treaties deal with grants or other financial assistance (including funds for training, equipment purchases, and other investments) as well as the settlement of financial claims (e.g., due to damage in wars) or taxation issues.

Materiel: Materiel treaties deal with equipment transfer or sale as well as agreements on construction and facilities or maintenance, commitment to joint research and development projects, or coproduction agreements. Materiel treaties may also include research and development on communications systems and similar types of technology. Many treaties are characterized as both financial and materiel, as many security force assistance treaties include provisions for both in a single agreement. In many cases, these joint materiel and financial agreements are the first that the United States signs with new treaty partners. Materiel treaties also often include provisions for training associated with the new equipment and sometimes provided by U.S. military personnel.

Guarantees: Guarantee treaties address commitments for future cooperation. These may include alliances or neutrality pacts that govern the behavior of one or both states in the event of a future

---

implied by each agreement type. Other researchers using the database may develop their own definition of treaty depth.

conflict, or it may involve long-term commitments to nonproliferation, weapons reductions, or general amity and cooperation. Although guarantee treaties sometimes imply a potentially significant level of commitment, they fall toward the bottom of our scale of depth of commitment for two main reasons. First, the commitment is potential in the sense that many guarantees are never tested or acted upon. Second, unlike the other types of treaties above, they do not require any action or active commitment by the partners (e.g., no money is transferred, no equipment given, no access granted, no commitment of operational forces). Of course, this is not universally true, but our reading and assessment of these treaties lead us to believe that they are typically significantly more passive than the types we code as implying a more significant depth.

Administrative and Legal: Administrative and legal (admin and legal) treaties focus on administrative and legal issues related to the treaty, its implementation, or its enforcement. Because treaties and agreements are by their nature legal documents, many treaties fall into this category, at least as a secondary agreement type. The code is not used for all treaties, however. We apply the code to treaties that spend considerable time enumerating legal considerations and provisions related to the administration of the treaty or the rights and responsibilities of relevant parties. Many financial, access, and materiel treaties include administrative and legal components, but some treaties deal exclusively with administrative and legal issues.

equalwt: indicates that both subjects assigned to the treaty should be viewed as equally important (takes a value of 1 if this is the case).

Treaty Context and Characteristics

training: indicates that the treaty promises to address U.S. training to partner country (value of 1 indicates that this is the case). The variable includes treaties that address joint training, IMET, or U.S.-provided training.

related: indicates that there is a related agreement, either an accompanying technical agreement, an amendment, an extension, or other companion agreement (takes a value of 1 if this is the case).

amity: indicator variable that takes a value of 1 if the treaty is a general amity and friendship agreement. This characteristic applies to treaties that are broadly focused on promoting amity, cooperation, nonaggression, and peaceful dispute settlement between two partner nations. The United States often signs treaties with this characteristic with countries where it has few other security and defense commitments. It also has long-standing amity treaties with enduring partners. These treaties tend to be some of the oldest and longest lasting, with some originating in the 1700s.

sofa: indicator variable that takes a value of 1 if the treaty addresses the status of U.S. military personnel, their dependents, civilian employees of the Department of Defense (DoD), or contractors (not only straight SOFAs but also anything that addresses status, privileges, etc.). This characteristic applies to all SOFAs as well as any treaty that addresses the rights and responsibilities of U.S. military personnel, civilian employees, and dependents in overseas areas. SOFAs govern the status of U.S. military personnel, their dependents, civilian employees of the DoD, or contractors. In most cases, SOFA treaties are administrative in treaty type. They may also be operational but only in those instances where they explicitly commit military personnel to a specific military operation. For example, some SOFA agreements cover the rights and responsibilities of military personnel in the country for a specific operation of fixed or limited duration or to respond to a specific disaster. Long-term SOFAs are often not operational as they deal almost exclusively with legal issues rather than the operational role that U.S. are forces expect to play.

troops: indicator variable that takes a value of 1 if it involves the deployment or commitment of U.S. troops to overseas locations. Treaties coded with this characteristic explicitly involve the deployment or commitment of U.S. troops to overseas locations for peacetime or contingency operations (including military advisers, exchanges, liaison officers). Many operational treaties (but not all) will have this characteristic, as will some access treaties and some of the more enforceable and specific guarantees. Many treaties may also have the troops and SOFA characteristics or the troops and training characteristics simultaneously. However, these categories are not completely overlapping.

afspecific: relevant specifically to the Air Force (takes a value of 1 if this characteristic applies). This characteristic applies to treaties that are somehow directly related to the Air Force. Treaties with this characteristic reference airfields and overflight; the transfer, sale, or development of aircraft or air defense systems; or training, exchange, or other operations carried out explicitly by air force personnel.

agreement: indicates the presence of a treaty. Pending treaties get value of 0; all other treaties take a value of 1. Pending treaties are those that have not yet entered into force. In most cases, this is because Congress has not yet ratified the treaty or agreement (it has been signed, but has not yet entered into force).

multi_bi: Bilateral treaties take value of 1 and multilateral treaties take value of 2. All treaties appear in the dataset in dyadic form, with one treaty partner in each row. However, while some of the agreements are truly bilateral, others are multilateral agreements broken into country pair for the purpose of analysis. The multi_bi variable flags which treaties fall into which category.

region: identifies the regions covered by the treaty.

COCOM: codes the combatant command of the partner country (includes AFRICOM, CENTCOM, EUCOM, NORTHCOM, PACOM, SOUTHCOM).

NATO: identifies treaties signed as part of the NATO infrastructure.
This code applies only to treaties signed after the formation of NATO. Treaties signed with future NATO partners before the founding of NATO or with current NATO partners outside the NATO umbrella (as an independent bilateral treaty for instance) do not receive the NATO code. Since we based our coding largely on treaty titles, to receive the NATO code, a treaty had to explicitly reference NATO in its title or be clearly marked as a NATO treaty in the Treaties in Force*. The code is not applied to all treaties with NATO partners.*

COW Code: provides the Correlates of War country code for the partner country that is a party to the treaty. See the Correlates of War codebook for the full listing.

Mutual Defense: applied to all treaties and agreements that contain a mutual defense or collective security provision (receives a value of 1 if this characteristic applies and a 0 otherwise). This includes such major collective security agreements as NATO and the Rio Treaty and such bilateral agreements as those with the Philippines, Korea, and Japan. It also includes mutual defense assistance agreements as well as agreements that are associated with these agreements, dealing with the transfer of equipment or sharing of information for mutual defense purposes.

Appendix B. Partners and Number of Agreements

Table B.1 Total Number of Bilateral Security-Related Treaties and Agreements, by Partner Country

Partner	Number of Agreements
Afghanistan	7
Albania	10
Algeria	1
Angola	1
Antigua and Barbuda	5
Argentina	28
Armenia	33
Australia	66
Austria	12
Azerbaijan	35
Bahamas	18
Bahrain	7
Bangladesh	5
Barbados	4
Belarus	35
Belgium	33
Belize	8
Benin	6
Bhutan	1
Bolivia	18
Bosnia-Herzegovina	12
Botswana	4
Brazil	32
Brunei	1
Bulgaria	12
Burkina Faso	2
Burma	4
Burundi	2
Cambodia	6
Cameroon	1
Canada	138
Cape Verde	3

Partner	Number of Agreements
Central African Republic	2
Chad	7
Chile	29
China	3
Colombia	27
Comoros	1
Costa Rica	12
Cote D'Ivoire	1
Croatia	16
Cuba	14
Cyprus	3
Czech Republic	15
Czechoslovakia	7
Democratic Republic of Congo	7
Denmark	27
Djibouti	5
Dominica	2
Dominican Republic	14
East Germany	2
Ecuador	26
Egypt	16
El Salvador	14
Equatorial Guinea	1
Eritrea	2
Estonia	10
Ethiopia	18
Fiji	3
Finland	17
France	77
Gabon	3
Gambia	3
Georgia	38
Germany	97
Ghana	11
Greece	40
Grenada	3
Guatemala	18

Partner	Number of Agreements
Guinea	4
Guinea-Bissau	1
Guyana	5
Haiti	13
Honduras	21
Hong Kong	2
Hungary	16
Iceland	17
India	12
Indonesia	13
Iran	17
Iraq	12
Ireland	5
Israel	39
Italy	64
Jamaica	16
Japan	104
Jordan	10
Kazakhstan	44
Kenya	5
Kiribati	1
Kosovo	3
Kuwait	2
Kyrgyz Republic	33
Laos	3
Latvia	12
Lebanon	9
Liberia	25
Libya	11
Lithuania	10
Luxembourg	20
Macao	2
Macedonia	11
Madagascar	2
Malawi	3
Malaysia	8
Maldives	3

Partner	Number of Agreements
Mali	7
Malta	4
Marshall Islands	4
Mauritania	3
Mauritius	3
Mexico	16
Micronesia	6
Moldova	33
Mongolia	5
Montenegro	11
Morocco	5
Mozambique	4
Namibia	1
Nepal	5
Netherlands	51
New Zealand	15
Nicaragua	21
Niger	4
Nigeria	8
North Vietnam (Democratic Republic)	2
Norway	45
Oman	9
Pakistan	19
Palau	1
Panama	17
Papua New Guinea	4
Paraguay	16
Peru	26
Philippines	80
Poland	20
Portugal	27
Romania	17
Russia	58
Rwanda	4
Saint Lucia	5
Samoa	2
Sao Tome and Principe	2

Partner	Number of Agreements
Saudi Arabia	12
Senegal	6
Serbia	11
Serbia and Montenegro	8
Seychelles	3
Sierra Leone	5
Singapore	26
Slovak Republic	9
Slovenia	14
Solomon Islands	3
Somalia	2
South Africa	11
South Korea	87
South Sudan	1
South Vietnam (Republic of)	9
Spain	45
Sri Lanka	4
St. Kitts and Nevis	4
St. Vincent and the Grenadines	4
Sudan	6
Suriname	5
Swaziland	2
Sweden	27
Switzerland	16
Taiwan (China)	35
Tajikistan	32
Tanzania	4
Thailand	18
Timor-leste	1
Togo	4
Tonga	5
Trieste	1
Trinidad and Tobago	9
Tunisia	10
Turkey	42
Turkmenistan	31
Tuvalu	1

Partner	Number of Agreements
UAE	4
UK	194
USSR	40
Uganda	4
Ukraine	24
Uruguay	11
Uzbekistan	39
Venezuela	10
Vietnam	9
Vietnam, Socialist Republic	1
West Germany	71
Yemen	3
Yemen (Sanaa)	3
Yugoslavia	14
Zambia	3
Zimbabwe	1

NOTE: Reports the total number of treaties and agreements in force at any time (including lapsed agreements).

Table B.2 Total Number of Multilateral Security-Related Treaties and Agreements, by Partner Country

Partner	Number of Agreements
Albania	15
Antigua and Barbuda	1
Argentina	7
Armenia	21
Australia	31
Austria	7
Azerbaijan	20
Bahamas	1
Bangladesh	1
Barbados	2
Belarus	20
Belgium	66
Belize	1
Benin	1
Bolivia	7
Bosnia-Herzegovina	3
Brazil	18
Brunei	1
Bulgaria	24
Burkina Faso	1
Burma	3
Cambodia	5
Canada	95
Cape Verde	1
Chile	16
China	2
Colombia	18
Costa Rica	14
Cote D'Ivoire	1
Croatia	16
Cuba	18
Cyprus	4
Czech Republic	30
Czechoslovakia	6
Denmark	68
Dominican Republic	18

Partner	Number of Agreements
Ecuador	18
Egypt	5
El Salvador	20
Equatorial Guinea	1
Estonia	21
Ethiopia	1
Fiji	2
Finland	12
France	128
Gambia	1
Georgia	20
Germany	111
Ghana	1
Greece	57
Grenada	1
Guatemala	18
Guinea	1
Guinea-Bissau	1
Guyana	1
Haiti	17
Honduras	19
Hong Kong	2
Hungary	28
Iceland	37
India	7
Indonesia	2
Iran	1
Ireland	4
Israel	4
Italy	93
Jamaica	2
Japan	3
Jordan	1
Kazakhstan	20
Kuwait	1
Kyrgyz Republic	16
Laos	3

Partner	Number of Agreements
Latvia	20
Lesotho	1
Liberia	2
Lithuania	21
Luxembourg	48
Macao	2
Macedonia	3
Malawi	2
Malaysia	1
Mali	1
Malta	4
Mauritania	1
Mauritius	1
Mexico	15
Moldova	20
Mongolia	1
Montenegro	4
Morocco	2
Netherlands	86
New Zealand	18
Nicaragua	21
Niger	2
Nigeria	2
North Korea	1
North Vietnam (Democratic Republic)	1
Norway	69
Pakistan	6
Panama	18
Papua New Guinea	1
Paraguay	9
Peru	10
Philippines	7
Poland	29
Portugal	52
Romania	27
Russia	21
Saudi Arabia	1

Partner	Number of Agreements
Senegal	1
Serbia	3
Serbia and Montenegro	3
Sierra Leone	1
Singapore	1
Slovak Republic	27
Slovenia	24
South Africa	5
South Korea	3
South Vietnam (Republic of)	4
Spain	59
Sri Lanka	2
St. Vincent and the Grenadines	1
Swaziland	1
Sweden	11
Switzerland	6
Taiwan (China)	2
Tajikistan	19
Thailand	8
Timor-leste	1
Togo	1
Trinidad and Tobago	3
Turkey	55
Turkmenistan	19
UK	163
USSR	19
Ukraine	1
Uruguay	9
Uzbekistan	19
Venezuela	11
Vietnam	4
Vietnam, Socialist Republic	2
West Germany	59
Yugoslavia	4

NOTE: Reports the total number of treaties and agreements in force at any time (including lapsed agreements).

References

Avalon Project, Yale University Law School, undated. As of July 23, 2014: http://avalon.law.yale.edu/

Bayefsky, Anne F., ed. *United Nations Human Rights Treaty System: Universality at the Crossroads*, Ardsley N.Y.: Transnational Publishers, 2001.

Bevans, Charles, ed. *Treaties and Other International Agreements of the United States of America 1776–1949*, Washington D.C.: U.S. Government Printing Office, 1968.

Brierly, J. L., *The Law of Nations.* London: Sir Humphrey Waldock, 6th ed., 1963.

Bull, Hedley, *The Anarchical Society: A Study of Order in World Politics.* New York: Columbia University Press, 1977.

Dixon, William J., "Democracy and the Management of International Conflict," *Journal of Conflict Resolution* 37.1 (1993): 42–68.

Downs, George W., and David M. Rocke, *Optimal Imperfection? Domestic Uncertainty and Institutions in International Relations*, Princeton, N.J.: Princeton University Press, 1995.

Doyle, Michael W., "Liberalism and World Politics," *American Political Science Review* 80.4 (1986): 1151–1169.

Freidmann, W., *The Changing Structure of International Law,* London: Stevens and Sons, 1964.

Garrett, G., and B. R. Weingast, "Ideas, Interests, and Institutions: Constructing the EC's InternalMarket," in J. Goldstein and R. O. Keohane, eds., *Ideas and Foreign Policy,* Ithaca, N.Y.: Cornell University Press, 1993, pp. 173–206.

Gibler, Douglas M., *International Military Alliances, 1648–2008,* Washington, D.C.: CQ Press, 2009.

Goldsmith, Jack L., and Eric A. Posner, *The Limits of International Law*, New York: Oxford University Press, 2005.

Hathaway, Oona A., "Why Do Countries Commit to Human Rights Treaties?"*Journal of ConflictResolution* 51.4 (2007): 588–621.

International Committee of the Red Cross, "The Geneva Conventions of 1949 and Their Additional Protocols," 2014. As of July 22, 2014: http://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/

Jacobson, Harold K., and Edith Brown Weiss, "Compliance with International Environmental Accords," *International Governance on Environmental Issues*, The Netherlands: Springer, 1997, pp. 78–110.

Kavass, Igor, *Kavass's Guide to the United States Treaties in Force 1982–2007*, William S. Hein & Co., Inc., 2008

———, *Kavass's Current Treaty Index*, *1982–2007,* William S. Hein & Co., Inc., 2008.

Keohane, Robert O., *After Hegemony: Cooperation and Discord in the World Political Economy*, Princeton, N.J.: Princeton University Press, 1984.

Keohane, Robert, "Sovereignty, Interdependence, and International Institutions," in Linda B. Miller and M. J. Smith, eds., *Ideas &Ideals: Essays on Politics in Honor of Stanley Hoffmann*, Boulder, Colo.: Westview Press, 1993.

Leeds, Brett Ashley, Jeffrey M. Ritter, Sara McLaughlin Mitchell, and Andrew G. Long, "Alliance Treaty Obligations and Provisions, 1815–1944," *International Interactions* 28 (2002): 237–260.

———, "Alliance Reliability in Times of War: Explaining State Decisions to Violate Treaties," *International Organization* 57.4 (2003a): 801–828.

———, "Do Alliances Deter Aggression? The Influence of Military Alliances on the Initiation of Militarized Interstate Disputes," *American Journal of Political Science* 47.3 (2003b): 427–439.

Malloy, William, ed., *Treaties, Conventions, International Acts, Protocols and Agreements 1776–1937,* Washington D.C.: U.S. Government Printing Office*,* 1910, 1938.

Mason, R. Chuck, *Status of Forces Agreement (SOFA): What Is It and How Has It Been Utilized,* Washington D.C.: Library of Congress, Congressional Research Service, 2012.

Miller, Hunter, ed., *Treaties and Other International Acts of the United States of America 1776–1873,* Washington D.C.: U.S. Government Printing Office, 1931.

Miron, George, "Did the ABM Treaty of 1972 Remain in Force after the USSR Ceased to Exist in December 1991 and Did It Become a Treaty between the United States and the Russian Federation," *Am. U. Int'l L. Rev.* 17 (2001): 189.

Morgenthau, Hans J., *Politics Among Nations,* Revised by Kenneth W. Thompson, New York: Knopf, 1985.

Morgenthau, Hans, *Politics Among Nations,* 5th ed. New York: Knopf, 1973.

Morrow, James D., "Alliances, Credibility, and Peacetime Costs," *Journal of Conflict Resolution* 38.2 (1994): 270–297.

Morrow, James D., "Alliances: Why Write Them Down?" *Annual Review of Political Science* 3.1 (2000): 63–83.

Neumayer, Eric, "Do International Human Rights Treaties Improve Respect for Human Rights?" *Journal of Conflict Resolution* 49.6 (2005): 925–953.

New York University Law Library, "International Treaties," New York: New York University School of Law, 2014. As of July 19, 2014: http://www.law.nyu.edu/library/research/foreign_intl/internationaltreaties

Olson, Mancur, and Richard Zeckhauser, "An Economic Theory of Alliances," *The Review of Economics and Statistics* (1966): 266–279.

Pettyjohn, Stacie L., and Alan J. Vick, *The Posture Triangle: A New Framework for U.S. Air Force Global Presence*, Santa Monica, Calif.: RAND Corporation, RR-402-AF, 2013. As of July 22, 2014: http://www.rand.org/pubs/research_reports/RR402/html

Rohn, Peter H., "World Treaty Index," undated. As of July 22, 2014: http://worldtreatyindex.com/

Schachter, Oscar, *International Law in Theory and Practice*, Vol. 268, Dordrecht, The Netherlands: Nijhoff, 1991.

Simmons, Beth A., "Compliance with International Agreements," *Annual Review of PoliticalScience* 1.1 (1998): 75–93.

Thomas, Daniel Charles, *The Helsinki Effect: International Norms, Human Rights, and the Demise of Communism*, Princeton, N.J.: Princeton University Press, 2001.

"United Nations Treaty Collection," undated. As of July 22, 2014: https://treaties.un.org/Home.aspx

United States Department of State, *Treaties in Force*, Washington, D.C.: Government Printing Office, 1955–2012, annual.

United States Department of State, *United States Treaties and Other International Agreements*, Washington D.C.: Government Printing Office, 1950–1954.

University of Minnesota, Human Rights Library, Human Rights Documents and Materials, undated. As of July 22, 2014: http://www1.umn.edu/humanrts/

Waltz, Kenneth N., *Theory of International Politics,* Reading, Mass.: Addison-Wesley, 1979.

WorldLII Treaty Collection, International Treaty Collection, Australian Government, Australian

Research Council, online database. As of July 22, 2014:
http://www.worldlii.org/int/special/treaties/

PROJECT AIR FORCE

www.rand.org

$29.50

ISBN-10 0-8330-8737-1
ISBN-13 978-0-8330-8737-9

RR-736-AF