

Spring 5-19-2017

Nonproliferation Regime Compliance: Prediction and Measure Using UNSCR 1540

Sean F. Conroy
University of New Orleans, sfconroy@uno.edu

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Nonproliferation Regime Compliance:
Prediction and Measure Using UNSCR 1540

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
In Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy
in
Political Science

By

Sean Frederick Conroy

B.A. University of Maine
J.D. St. John's University School of Law
M.A.P.P. Stonybrook University
M.A. University of New Orleans
M.M.S. Marine Corps University
M.A.A.S. Air University
M.S.S. Air University

May 2017

Acknowledgments

No support can ever equal that which I received from my wife Rebekah Blake Conroy, MD. She married a practicing attorney in the midst of a terminal masters program; I don't recall that we even spoke of pursuing a PhD prior to marrying. Now almost fifteen years, four children, seven moves (including time in a post-Katrina FEMA trailer), a return to (and separation from) active service in the USAF, four additional interim masters degrees, and over two cumulative years apart due to the uncountable trips overseas and assignments, this chapter closes. More than once she kept me humble with the words, "when people call asking for Dr. Conroy, they're looking for me." Thank you my love.

I am grateful for the seemingly endless patience of Michael Huelshoff and Christine Day. These two faculty members never seemed to despair that I would one day finish, and I have called Christine, "my second greatest fan." Through many years, they kept prodding me along. I am also indebted to many current and former faculty members and graduate students at the University of New Orleans. Charles Hadley, department chair when I started, taught me a lot about horse trading in the first tumultuous years following Hurricane Katrina when little UNO suffered physically and spiritually. My office mate, Chrissie Herrera (another reformed attorney) and Ursula Daxecker's hard work provided me with inspiration these last few months. John Kiefer always had an open door and a cup of coffee for me, as he does all veterans.

At the USAF's Air University, Maxwell Air Force Base, Montgomery, AL, I found two inspiring instructors. Blake McMahon helped me resolve endless issues with my data. Dr Stephen "Wilbur" Wright, my professor at the School of Advanced Air and Space Studies, balanced encouragement, disappointment, brutal honesty, and practical advice for the past eight years. He reminds me the last sentence of any biography remains, "And then, he died." I am fortunate to call him a mentor and friend.

In the USAF, I have the benefit of friendship with Lt Col Justin Joffrion, a PhD economist-warrior who read my drafts over and over, each time making these chapters better. Brigadier General Kirk Pierce gave me time to write, then asked me to show him what I accomplished. Retired Col Mark Valentine, like Wilbur Wright, took Rebekah's side when my focus drifted, and led my redirection when she tired of the effort.

Finally, my children. Sally turned a year right before I started. She starts high school this year. Pierce arrived in December of my first year and now begins seventh grade. Molly, kindergarten, and Rory, pre-K, are later joys that probably won't know what to do now that I can give up one of my three jobs. I'm excited to devote more time to them all.

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Abstract

This dissertation investigates factors that predict compliance with international regimes, specifically the Non-Proliferation Regime. Generally accepted in international relations literature, is Krasner's (1983) definition that regimes are "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor expectations converge in a given [issue] area of international relations." Using *institutionalization* as a framework, I hypothesize that compliance is a function of the respect for which a nation has for the rule of law. I investigate the NP regime through the lens of United Nations Security Council Resolution 1540, a mandate for member nations to enact domestic legislation criminalizing the proliferation of Weapons of Mass Destruction. Using NP regime compliance and implementation of UNSCR 1540's mandates as dependent variables, I test the hypotheses with the following independent variables: rule of law, political competition, and regional compliance. I also present qualitative case studies on Argentina, South Africa, and Malaysia. The quantitative results of these analyses indicated a strong relationship between rule of law and regional compliance and a nation's compliance with the overall NP regime and implementation of UNSCR 1540. These results indicate a nation will institutionalize the NP norms, and comply with the specifics of implementation. The results of in-depth analysis of Argentina, South Africa, and Malaysia showed that predicting an individual nation's compliance is more complex than descriptions of government capacity or geography. Argentina and South Africa, expected by the hypotheses to exhibit low to medium compliance and implementation, scored high and well above their region for both measures. Malaysia, expected to score high in compliance, scored low. Findings thus reveal that rule of law is probably less influential on individual cases and regional compliance and cooperation better predictors of a nation's compliance with a security regime.

Keywords: compliance, institutionalization, rule of law, security regimes, UNSCR 1540.

Introduction

I find it sad, yet an unfortunate reality, that even once all declared chemical weapons stockpiles have been destroyed by the member states, the people of our global community may still be threatened by the possibility that individuals, cults, criminals and terrorists may nevertheless use chemicals in a hostile manner to cause death and destruction.

Ambassador Eric M. Javits,
Speech to the Organization for the
Prohibition of Chemical Weapons
October 14, 2008

As the quote from Ambassador Javits highlights, the danger from WMD is shifting from nations to non-state actors. This shift is problematic since sovereignty is the basis of the international system within which nations reside. The concept of law among nations requires sovereign states to enact, enable, and enforce binding rules. When a non-state actor injects himself into the system and has the ability to influence members of the system, international law – the agreement among nations – sometimes fails. Domestic law provides avenues for controlling the actions of non-state individuals and groups residing within a given state.

Regimes are one way by which groups, including states, attempt to influence behavior across many different activities. Regimes are “sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor expectations converge in a given [issue] area of

international relations.”¹ Regimes enable groups, including states, and attempt to influence behavior across many different activities with the goal of predictable behavior and cooperation.

Each regime consists of rules governing the behavior of the regime members. Both states and non-state actors can be members of regimes. For example, there are regimes concerning banking, fishing, and human rights. This effort considers regimes that operate at the interstate level and more specifically, those in the security arena.

Security regimes are concerned with those activities that endanger individual states and the world in general. The types of security regimes include arms control regimes, communication regimes, and non- and counter-proliferation regimes. In the case of non-proliferation (NP) and counter-proliferation (CP) regimes, these entities are concerned with stopping the spread of weapons of mass destruction (WMD), conventional weapons, and the component parts of both. Used throughout this paper, the terms non-proliferation and counter-proliferation include the use nonmilitary means to “stop, slow, and roll back [WMD] programs,” and military means of defeating the threat or use of WMD.²

¹ Stephen D. Krasner, “Structural Causes and Regime Consequences: Regimes as Intervening Variables,” in *International Regimes*, ed., Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 2.

² Barry R. Schneider, *Future War and Counterproliferation: U.S. Military Responses to NBC Proliferation Threats* (Westport: Praeger Security International, 1999), 47. United States Department of Defense, *Joint Publication 1-02, DOD Dictionary of Military and Associated Terms*, October 17, 2008 <http://www.dtic.mil/doctrine/jel/doddict/> (accessed June 4, 2009).

The central question of this dissertation is *what predicts the success of the non-proliferation regime?* In this case, I define success as enactment of domestic legislation in support of nonproliferation efforts.

One of the challenges for regimes is in many cases regime membership is at the state level, but the behavior the regime seeks to influence is at the individual level. A citizen without official capacity can act outside of lawful authority and proliferate WMD with private citizens or even other states. Thus, the state must regulate the behavior of people within its borders.

This gap between sovereign obligation and individual action is where the international regime may break down. In order to bridge this gap, states can create domestic enablers to support the international regime. Among the domestic enablers is codification of the regime's tenets in state law. For security regimes, and the NP regime in particular, state members must enact domestic laws to stop proliferation to and among non-state actors in order to indicate compliance to other regime members.

The NP regime provides an excellent example of the problem of determining regime effectiveness. For example, there are three prominent parts to the international non-proliferation regime: the Nuclear Non-proliferation Treaty (NPT), the Convention on Toxin and Biological Weapons (BTWC), and the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention or CWC). These three agreements have different memberships (though the CWC is now almost universal), different requirements, and

different enforcement procedures. All are devoted to stopping the spread of WMD; none of the signatories to these agreements desires anyone else to gain access to nuclear, chemical, or biological weapons. Common among the agreements are rules concerning manufacture, storage, transfer, and destruction of WMD.³

The United Nations (UN) is involved in non-proliferation efforts as well. The UN is the depositary for most agreements and it has a special relationship with other conventions and agencies involved in NP and CP. For example, the director of the International Atomic Energy Agency (IAEA) can attend (but not vote) in UN General Assembly (UNGA) meetings and the UN Director-General can do the same at IAEA meetings. This close relationship leads many to believe that the IAEA is an arm of the UN. It is not.

During September 2003, President George W. Bush spoke at the UN and called for a deeper commitment to non-proliferation. He called for nations “to criminalize the proliferation of weapons of mass destruction, to enact strict export controls consistent with international standards, and to secure any and all sensitive materials within their own borders.”⁴ The content of his speech followed the public introduction of the US-led Proliferation Security Initiative (PSI) in May 2003 and led directly to UN Security Council Resolution (UNSCR) 1540.

³ Only the CWC contains language mandating national legislation to assist the state in preventing proliferation.

⁴ George W. Bush, “Address to the United Nations,” September 23, 2003. <http://www.presidentialrhetoric.com/speeches/09.23.03.html> (accessed May 25, 2009).

UNSCR 1540 is a unique Security Council initiative. First, this resolution is one of general applicability, rather than narrowly focused on a single nation or event. It provides an umbrella over the other non-proliferation treaties – mentioning them by name – but does not require a nation to accede to any treaty. Second, the resolution obligates nations to enact domestic legislation to control proliferation through law enforcement aimed at border control and trafficking in WMD.⁵ Third, UNSCR 1540 specifically references terrorists and targets non-state actors. The Security Council promulgates all of these obligations under the UN’s Chapter VII authority – the same authority necessary for the use of force.⁶

UNSCR 1540 is a piece of the NP regime. This dissertation analyzes the assumption that domestic legislation will prove effective in NP efforts, by using *institutionalization*, a measure first developed by Samuel Huntington and adapted by Roger Smith, to predict regime success/effectiveness. There are four parts of institutionalization: adaptability, complexity, autonomy and unity.

These four parts require definition. Adaptability includes chronological age, generational age, and functional age - the ability of the regime to first

⁵ United Nations Security Council, *Resolution 1540 (2004)*, 28 April 2004, <http://daccess-ods.un.org/TMP/9871498.html> (accessed May 10, 2009).

⁶ Chapter VII of the UN Charter is entitled *Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression*. Of course, the UN tries to resolve differences without force, but Article 42 of Chapter VII states that the Security Council “may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security.” United Nations Charter, 24 October 1945. <http://www.un.org/en/documents/charter/chapter7.shtml> (accessed May 2, 2012).

perform its chartered function, and later take on and perform additional functions.⁷ Complexity is a function of the overlapping nature of regimes and includes both the change in number and type of functions performed by the regime and the ties that the regime has to other regimes.⁸ Autonomy is the independence of the regime from other political organizations and the enforcement mechanisms of the regime.⁹ Unity is the measure of the degree of agreement by the countries subject to the regime on the ultimate purposes and methods of the regime.¹⁰

The NP regime is highly institutionalized with respect to adaptability, complexity, and autonomy; yet, it is the measure of unity that illustrates compliance. The literature provides little in terms of reliable measures to determine whether a regime member agrees on the ultimate purposes and methods of the regime.

Nations that are members of a regime share agreement on the principles and norms of the regime. The existence of the agreements mentioned above as well as UNSCR 1540 indicates the existence of an international norm that disfavors proliferation of weapons of mass destruction.¹¹ Despite these positive

⁷ Another way of looking at functional age is the regime's "robustness or staying power in the face of exogenous challenges." Andreas Hasenclever, Peter Mayer, and Volker Rittberger, "Interests, Power, Knowledge: The Study of International Regimes," *Mershon International Studies Review* 40:2 (October 1996), 181.

⁸ Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 237.

⁹ Samuel P. Huntington, *Political Order in Changing Societies* (New Haven: Yale University Press, 1968), 20.

¹⁰ Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 238.

¹¹ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984, 2005), 58.

indicators, with notable exceptions like North Korea, the regime does not exhibit a universal commitment to counter- and non-proliferation.

Enforcement is nonexistent in some states and uneven in others, especially when judged by comparison to other nations. Within this dissertation, I argue that enacting domestic legislation is a good proxy for unity – the final piece of institutionalization. This project is an attempt to validate the idea that *unity* plus the other elements of institutionalization, predicts regime success.

To explore these concepts, this dissertation proceeds as follows: the next chapter is a literature review of regime theory that reviews the relationship between regimes and international relations. Then I describe regimes and identify their major elements and the points of convergence within the literature. The following section explores regime formation and looks at spontaneous, imposed, and negotiated regimes and some of the implications of each. Once that is developed, I discuss the various reasons regimes are successful, looking specifically at the characteristics of the regime and the member nation. Chapter three specifically traces the nonproliferation regime and discusses the impact of UNSCR 1540 on it. I will introduce the factors that predict nonproliferation regime compliance.

In chapter four, I take a closer look at security regimes and develop a model to examine the predictors used to determine regime success. Within this chapter, I address the central arguments of the dissertation in detail. I draw from the regime literature two factors of regime success – rule of law and regional compliance – and, controlling for government, I hypothesize that these

indicators will help predict regime success. I operationalize the variables, analyze them, and explore the value of my hypotheses.

Chapter five applies insights from the empirical testing chapter to case studies of Argentina, South Africa, and Malaysia. These nations each have a definable connection to non-proliferation and cover the spectrum of rule of law operationalization. I anticipate a distinct constructivist flavor to the case studies. While system cooperation – in this case compliance – lends itself to institutionalist theories, they do not easily translate into predictions of individual state behavior. The case studies will help flesh out the findings from the empirical test.

Chapter six explores the implications and significance of this research and the conclusion. This will include a discussion that includes the applicability of the model to the broader literature on regimes and to security policy.

Two: International Relations, Regimes, Non- and Counter-Proliferation

Almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time.

Louis Henkin

How Nations Behave: Law and Foreign Policy

Introduction

This chapter will provide an overview of the international relations literature as it pertains to regimes, especially security regimes, and specifically non-proliferation (NP) and counter-proliferation (CP) regimes. In later chapters, I explore the non-proliferation regime, its formation, and the predictors of its success. This chapter lays the foundation for the study of the non-proliferation regime and later case studies on other regimes.

The non-proliferation regime's foundations are in agreements between and among states as well as directives from the United Nations. The lenses through which states view the value and enforceability of the agreements drives both individual state action and predictability of compliance. The sections below explore the literature on regimes with the goal of identifying the core elements of regime success and developing hypotheses for research. While the literature review is broad, I am focusing on the aspects of regimes that directly affect the success or failure of security regimes in particular.

Regimes and IR Theory:

Three main international relations explanatory approaches of state behavior are realism, liberalism, and constructivism; each includes related propositions that seek to explain state behavior, especially regarding

cooperation and competition. The influence of regimes on state behavior looks very different from each of these theoretical viewpoints. This section begins with a discussion of realism, the dominant theory during the last half of the twentieth century.

IR Theory Underpinnings – Realism and Neorealism

Descriptions of realism invariably include references to self-interested behavior, anarchy, and the inconsequence of domestic politics. Contending that self-interest alone and a quest for power motivates states, realists believe that regimes do little to influence state behavior.¹² International relations take place in an anarchic world filled with states that are seeking self-preservation.¹³ The anarchic nature of the system drives states to an egoistic stance in international relations; not only is there no central agency available for enforcement, but, more critically, there is no central agency available for protection.¹⁴ In the realist view, states pay little or no attention to the influence of domestic politics and consider only themselves as the influential actors in the world order. So compliance with international law is not through effective enforcement or obligation, but merely coincident with the state's egoistic perspective at any given time.¹⁵ Realist states always seek to gain

¹² E. H. Carr, *The Twenty Years Crisis, 1919-1939: An Introduction to the Study of International Relations* (London: Harper Torchbooks, 1964), 158.

¹³ Kenneth Waltz, *Theory of International Politics* (Massachusetts: Addison-Wesley, 1979), 118.

¹⁴ Joseph M. Parent and Sebastian Rosato. "Balancing in Neorealism." *International Security* 40, no. 2 (Fall 2015 2015), 55.

¹⁵ Oona A. Hathaway, "Do Human Rights Treaties Make a Difference?" *Yale Law Journal* 111, no. 8 (June 2002), 1946.

additional power. Realism posits that state behavior is independent of subnational influence.

International institutions thus have little or no effect on a state's decision to comply. Henkin asserted that a nation will observe an international law only if the advantages of compliance outweigh the disadvantages of violating the law.¹⁶ Interdependence, in the realist view, is an indication of weakness because the state is not self-sufficient, relying on other states for goods vital to existence.

When considering the international relations between states, neorealists focus on the anarchy of the international system. This system focus drives them to give less weight to state-level politics and explanations. Neorealists posit states will engage in autonomous self-help, in other words, they will act alone if necessary.¹⁷ Under neorealism, cooperation is only attractive when it benefits one state more than another.

The neorealist viewpoint is first concerned with relative gains; thus, a neorealist is unwilling to cooperate, even though his state gains, if a rival state gains more. Neorealist states, like realist states, are distrustful of other states. International agreements that limit gains remain unattractive because one party may cheat and gain more than the other gains. This viewpoint negates one of the advantages of regimes - the ability to make power gains and losses

¹⁶ Louis Henkin, *How Nations Behave: Law and Foreign Policy* (New York: Praeger, 1968), 49.

¹⁷ Stephen M. Walt, "International Relations: One World, Many Theories," *Foreign Policy* no. 110 (Spring 1998), 30; Parent and Rosato, "Balancing in Neorealism," 52.

transparent among the members. Realists and neorealists thus take a negative view of cooperation, contending that anarchy “fosters competition and conflict among states and inhibits their willingness to cooperate.”¹⁸

IR Theory Underpinnings – Liberalism and Institutionalism

The liberal view differs from the realist view, especially in the areas of cooperation, domestic politics, anarchy, and the influence of regimes. The liberal view includes domestic politics as a determinant of state action. For a liberal, the lack of a central agency to enforce compliance is not a barrier to, but a catalyst for cooperation. Liberals like regimes because regimes are among the international institutions that act as independent forces to facilitate interaction and transactions concerning subjects of conflict or potential conflict. The result of these interactions is cooperation. Continued cooperation helps reduce future transaction costs, which, in turn, promotes more cooperation. More than that, however, regimes “facilitate the making of specific cooperative agreements among governments.” This liberal lens embraces the transparency and informational advantages provided by regimes and the benefits from reduced verification costs and repeated interactions.¹⁹

¹⁸ Joseph M. Grieco, "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism," in *Neorealism and Neoliberalism: The Contemporary Debate*, David A. Baldwin, ed. (New York: Columbia University Press, 1993): 116; Parent and Rosato, "Balancing in Neorealism," 54.

¹⁹ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 62; Joseph M. Grieco, a realist, takes the view that this is naïve and that states should limit their interaction to friendly states whose relative gains will not hurt you. Of course, this is not possible in a CP regime. Full cooperation is the optimum. Grieco, "Anarchy and the Limits of Cooperation...", 132-33.

These benefits alleviate the liberal's fear of cheating when party to an international agreement that restricts a state's quest for power. Cheating provides a lower payoff (gains) for one side. Even though liberals are more concerned with absolute gains (versus the realist concern with relative gains), fairness is critical. They will accept a lower gain if gotten through open and fair exchange. Liberals assert that regimes serve a vital role because regimes promote cooperation and reduce cheating between members.²⁰ This view recognizes that in a long-term relationship, cooperation is the best way to optimize state interests.

The neoliberals characterize the system as anarchical, but believe cooperation mitigates anarchy. This view sees regimes as positive forces that reinforce reciprocity in state dealings by lengthening the shadow of the future and guaranteeing a longer relationship.²¹ In other words, the benefits of present cooperation outweigh the potential benefits of future competition.²² Regimes provide greater certainty for the course of future competition.

Liberal Institutionalism recognizes that more than states make up the international system. Institutionalists do not assume that states are the sole, nor always the most important, actors in the international system.²³ This approach "argues that conditions outside the states, such as international

²⁰ Keohane, *After Hegemony...*, 9, 26.

²¹ Robert Axelrod and Robert O. Keohane, "Achieving Cooperation under Anarchy: Strategies and Institutions," in *Cooperation Under Anarchy*, ed. Kenneth A. Oye (Princeton: Princeton University Press, 1986), 250.

²² See, Keohane, *After Hegemony*.

²³ Helen V. Milner, "Rationalizing Politics: The Emerging Synthesis of International, American, and Comparative Politics," *International Organization* 52, no. 4 (Autumn 1999), 761.

institutions and economic interdependence, can materially influence the interests, objectives, and policy instruments that states choose and pursue.”²⁴ Institutionalists assert that a regime has a power of its own and choosing membership indicates a willingness to comply its construct. As a result, the rules and norms of the regime exert a great influence on the actions of the members.²⁵

Liberal institutionalists assert that regimes blur the hard and fast lines that separate states and encourage increased dialogue among more actors. States relinquish some sovereignty to the regime, diluting some of the central power of a state and limiting the effect of self-interested decision-making, without directly challenging sovereignty.²⁶

IR Theory Underpinnings – Constructivism

Constructivism is more of a social theory that rejects strict adherence to the Realist and Liberal explanatory theories and their interpretation of the structural aspects of the international system.²⁷ Constructivism posits the idea that states will embrace or reject an object – in this case the foundations of the NP regime – based upon the meaning the object has for the state.²⁸ If a state

²⁴ Joseph M. Grieco "Liberal International Theory and Imagining the End of the Cold War." *British Journal Of Politics & International Relations* 11, no. 2 (2009), 193.

²⁵ Harald Müller, "The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes," in *Regime Theory and International Relations*, ed., Volker Rittberger (Oxford: Clarendon Press, 1993), 392.

²⁶ Robert O. Keohane and Joseph S. Nye, *Power and Interdependence* 2nd ed. (New York: Harper Collins, 1989), 30-31.

²⁷ Robert William Flawith, "The Regressing 'Culture of Anarchy' in Ancient China and its Implications for Wendt's Progressive Constructivism." *Australian Journal Of International Affairs* 65, no. 3 (June 2011), 265.

²⁸ Alexander Wendt, "Anarchy Is What States Make of It: The Social Construction of Power Politics," *International Organization* 46, no. 2 (1992), 397.

embraces the principle that proliferation of WMD is a negative, then it will act in a way to prevent proliferations. Constructivism also recognizes that interaction among states will influence the meaning of the object.²⁹ Thus, the players with whom a state interacts – a potential economic and geographic variable in position development – influence a state's position on a principle. More importantly for issues of regime compliance, Constructivism takes a progressive position on cooperation, asserting that each additional instance of cooperation will become a foundation for future action. Thus, as the international system matures, regime compliance by additional member nations is a logical function of the compliance previously exhibited by other member nations.³⁰

What are Regimes?

International regimes help governments to assess others' reputations by providing standards of behavior against which performance can be measured, by linking these standards to specific issues, and by providing forums, often through international organizations, in which these evaluations can be made.

Robert O. Keohane,
*After Hegemony: Cooperation and Discord
in the World Political Economy*

The sections that follow describe regimes in general and illustrate that the literature suggests solid points of convergence from which to analyze regime success. I begin with various definitions of regimes. These discussions

²⁹ Wendt, "Anarchy Is What States Make of It...", 403.

³⁰ Flawith, "The Regressing 'Culture of Anarchy'...", 267.

all support the long-known realization that regimes affect the behavior of sovereign nations.

Regimes are part of the fabric of international relations. The academic community generally accepts Stephen Krasner's definition as the starting point for research into regimes. He defined regimes as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor expectations converge in a given [issue] area of international relations."³¹

Harald Müller observed that, "A regime exists when all four elements can be identified and when the regime controls enough variables in a given issue area to affect (if obeyed) parties' behavior by channeling or terminating self-help with regard to the regulated variables."³²

Regimes contain substantive, procedural, and implementation components.³³ The substantive components include the "relevant subject group, the goal of the regime and "circumstances under which the regime operates."³⁴ The substantive component incorporates the principles and norms of the regime.³⁵ Principles are the broad overarching purposes pursued by

³¹ Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," in *International Regimes*, ed., Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 2.

³² Müller, "The Internalization of Principles, Norms, and Rules by Governments...", 361.

³³ Oran R. Young, "International Regimes: Problems of Concept Formation," *World Politics* 32 (April 1980): 333.

³⁴ Young, "International Regimes: Problems of Concept Formation," 333-35.

³⁵ Norms in the security arena finds their base in the Concert of Europe that established that "states have a right to security and independence, states should respect each other's legitimate interests and observe international law, and differences should be settled by diplomacy and negotiation." Bruce Russett and John Oneal, *Triangulating Peace: Democracy, Interdependence, and International Organizations* (New York: W.W. Norton & Company, Inc., 2001), 19.

regime members; they “are beliefs of fact, causation, and rectitude.”³⁶

Principles and norms are the basic outlines of the regime within which the rules and decision-making procedures can change.

Norms are “prescriptions for action in situations of choice, carrying a sense of obligation, a sense that they ought to be followed” and “standards of behavior defined in terms of rights and obligations.”³⁷ Norms provide the right and wrong of a regime. The fact that some actors do not adhere to norms causes them to exist.³⁸ An additional way to view norms is as the “good” that regimes deliver. This is the Garden of Eden argument. Society does not legislate the wearing of clothing unless someone runs around naked. An additional way to view norms is as the “good” that regimes deliver. When members add a moral element to norms, their attainment approaches an obligation for regime members.³⁹

The procedural component of regimes incorporates the rules and decision-making processes. Regimes, through the procedural components of rules and decision-making procedures, make agreement easier by providing

³⁶ Keohane, *After Hegemony*, 58; Abram Chayes and Antonia Handler Chayes, *The New Sovereignty: Compliance with Treaties in International Regulatory Regimes* (Cambridge: Harvard University Press, 1995), 113.

³⁷ Chayes and Chayes, *The New Sovereignty*, 113; Krasner, “Structural Causes and Regime Consequences...,” 2.

³⁸ Brad Roberts, “Nonproliferation – Challenges Old and New,” in *Avoiding the Abyss: Progress, Shortfalls, and the Way Ahead in Combating the WMD Threat*, ed., Barry R. Schneider and Jim A. Davis (Westport: Praeger Security International, 2006): 91.

³⁹ Keohane, *After Hegemony*, 57-58. *c.f.* “[A]lthough international regimes may be valuable to their creators, they do not necessarily improve world welfare. They are not *ipso facto* ‘good.’” at 73.

legal frameworks for establishing compliance and punishment.⁴⁰ “Rules are specific prescriptions or proscriptions for action. Rules require “prescribed classes of persons or groups to behave in prescribed ways.”⁴¹ In addition, rules provide a frame of reference for comparison when violations occur.⁴²

President Reagan provided two prominent examples of using rules as a reference point for Congressional opposition to rally against executive action. During 1986, President Reagan announced a unilateral withdrawal from the un-ratified SALT II limitations. The break came as the US retrofitted additional B-52s with air-launched cruise missiles. The Congress opposed the President’s action and considered binding the next year’s budget to the renewed compliance with the treaty.⁴³ A similar incident occurred when he proposed the Strategic Defense Initiative (SDI). Opponents successfully framed opposition around the Anti-Ballistic Missile Treaty and the SDI program lapsed from lack of support.⁴⁴

Decision-making procedures describe the way in which the regime governs itself. They can be more or less formal. “Decision-making procedures

⁴⁰ Robert O. Keohane, "The Demand for International Regimes," *International Organization* 36, no. 2 (1982): 338.

⁴¹ Hedley Bull, *The Anarchical Society: A Study of World Order in World Politics* (New York: Columbia University Press, 1977), 54.

⁴² Harald Müller, “The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes,” in *Regime Theory and International Relations*, ed. Volker Rittberger (Oxford: Clarendon Press, 1993), 383.

⁴³ Condoleezza Rice, “SALT and the Search for a Security Regime,” in *U.S. – Soviet Security Cooperation: Achievements, Failures, Lessons*, ed., Alexander L. George, Philip J. Farley, Alexander Dallin (New York: Oxford University Press, 1988), 298-9.

⁴⁴ Harald Müller, “The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes,” in *Regime Theory and International Relations*, ed. Volker Rittberger (Oxford: Clarendon Press, 1993), 383.

are prevailing practices for making and implementing collective choice.”⁴⁵ The procedures include the “arrangements for resolving situations requiring social or collective choices,” and include the *how* of regime implementation.⁴⁶ The bargaining (or lack thereof) in which regime members engage in order to promulgate rules for the regime reflects the decision-making procedures of the regime.

Other theorists offer definitions that offer variations on the concept that regimes contain specific elements and have the ability to affect international behavior. For example, Ernst B. Haas defined regimes as “man-made...arrangements peculiar to substantive issue-areas in international relations that are characterized by the condition of complex interdependence: neither hierarchy nor anarchy prevails and states rarely practice self-help.”⁴⁷ Oran Young described regimes as “social institutions governing the actions of those interested in specifiable activities,” manifested by “patterns of practice around which expectations converge.”⁴⁸ Müller narrowed this definition to include regulation of “certain aspects of security relationships between states.”⁴⁹

⁴⁵ Krasner, “Structural Causes and Regime Consequences...,” 2.

⁴⁶ Young, “International Regimes: Problems of Concept Formation,” 336.

⁴⁷ Ernst B. Haas, “Words Can Hurt You; or, Who said What to Whom About Regimes,” in *International Regimes*, ed., Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 27.

⁴⁸ Young, “International Regimes: Problems of Concept Formation,” 332.

⁴⁹ Harald Müller, “The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes,” in *Regime Theory and International Relations*, ed., Volker Rittberger (Oxford: Clarendon Press, 1993), 361.

The actors that Krasner described are sovereign nations.⁵⁰ Regimes can thus cause friction within and among states because regimes sometimes attempt to limit state sovereignty.⁵¹ Sovereign nations may still make decisions contrary to the regime, but they do so with peril. The regime has a memory and short-term self-interested decisions may have long-term effects accrue to a state that are much worse than foregoing the current opportunity.

Regimes govern the actions of the members as they pertain to the specific issue-area. They serve as a political authority within the international system in that they represent a convergence of “principles about fact, causation, and rectitude, as well as political rights and obligations that are regarded as legitimate.”⁵² Regimes are important because they enhance the operation of the international political system in the absence of a centralized government.⁵³

Regimes can also affect non-state actors in that they “order and absorb the mobilized participation of new and old states as well as non-state actors.”⁵⁴ Regimes cover many areas in which non-state actors are among the primary participants. The international monetary regime includes standards under

⁵⁰ Young, “International Regimes: Problems of Concept Formation,” 333.

⁵¹ Young, “International Regimes: Problems of Concept Formation,” 343.

⁵² John Gerard Ruggie, “International Regimes, Transactions and Change: Embedded Liberalism in Postwar Economic Order,” in *Theory and Structure in International Political Economy: An International Organizational Reader*, ed. Charles Lipson and Benjamin J. Cohen (Cambridge: The MIT Press, 1999), 246.

⁵³ Keohane, *After Hegemony*, 63.

⁵⁴ Roger K. Smith, “Institutionalization as a Measure of Regime Stability: Insights,” *Millennium: Journal of International Studies* 18, no. 2 (1989): 234.

which banks transact business across borders. The fisheries regime affects the private fishing boat flying a national flag.

The ability of a regime to affect both states and non-state actors highlights the fact that regimes must focus on specific issue-areas rather than merely providing broad guidance for state behavior. “Issue areas are...defined as sets of issues that are...dealt with in common negotiations and by the same, or closely coordinated, bureaucracies.”⁵⁵ Issue-areas emerge, rise, and fall in prominence depending upon the context of the age. “Issue-areas...consist of one or more...inseparably connected objects of contention and of the behavior directed to them. The boundaries of issue areas are determined by the perceptions of the participating actors.”⁵⁶

While Krasner identified rules and decision-making processes as parts of regimes, these can be more or less formal, causing problems in regime identification.⁵⁷ Simmons and Martin solve the identification problem by simply conflating the terminology and lumping regimes under the more general heading international institutions.⁵⁸ UNSCR 1540 has very specific requirements that will form the basis of the analysis I undertake in chapter four. The formality of rules and decision-making procedures is a reflection of

⁵⁵ Keohane, *After Hegemony*, 61.

⁵⁶ Manfred Efinger and Michael Zürn, “Explaining Conflict Management in East-West Relation: A Quantitative Test of Problem-Structural Typologies,” in *International Regimes in East-West Politics*, ed. Volker Rittberger (London: Pinter, 1990): 68.

⁵⁷ Oran R. Young, “Regime Dynamics: The Rise and Fall of International Regimes,” in *International Regimes*, ed. Stephen D. Krasner. (Ithaca: Cornell University Press, 1983), 93.

⁵⁸ Beth A. Simmons and Lisa Martin, “International Organisations and Institutions,” *Handbook of International Relations* Walter Carlsnaes, Thomas Risse, and Beth Simmons (eds.) (London et al.: Sage, 2002), 194.

the forces that formed the regime. I address this latter point in the next section.

Regime Formation:

There are three types of regimes, each determined by their formation characteristics: spontaneous, negotiated, and imposed.⁵⁹ Spontaneous regimes simply reflect a convergence of expectations among members.⁶⁰ Negotiated and imposed regimes are the two types of regimes generally found in the security arena. The characteristics of a negotiated regime include high transactions costs in initial bargaining and a tendency toward greater restrictiveness over time.⁶¹ The primary feature of a negotiated regime is that the participants agreed upon the terms. Practically, all regimes tend to resemble contracts.

In order to achieve agreement and begin recognized compliance, the parties sometimes leave the contract ambiguous. This ambiguity leads to real and alleged violations and is a problem source for the regime.⁶² A good example of this is the space regime. The founding members of the regime consciously failed to define the term “space” because any attempt to do so would hopelessly bog down negotiations.⁶³ In addition, the ambiguity may also cause a signing and ratification slowdown. This sometimes results in term clarification or in reservations attached by the nation at ratification. Krasner’s

⁵⁹ Young, “Regime Dynamics...,” 97.

⁶⁰ Young, “Regime Dynamics...,” 98.

⁶¹ Young, “Regime Dynamics...,” 105.

⁶² Young, “International Regimes...,” 350.

⁶³ Everett C. Dolman, *Astropolitik: Classical Geopolitics in the Space Age* (New York: Frank Cass Publishers, 2006), 114.

distinction among the mechanisms of formation is important because it highlights the fact that regimes can emerge without a hegemon when important mutual interests are present.⁶⁴

Hegemons or even victors in a war sometimes impose regimes. The hegemon's influence is among the forces behind an "uninterested" nation's accession to a regime.⁶⁵ Imposed regimes are the product of "some combination of coercion, cooptation, and the manipulation of incentives."⁶⁶ An example of manipulation of incentives is the post-World War II European economic system put in place by the US. The US promoted a Western Europe preference area in order to provide the Europeans with much needed cash, end colony-based economies, and promote trade. This activity made up for, in large measure, the trade these nations lost after the fall of the colonial system.⁶⁷

The definition given above for imposed regimes tends to oversimplify the decision-making process that a lesser state must go through when joining a regime. Given that the lesser state may gain less from the regime (is Fiji really worried about a biological attack?) it nevertheless chooses to join a regime, even if its choice, though not great, is the best of the alternatives.⁶⁸ How then

⁶⁴ Keohane, *After Hegemony*, 50.

⁶⁵ Keohane recognized that hegemons are not always necessary for regime formation noting that "[e]ven if no hegemon exists, a small number of strong actors may be able to accomplish...[the] task together." Keohane, *After Hegemony*, 50-51, 77.

⁶⁶ Young, "Regime Dynamics...", 100.

⁶⁷ Robert Gilpin, "The Politics of Transnational Economic Relations," *International Organization* 25, no. 3 (Summer 1971): 411-412.

⁶⁸ Keohane, *After Hegemony*, 72.

can one nation or group of nations impose a regime upon a nation that may prefer no action as opposed to a positive or negative commitment to a regime?

Hegemons are the most powerful actors in the system and able to directly influence many lesser states. Imposed regimes are not this simple to categorize, however, since some members negotiate agreements that they later impose on others.⁶⁹ Keohane recognized that hegemons are not always necessary for regime formation noting that “[e]ven if no hegemon exists, a small number of strong actors may be able to accomplish...[the] task together.”⁷⁰

The ability of a number of powerful states, like those that comprise the permanent five (P-5) in the United Nations Security Council (UNSC), to impose conditions on other UN member states is similar. As Young observed, “Where several actors share power as well as a strong interest in the activity...regimes are likely to emerge from bargains struck among small groups of key players.”⁷¹ This is the situation encountered by the NP regime. A small number of actors on the UNSC – mostly the P-5 – are the most influential in a regime that encompasses a large majority of the world’s nations.

Regimes – those not imposed - form in a number of ways. First, regimes form around shared interests; ideally, cooperation in the management of such interests yields better results than could be obtained through individual policy pursuit.⁷² If, however, a regime forms around a security issue, like non-

⁶⁹ Oran R. Young, “Regime Dynamics...,” 104.

⁷⁰ Keohane, *After Hegemony*, 50-51, 77.

⁷¹ Oran R. Young, “International Regimes...,” 355.

⁷² Keohane, *After Hegemony*, 79, 80.

proliferation, member nations assume that every other member nation shares the value placed upon the issue.⁷³ Discussion of the formation and content of regimes must therefore look at both the convergence of the power behind the regime formation and the legitimate social purpose for the regime.⁷⁴ In the case of the counter- and non-proliferation regimes, the social purpose drew the sources of power together.⁷⁵

Arthur A. Stein wrote about regimes of common interests where each member works toward an agreed-upon ideal and regimes of common aversion where each member avoids an agreed-upon bad outcome. A regime of common interest recognizes that working together produces a better alternative than if each nation merely maximizes its own self-interest.⁷⁶ This is particularly true in the NP regime where the consequences of each actor maximizing his own weapons of mass destruction capability, while possibly serving as a deterrent to other actors, would more likely result in international instability.⁷⁷ While successful deterrence ultimately results in non-use of weapons of mass destruction, reduction of stockpiles and prevention of proliferation is intuitively a better way to ensure non-use.

⁷³ Robert Jervis, "Security Regimes," in *International Regimes*, ed. Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 177.

⁷⁴ Ruggie, "International Regimes, Transactions and Change...", 248.

⁷⁵ Ruggie, "International Regimes, Transactions and Change...", 250. Ruggie uses the post-1971 economic order as an example of non-hegemonic concurrence of social purpose.

⁷⁶ Arthur A. Stein, "Coordination and Collaboration: Regimes in an Anarchic World," in *International Regimes*, ed. Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 120.

⁷⁷ However, there is a persistent argument that proliferation will actually result in stability. See, e.g. David J. Karl, "Proliferation Pessimism and Emerging Nuclear Powers," *International Security*, Vol. 21, No. 3 (Winter 1996/97), pp. 87-119.

The NP regime is a regime of common interest in that the members are cooperating in the reduction of WMD and combating proliferation. During the eight-year Iran-Iraq War during the 1980s, two nations maximized their destructive capability and engaged in unrestricted warfare. There was clearly a common interest in foregoing the use of chemical weapons. However, both nations used chemical weapons against each other's military and civilian targets contributing to the destabilization of the region and ultimately the downfall of Saddam Hussein. While the chemical weapons convention had not yet entered into effect, both nations are signatories to the Geneva Protocol prohibiting the first use of chemical weapons. Had these nations adhered (though almost universal belief is that Iraq was the first to use), they would not have utilized chemical weapons.⁷⁸ Neither, however, wished to relinquish any opportunity to annihilate the other. In the end, for both nations, use of chemical weapons was the most preferred, but least optimal outcome, yet these nations were unable to coordinate non-use.

Nations must collaborate in order to avoid the most preferred, but also least optimal outcome. Specifically, this requires states to forgo their most preferred option of ever-increasing strength in terms of gaining access to and increasing their share of WMD. For security regimes, nations must give up some of their security capability (the unrestricted power to destroy an enemy) in order to avoid a worldwide arms race. Once the regime is in place and

⁷⁸ Joost R. Hiltermann, *A Poisonous Affair: America, Iraq, and The Gassing of Halabja* (Cambridge: Cambridge University Press, 2007), 47.

collaboration has occurred, nations will shy even further from independent action, instead complying with the regime in order to avoid the costs of disruption.⁷⁹ The costs of disruption include increased difficulty in becoming part of future bi- or multi-lateral regimes. The incentives to cheat are great; a regime of this type must have extensive and explicit organizational forms.⁸⁰

On the other hand, regimes of common aversion result when all actors desire to avoid a particular outcome rather than preferring the same outcome. The solution to this requires coordination, generally an easier action than collaboration. Each nation continues independent decision-making only rarely having to change course to avoid the negative outcome.⁸¹ The deterrent example above illustrates a common aversion. The bipolarity of the Cold War uniquely pitted two superpowers with nuclear weapons against each other. Neither made the wrong choice. In this case, nuclear war did not occur despite (or perhaps because) each nation pursuing maximum capability. Coordination of military exercises between the US and the USSR to avoid inadvertent escalation is an example of the requirements of common aversion. Common aversion is the basis upon some elements of the space regime rest; in fact, the regime requires registration (a form of coordination) prior to launch in order to avoid the misperception of an ICBM attack.

Information: Sharing and Satisfaction

⁷⁹ Haas, "Words Can Hurt You...", 27.

⁸⁰ Stein, "Coordination and Collaboration...", 129.

⁸¹ Stein, "Coordination and Collaboration...", 125, 129-30.

Regimes serve to “improve the quantity and quality of the information available.”⁸² Regimes help “alleviate problems of asymmetrical information,” which serve to increase the uncertainty that regime members “face in evaluating each other’s policies.”⁸³ In terms of facilitating cooperation and avoiding cheating, Keohane considered the informational functions among the most important aspects of a regime.⁸⁴ The NP regime overcomes an informational deficiency inherent among relationships involving sovereign nations. Monitoring and verification procedures allow powerful sovereignties to engage in mutually beneficial activities with an assurance that the other signatories are doing the same. Without information assurances provided by a regime, a nation may be less willing to give up capabilities that contribute to its security.

Regimes enhance future cooperation by facilitating additional agreements.⁸⁵ Of course, this assumes that the member has cooperated within the regime’s issue area. New agreements do not necessarily concern the same issue area of the regime.⁸⁶ For both linked issues (like nuclear power and nuclear weapons) and unrelated issues, the regime offers a standard of compliance that nations can use to assess the feasibility of future agreements.

⁸² Keohane, "The Demand for International Regimes," 338.

⁸³ Keohane, *After Hegemony*, xi.

⁸⁴ Keohane, *After Hegemony*, 92.

⁸⁵ Krasner, “Structural Causes and Regime Consequences...,” 3.

⁸⁶ Regime cooperation sometimes facilitates agreements outside the regime’s issue area. Ernst B. Haas, “Why Collaborate? Issue Linkage and International Regimes,” *World Politics* 32 (April 1980), 370-71; “[A] major function of regimes is to facilitate the making of specific cooperative agreements among governments.” Keohane, *After Hegemony*, 61-62.

This standard allows nations to bypass certain negotiation hurdles by relying on past performance.⁸⁷ Tate recognized that “[s]tates that renege on their commitments are likely to find the costs of defection high because they forfeit the benefits that arise from cooperation in the ostensible issue-area, or that might otherwise accrue from the fact that such issues tend to be 'nested' in wider strategic interactions among governments.”⁸⁸ This directly relates the concept that regimes serve to reduce transaction costs (discussed below), especially those associated with organizing a regime or even an agreement.⁸⁹

Since the existing regime shares some of the elements of a subsequent agreement, the current cooperative relationship reduces transactions costs for a new agreement, the establishment of a new regime, or the expansion or evolution of an existing regime. Creating a regime is costly; the high cost of regime formation contributes to their persistence, once formed.⁹⁰ Even if the regime is not exactly what the members want, maintaining the status quo is still less expensive than the costs of creating a new regime especially if the member’s interest in the issue-area, while shifted, is still addressed.⁹¹

There is an assumption that members engage in a cost-benefit analysis when presented with an attractive alternative to compliance. Members then find that compliance costs fall with increasing compliance while violation costs

⁸⁷ This is called “track record.” Keohane, *After Hegemony*, 89.

⁸⁸ Trevor McMorris Tate, “Regime-Building in the Non-Proliferation System,” *Journal of Peace Research* 27, no. 4 (November, 1990): 410.

⁸⁹ Keohane, “The Demand for International Regimes,” 338.

⁹⁰ Stein, “Coordination and Collaboration...,” 138; “[I]f regimes were costless to build, there would be little point in constructing them.” Keohane, *After Hegemony*, 102.

⁹¹ Stein, “Coordination and Collaboration...,” 138; Keohane, *After Hegemony*, 102.

increase the cost of future transactions.⁹² Arthur A. Stein advanced other explanations for regime continuity observing that regimes encourage members to cease continual cost-benefit analysis. When members have uncertainty about the permanence of the interest shift, there is legitimacy borne of traditional (routine, see above) compliance based upon a fear of reputational cost for defecting. One final point that Stein emphasized is that the regime may influence the member and cause a shift in the criteria utilized in cost-benefit analysis.⁹³

Finally, regime compliance provides information about the regime member and reduces information cost to external parties. Since regimes facilitate the making of agreements, and positive reputational effects reduce the cost of subsequent transactions, the costs of bargaining for each additional agreement is lower.⁹⁴ The international system involves many regimes and agreements about many differing issues. Each cooperative incidence contributes to a reduced cost of a future cooperation. Adhering to the regime reduces the decision-making costs inherent in an individual evaluation of each course of action.⁹⁵

Because many regimes require the input of non-state entities, international organizations also play a role in regime compliance.⁹⁶ The

⁹² Young, "International Regimes...", 89.

⁹³ Stein, "Coordination and Collaboration...", 138-39.

⁹⁴ Keohane, *After Hegemony*, 90.

⁹⁵ Keohane, *After Hegemony*, 110.

⁹⁶ Bruce Russett and John Oneal, *Triangulating Peace: Democracy, Interdependence, and International Organizations* (New York: W.W. Norton & Company, Inc., 2001), 17.

members of the regime frequently rely on agencies that specialize in the subject matter of the regime to engage in information gathering and inspection.⁹⁷

Chayes, Chayes, and Mitchell found that the regimes with the best compliance records work closely with capable international organizations (IGOs and NGOs).⁹⁸ In some cases, regimes deal with implementation issues by using international institutional arraignments like the United Nations.⁹⁹

The least effective way to guarantee regime success is through compelling compliance. Attempts at persuasion are a more likely course of action than sanction.¹⁰⁰ However, even though there are some serious doubts about the effectiveness of a sanction, punishment remains an option.¹⁰¹ A sanction requires incentive and ability. For example, many states had to cooperate in order to sanction Iran for its pre-Joint Comprehensive Plan of Action (JCPOA) continued development of weapon-grade nuclear material. While most states have great incentive for such action, these nations move very slowly when the time comes to impose sanctions.¹⁰² For many nations –

⁹⁷ Young, “International Regimes...,” 344. Young is referencing domestic regimes, but this is also applicable to the CP regime that turns over significant responsibility to the UNSCR. Young laments the lack of use in international regimes, stating, “arms-control regimes could make use of more general inspection procedures.”

⁹⁸ Abram Chayes, Antonia Handler Chayes, and Ronald B. Mitchell “Managing Compliance: A Comparative Perspective,” in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 59.

⁹⁹ Young, “International Regimes...,” 338.

¹⁰⁰ Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 821.

¹⁰¹ Chayes, Chayes, and Mitchell, “Managing Compliance...,” 41.

¹⁰² Robert O. Keohane, “International Relations and International Law: Two Optics,” *Harvard International Law Journal* 38, no. 2 (1997): 497.

especially those with a robust belief in a nation's right to determine its own direction – Iran's singular violations were not that bad. The slow pace at which the international community takes meaningful action encourages other states to engage in behavior similar to that of Iran. One explanation for the failure of members to punish violators rapidly is fear that the regime will punish their own future violations.¹⁰³ In monetary terms, this is a safety cushion in the event of future hard times.

With this broad background in regimes, the next chapter will narrow the focus to security regimes, the non-proliferation regime in particular, and the background and mandates of UNSCR 1540.

¹⁰³ Simmons, "International Law and State Behavior...", 820-21. Related to this is the phenomenon of failing to report others' noncompliance in order to avoid the future reporting of your own transgression. Chayes, Chayes, and Mitchell, "Managing Compliance...", 49.

Three: The Nonproliferation Regime, UNSCR 1540, Traits of Successful Regimes

Today, I ask the U.N. Security Council to adopt a new anti-proliferation resolution. This resolution should call on all members of the U.N. to criminalize the proliferation of weapons -- weapons of mass destruction, to enact strict export controls consistent with international standards, and to secure any and all sensitive materials within their own borders. The United States stands ready to help any nation draft these new laws, and to assist in their enforcement.

President George W. Bush
Speech to the United Nations Security Council
September 23, 2003

Introduction

In this chapter, I will specifically trace the nonproliferation regime and discuss the impact of UNSCR 1540 on it. I will introduce the factors that predict nonproliferation regime compliance.

The better-known arms control regimes include the Strategic Arms Limitation Talks (SALT) based upon recognition of parity and mutual vulnerability between the United States (US) and the Soviet Union (USSR).¹⁰⁴ This treaty froze the number of land- and submarine-based missile launchers and mandated that new systems could come on line only to replace dismantled older systems. The successful SALT I cooperation led to SALT II, a treaty that provided not only a freeze on increasing the nuclear arsenal and its delivery

¹⁰⁴ Condoleezza Rice, "SALT and the Search for a Security Regime," in *U.S. – Soviet Security Cooperation: Achievements, Failures, Lessons*, ed., Alexander L. George, Philip J. Farley, Alexander Dallin (New York: Oxford University Press, 1988), 297.

systems, but also a reduction in the total number of weapons.¹⁰⁵ Despite the US Senate never ratifying SALT II, the nations largely adhered to its provisions. The procedures in place for the SALT negotiations led to even further cuts under the Strategic Arms Reduction Treaty (START), the Strategic Offensive Reductions Treaty (SORT), and the recently ratified New START Treaty.

However, arms control treaties are not the only example of a security regime. Import and export controls play a role as well. The Australia Group is central to the export control regime targeting chemical weapons proliferation; this organization tracks component elements of chemical weapons.¹⁰⁶ Related to the Australia Group's actions is the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies. The Wassenaar Arrangement focuses on export "transparency, data exchange and policy coordination," but contains little in terms of enforcement.¹⁰⁷

The sections below explore the literature on regimes with the goal of identifying the core elements of regime success and developing hypotheses for research.

UNSCR 1540

¹⁰⁵ Article III (1-2). "Treaty Between the United States of America and the Union Of Soviet Socialist Republics on the Limitation of Strategic Offensive Arms, Together with Agreed Statements and Common Understandings Regarding the Treaty," June 18, 1979 (unratified) <http://www.state.gov/www/global/arms/treaties/salt2-2.html> (accessed May 22, 2009).

¹⁰⁶ Jim A. Davis, "Over a Decade of Counterproliferation," in *Avoiding the Abyss*, ed. Jim A. Davis and Barry R. Schneider (Westport: Praeger Security International, 2006): 12.

¹⁰⁷ Ted Whiteside, "UNSCR 1540 and 'Means of Delivery,'" in *Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540*, Olivia Bosch and Peter van Ham, eds. (Washington: Brookings Institution Press, 2007), 117; Brad Roberts, "Nonproliferation – Challenges Old and New," in *Avoiding the Abyss: Progress, Shortfalls, and the Way Ahead in Combating the WMD Threat*, ed. Jim A. Davis and Barry R. Schneider (Westport: Praeger Security International, 2006): 76.

UNSCR 1540 does not replace the traditional forums and processes for negotiating arms control and non-proliferation treaties. Instead it is a mechanism that supplements these traditional forums. It reinforces the norms, obligations, and legal requirements of the three main WMD treaties...as well as requires enforcement, which is not yet prevalent, much less universal in the treaty regimes.

Peter van Ham and Olivia Bosch
Global Non-Proliferation and Counter-Terrorism: the Role of Resolution UNSCR 1540 and Its Implications

Before looking at UNSCR 1540 specifically, an analysis of the NP regime is in order. First, it is critical to lay out an understanding of the NP Regime and its driving principle: that WMD present a threat to mankind and nations must cooperate to eliminate this threat. The normative presumption is that WMD proliferation is bad.¹⁰⁸

The NP regime is an aggregate of treaties covering many different subjects. The large elements of the NP regime are the Nuclear Non-proliferation Treaty (NPT), the Biological and Toxic Weapons Convention (BTWC), and the Chemical Weapons Convention (CWC). While ratification of the NPT occurred during 1970 making it the oldest of these three treaties, chemical weapons conventions have a long history based on the prohibitions against first use enacted following the First World War.¹⁰⁹ That said, none of

¹⁰⁸ Joseph S. Nye, Jr., "The Diplomacy of Nuclear Proliferation," in *Negotiating World Order: The Artisanry and Architecture of Global Diplomacy*, ed., Alan K. Hendrickson (Wilmington: Scholarly Resources, 1986), 84.

¹⁰⁹ "Protocol for the Prohibition of the use in War of Asphyxiating, Poisonous and other Gases, and of Bacteriological Methods of Warfare," June 17, 1925, 26 *United States Treaties* 571.

these agreements includes specific measures against non-state actors, one of the driving forces behind UNSCR 1540; and most of the provisions of these agreements directly relate to non-proliferation between states.¹¹⁰ However, each begins to recognize – though not as explicitly as UNSCR 1540 – the possibility of other actors, non-state actors, obtaining WMD. These agreements prohibit transfers or WMD to “any recipient,” “anyone,” “any natural or legal person,” or “international organizations.”¹¹¹ Of these, only the CWC contains language that obligates members to enact domestic legislation.¹¹²

Obviously, the rules, procedures, and obligations vary among these treaties. The fact that membership in each treaty is not universal complicates this variance. Thus, almost universal membership yet divergent obligations and expectations characterize the NP regime.

While the jurisdiction of UNSCR 1540 includes every UN member nation, its application must account for the different commitments of each nation;

¹¹⁰ “*The Security Council, ...Gravely concerned* by the threat of terrorism and the risk that non-state actors...may acquire, develop, traffic in or use nuclear, chemical, and biological weapons and their means of delivery” (emphasis in original), UNSCR 1540.

¹¹¹ NPT Article I; CWC Article I 1.(a); BTWC Article III.

¹¹² CWC Article VII 1.(a-c) provides:

Each State Part shall, in accordance with its constitutional processes, adopt the necessary measures to implement its obligations under this Convention. In particular it shall:

(a) Prohibit natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity prohibited to a State Party under this Convention, including *enacting penal legislation with respect to such activity*;

(b) Not permit in any place under its control any activity prohibited to a State Party under this Convention; and

(c) *Extend its penal legislation enacted under subparagraph (a) to any activity prohibited to a State Party under this Convention undertaken anywhere by natural persons, possessing its nationality, in conformity with international law* (emphasis added).

every nation is a party to some part of the NP regime. UNSCR 1540 does not abrogate the essential sovereign right to ratify and comply with a specific agreement that is part of the NP regime. For example, the UN does not hold non-signatories to the CWC to the standards of this particular treaty. UNSCR 1540 solves the sub-optimal enforcement and cooperation caused by piecemeal membership.

Cooperation among nations is necessary for the NP regime to operate effectively. Cooperation in the field of intelligence sharing combined with mutual support among nations is required to optimize the benefits of the NP regime. Larger and wealthier nations must shoulder a greater burden for law enforcement including the provision of resources to developing nations. Each nation must put forth an equitable – as opposed to equal – effort based upon the threats faced.

The NP regime seeks to halt the spread of WMD by both states and non-state actors. If the NP regime worked perfectly, nations would reduce WMD stocks, cease the export of WMD and WMD-producing technology, deny access to WMD to non-state actors, and prosecute under local law non-state actors who obtain or seek to obtain WMD.

There is really no greater illustration of the destruction capable by non-state actors than that of 11 September 2001. These events, however, presented the world with a relatively benign threat. In reality, each of the four hijacked airliners represented a conventional cruise missile in the hands of a non-state actor. The catalyst behind UNSCR 1540 is the threat posed by non-

state actors in possession of WMD. A seam in the NP efforts emerges since international laws can regulate only state behavior without regard for individual and group activity.¹¹³ Filling this seam is necessary in order to stop the spread of WMD to non-state actors.¹¹⁴

UNSCR 1540 calls upon member nations to establish and enforce domestic legislation to counter the proliferation of WMD to non-state actors. This is a unique encroachment of state sovereignty in that, rather than relying upon the process by which a state accedes to a treaty and implements the treaty's provisions, the state's membership in the UN compels the state to adopt the provisions. The relevant portions follow:

2. ...all States, in accordance with their national procedures, shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities participate in them as an accomplice, assist or finance them.

3. ...all States shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials and to this end shall:

¹¹³ Anne-Marie Slaughter, "International Law in a World of Liberal States," *European Journal of International Law* 6 (1995): 504.

¹¹⁴ UNSCR1540 provides the following recognition: "*The Security Council, ...Recognizing that most States have undertaken binding legal obligations under treaties to which they are parties...Recognizing further the urgent need for all States to take additional effective measures to prevent the proliferations of nuclear, chemical or biological weapons and their means of delivery.*"

(c) Develop and maintain appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat...the illicit trafficking and brokering in such items...

(d) Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment, and re-export and controls on providing funds and services relating to such export and trans-shipment such as financing, and transporting that would contribute to proliferation...¹¹⁵

The UNSC adopted UNSCR 1540 under Chapter VII of the UN Charter, entitled *Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression*. Chapter VII is that part of the UN Charter that authorizes the use of force to settle disputes. Practically speaking, however, substantive sanctions are the usual first substantive step following noncompliance. For comparative purposes, Chapter VI of the UN Charter is the more commonly invoked; Chapter VI calls for pacific resolution of disputes and does not contain authority for the use of force or sanctions. Thus, Chapter VII authority is the more powerful and a bold step for the UN. UNSCR 1540 was only the second time that the UNSC used this authority for a functional threat (as opposed to a state-specific threat); the previous time was the UNSCR 1373, a post-9/11 counter-terrorism measure.¹¹⁶

¹¹⁵ United Nations Security Council, *Resolution 1540 (2004)*, 28 April 2004. <http://daccess-ods.un.org/TMP/9871498.html> (accessed May 10, 2009).

¹¹⁶ Peter van Ham and Olivia Bosch, "Global Non-Proliferation and Counter-Terrorism: the Role of Resolution UNSCR 1540 and Its Implications," in *Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540*, Olivia Bosch and Peter van Ham, eds. (Washington: Brookings Institution Press, 2007), 8.

Using Chapter VII was a source of conflict in the enabling debates; some nations voiced alarm that compliance through coercion was now a possibility.¹¹⁷ Pakistan objected to Chapter VII because it felt that action by non-state actors was not imminent (ironic – or clever - given the activities of A. Q. Khan). Switzerland, Indonesia, Nigeria, and India sought assurances that authorization under Chapter VII did not indicate pre-approval for enforcement actions. Brazil, Algeria, Malaysia, and Jordan did not think that Chapter VII authority was necessary because resolutions of the UNSC are binding on all member nations. The US, Spain, France, Chile, New Zealand, Japan, and Mexico put forth the following arguments: Chapter VII is the foundation for subsequent actions and the invocation of Chapter VII authority in the resolutions sends a serious political signal to the members of the United Nations General Assembly (UNGA).¹¹⁸

Using UNSCR 1540 as a framework for measuring regime compliance allows for clear definition of outcomes and, more importantly for this project, provides a better measurement of regime success. In addition to requiring adoption of domestic enabling legislation, UNSCR 1540 contains reporting requirements and recognition of the norms contained in the Non-Proliferation

¹¹⁷ Peter van Ham and Olivia Bosch, “Global Non-Proliferation and Counter-Terrorism: the Role of Resolution UNSCR 1540 and Its Implications,” in *Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540*, Olivia Bosch and Peter van Ham, eds. (Washington: Brookings Institution Press, 2007), 7.

¹¹⁸ United Nations Security Council, “Speakers in Security Council Debate on Weapons of Mass Destruction Express Doubts over Content of Proposed Non-proliferation Text,” Press Release SC/8070 Security Council 4950th Meeting, April 22, 2004, at www.un.org/news/press/docs/2004/sc8070.doc.htm (accessed May 24, 2009).

Treaty, the Chemical Weapons Convention, and Biological and Toxin Weapons Convention:

4. ...calls upon States to present a first report no later than six months from the adoption of this resolution to the Committee on steps they have taken or intend to take to implement this resolution.

8. *Calls upon* all States

(b) To adopt national rules and regulations, where it has not yet been done, to ensure compliance with their commitments under the key multilateral non-proliferation treaties (emphasis in original).¹¹⁹

What are the practical expectations of UNSCR 1540? First, each nation has reporting requirements; nations will report, fail to report, or fail to report with a reason.¹²⁰ Second, under UNSCR 1540 nations must adopt enabling legislation or report on its pre-existence; however, they may simply do nothing. Finally, nations must enforce the legislation. As before, this may not happen. None of the steps presupposes the others; a nation with pre-existing legislation may fail to report and yet enforce anyway.

This dissertation will look at both compliance and implementation of UNSCR 1540. As mentioned above, the goal of UNSCR is stopping WMD proliferation to non-state actors. Enforcement is the key measure of success for the regime. However, enforcement is not easily measured. Therefore, the main assumption of this dissertation, and I argue the drafters of UNSCR 1540

¹¹⁹ United Nations Security Council, *Resolution 1540 (2004)*, April 28, 2004, <http://daccess-ods.un.org/TMP/9871498.html> (accessed May 10, 2009).

¹²⁰ “[C]alls upon states to present a first report no later than six months from the adoption of this resolution to the Committee on steps they gave taken or intend to take to implement this resolution.”

as well, is that compliance with UNSCR 1540's provisions and implementation of its mandates is the mechanism that ultimately leads to regime success.

Reasons Regimes Succeed:

Many things contribute to the success of regimes. Ideally, mere membership and nothing more indicates a willingness and commitment to comply. If idealism fails, characteristics of the regime and its members increase the chance of regime success. These characteristics include respect for the rule of law, international and regional compliance, and reputation. This section begins with background on definitions of regime success and follows with a description of the characteristics and predictors of successful regimes.

Compliance with the regime is often the definition of success; furthermore, compliance is also the measure the strength of a regime. Strength takes on additional importance when members must chose compliance over a short-term benefit.¹²¹ Volker Rittberger added two additional measures of regime success: *effectiveness* and *durability*. Taken together, these indicate compliance with norms and rules (effectiveness) in a routine manner (durability).¹²²

The origin of a regime's authority helps determine the strength or weakness of the regime.¹²³ Authority has two elements, power and legitimacy.

¹²¹ Stephen Haggard and Beth Simmons, "Theories of International Regimes," *International Organization* 41, no. 3 (1987): 496.

¹²² Volker Rittberger, "Editor's Introduction," in *International Regimes in East-West Politics*, ed. Volker Rittberger (London: Pinter, 1990), 3.

¹²³ John Gerard Ruggie, "International Regimes, Transactions and Change: Embedded Liberalism in Postwar Economic Order," in *Theory and Structure in International Political Economy: An International Organizational Reader*, ed. Charles Lipson and Benjamin J. Cohen (Cambridge: The MIT Press, 1999), 247.

Members tend to follow the prescriptions and proscriptions of a strong regime. A regime that ties compliance to something more than the current power of a hegemon remains strong. Thus, a regime enforced by a declining hegemon is likely to falter if only the enforcement power of the hegemon defines success (though, as discussed below, a regime, unlike a hegemon, can recover).

Legitimacy of social purpose, however, also contributes to a regime's authority and potential for success. When members view regimes as "good," the regime achieves additional authority. This authority will even substitute for the authority of the hegemon responsible for the creation of the regime.¹²⁴

Regime legitimacy is among the crucial factors determining whether a nation adheres to the regime.¹²⁵ In the international system, compelling compliance is frequently not an option therefore; states comply because they want to. Legitimacy is first a function of the process by which the founders promulgated the rules of the regime.¹²⁶ Contributing to regime legitimacy is the pedigree of the regime, a measure of the founders of the regime and the enforcement procedures emplaced. If the regime requires an agent to enforce it, the process by which founders create and staff the agency contributes to the regime's pedigree.

¹²⁴ Abram Chayes, Antonia Handler Chayes, and Ronald B. Mitchell "Managing Compliance: A Comparative Perspective," in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 43.

¹²⁵ Thomas M. Franck, "Legitimacy in the International System," *American Journal of International Law* 82 (October 1988): 706.

¹²⁶ Robert O. Keohane, "International Relations and International Law: Two Optics," *Harvard International Law Journal* 38, no. 2 (1997): 491.

Second, a highly legitimate regime must remain consistent with generally accepted norms.¹²⁷ Since the NP regime's normative presumption is that proliferation of WMD is bad, the obligations pursuant to UNSCR 1540 in support of non-proliferation are consistent. UNSCR 1540 gains legitimacy because of the historical acceptance of the NP norms.¹²⁸ Thus, if UNSCR 1540 were the first NP initiative, rather than the latest of many going as far back as the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare, it could suffer from a lack of legitimacy. The norms against WMD proliferation have grown and solidified since this early prohibition.

Third, legitimacy also encompasses two additional related concepts: fairness and specificity. A regime's obligations must be fair; that is they must apply to all equally. (Fairness is also part of the rule of law concept discussed below.) In the case of UNSCR 1540, all nations are subject to the obligations. A piecemeal application of UNSCR 1540 – for example to developing states only, or to all states except the P-5 – detracts from fairness. One of the strengths of UNSCR 1540 is its universal application. Universality of UNSC resolutions is rare; usually the UNSC directs resolutions at a single state or in response to a specific incident.

¹²⁷ Robert O. Keohane, "International Relations and International Law: Two Optics," *Harvard International Law Journal* 38, no. 2 (1997): 491.

¹²⁸ Phillip R. Trimble, "International Law, World Order, and Critical Legal Studies," *Stanford Law Review* 42 (February 1990): 840.

Specificity refers to clarity. If the mandate is unclear, a nation could fail to adhere and/or implement. An unclear mandate is, moreover, extremely difficult to enforce.¹²⁹ Specificity links legitimacy to reputation. UNSCR 1540 is very specific; its provisions contain obligations to “adopt and enforce effective laws,” as well as “develop and maintain appropriate” measures to account for and secure “production, use, storage or transport,” measures for “physical protection,” and “border controls.” In addition, UNSCR 1540 calls on nations to ‘establish, develop, review and maintain export and trans-shipment controls,” “end user controls,” “appropriate criminal and civil penalties,” present reports on steps taken, and “adopt national rules and regulations...to ensure compliance under the key multilateral non-proliferation treaties.” There is little room to question the clarity of obligations under UNSCR 1540.

Members also adhere to regimes because ignoring the obligations embodied in the principles and norms damages the member’s reputation.¹³⁰ Simmons observed that reputation was a factor in predicting compliance with monetary regimes, especially among regional states.¹³¹ Reputation takes time to build, but is easily destroyed.¹³² Nations avoid becoming a bad example

¹²⁹ Robert O. Keohane, “International Relations and International Law: Two Optics,” *Harvard International Law Journal* 38, no. 2 (1997): 491.

¹³⁰ Stephen D. Krasner, “Structural Causes and Regime Consequences: Regimes as Intervening Variables,” in *International Regimes*, ed., Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 3.

¹³¹ Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 829.

¹³² Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 130.

because of reputation. “To a government that values its ability to make future agreements, reputation is a crucial resource.”¹³³

Reputation, and its effect on future transactions, is among the reasons that states comply even when it is in their narrow self-interest to violate in a particular situation.¹³⁴ Some nations consider regimes that encompass treaty obligations stronger because of the damaging reputational effects of abrogating a treaty.¹³⁵ However, “[c]ountries that score low with respect to the rule of law do not have much to lose by noncompliance.”¹³⁶

Reputation is not nearly as clear-cut as the previous discussion implies. Reputation could even cause non-compliance when actions, in support of other areas where reputation is important, conflict with regime compliance. As Keohane pointed out, “it may be desirable to have a reputation not only for keeping agreements but for vigorously pursuing one’s interests, helping one’s friends, and punishing one’s enemies.”¹³⁷ For regimes then, the measure of reputation must relate directly to the issue-area of the regime.¹³⁸ For example,

¹³³ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 116.

¹³⁴ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 105-06.

¹³⁵ Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 821.

¹³⁶ Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 828.

¹³⁷ Robert O. Keohane, “International Relations and International Law: Two Optics,” *Harvard International Law Journal* 38, no. 2 (1997): 497.

¹³⁸ This is where nations engage in actions to distinguish violations of other agreements in such a way that it does not impact the regime in question. Robert O. Keohane, “International Relations and International Law: Two Optics,” *Harvard International Law Journal* 38, no. 2 (1997): 498.

the international community views Australia, first host of the Australia Group, as a nation completely devoted to adherence to the Chemical Weapons Convention. Were Australia to suddenly purchase or commence manufacture of chemical weapons, it would suffer severe reputational damage.

A nation's perception of its place in the international system is integral to considerations of reputation. For NP to succeed, a nation must value the reputation as a non-proliferator more than any benefit it could gain from other options, otherwise it may either develop or proliferate nuclear weapons.

Why do I mention reputation? Valuing reputation is among the qualitative factors that lead to regime success. Nations build reputation upon the continuing nature of the cooperation necessary for NP regime success. For a nation to value reputation for regime compliance, the regime must meet three criteria: first, noncompliance must be readily apparent; second, those who know about the noncompliance must be important to the non-complying party; finally, the costs of noncompliance must exceed the current gain.¹³⁹ UNSCR 1540 provides the open forum for identifying and imposing costs on those members who fail to comply.

Compliance and noncompliance are crucial to reputation. Consequently, members may seek to mask noncompliance behind ambiguities among the regime's obligations. This serves not only the direct effect of avoiding immediate compliance, but also the indirect effect of distinguishing the current

¹³⁹ Philip B. Heymann, "The Problem of Coordination: Bargaining and Rules," *Harvard Law Review* 86, no. 5 (March 1973): 822-23.

noncompliance from consideration in other arenas.¹⁴⁰ In this use, compliance or noncompliance with a legitimate obligation affects a nation's reputation as a reliable partner in future cooperative effort. Compliance sometimes clashes with interest maximizing behavior. Specificity in regime obligations forces nations to choose between current opportunity and reputation by forestalling any claims of noncompliance due to unclear obligations.

Regime Effectiveness:

Ideally, in addition to defined principles, norms, rules and decision-making procedures, a regime must be effective, for this is how the international community evaluates regime success. Effectiveness is more than statements of compliance with a regime; it measures whether or not the regime members adhere to the principles and norms upon which the founders created the regime.¹⁴¹ Jacobson and Brown Weiss - when evaluating international environmental accords - defined compliance as a function of adherence "to the provisions of the accord and to the implementing measures that [states] have instituted."¹⁴² For these researchers there were two parts to compliance:

¹⁴⁰ Robert O. Keohane, "International Relations and International Law: Two Optics," *Harvard International Law Journal* 38, no. 2 (1997): 498.

¹⁴¹ Harold K. Jacobson and Edith Brown Weiss, "A Framework for Analysis," in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 5.

¹⁴² Harold K. Jacobson and Edith Brown Weiss, "A Framework for Analysis," in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 4.

Specific compliance with procedural and substantive obligations and compliance with the spirit of the treaty.¹⁴³

For the NP regime, the founding principle is that weapons of mass destruction are inherently bad. This includes development as well as possession and use. Initially this meant chemical and biological agents. While the development and proliferation of such agents was slowing – primarily because of World War I experiences - nations developed even worse alternatives, namely nuclear weapons. Thus, while the NP regime had some effect in reducing the proliferation of chemical and biological weapons, its principles did not translate to stopping the development of nuclear weapons. The regime needed to evolve and expand to include this new threat. If effectiveness includes both achieving the stated objectives of the regime and addressing the problems of the regime, then the spirit of nonproliferation includes the cessation of a nation’s chemical, biological, and nuclear development and manufacture as well as the development of similar alternatives.¹⁴⁴ Nonproliferation also includes the cessation of manufacture for sovereign use as well. The NP regime has stopped neither WMD manufacturing by nation-states nor non-state actors desiring such capabilities.

¹⁴³ Harold K. Jacobson and Edith Brown Weiss, “A Framework for Analysis,” in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 4-5.

¹⁴⁴ Harold K. Jacobson and Edith Brown Weiss, “A Framework for Analysis,” in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 5.

Another view of effectiveness is that provided by Oona Hathaway. In her study of international human rights treaties, Hathaway defined effectiveness as evidence that a nation changed its practices in response to ratifying the treaty.¹⁴⁵ Hathaway's definition, however, is difficult to measure because it cannot account for those instances when a nation engages in compliant behavior for other reasons. Nor can it account for a nation's constraint. I argue that a regime is effective if it prevents further proliferation. The regime is effective if a nation forgoes an opportunity to commence or expand a WMD program. Clearly, the NP regime is effective if it prevents further or even reverses proliferation. Practically, however, it is impossible to measure negative behavior.

The integration of the regime's principles and norms into state behavior is the essence of a regime's effectiveness. Cooperation is one indicator that this integration has occurred. Robert Keohane stated, "Intergovernmental cooperation takes place when the policies actually followed by one government are regarded by its partners as facilitating realization of their own objectives, as the result of a process of policy coordination."¹⁴⁶ Cooperation may involve a nation taking a route different (though not necessarily contrary) to its preferred course of action. Keohane gathered the concepts of principles, norms, rules,

¹⁴⁵ Oona A. Hathaway, "Do Human Rights Treaties Make a Difference?" *Yale Law Journal* 111, no. 8 (June 2002), 1965.

¹⁴⁶ "[A]ttainment of the gains from pursuing complementary policies depends on cooperation." Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 51-52, 54.

and decision-making procedures together and determined what injunctions the regime prescribes. In this way, he measures a regime's effectiveness in terms of specific and identifiable violations of injunctions, ultimately concluding that these are the "essence of international regimes."¹⁴⁷

One of the problems encountered in evaluating regime compliance is the distinction between monitoring and verification. As Smith observed, "monitoring – the collection of data" is "rather objective and technical."¹⁴⁸ Verification, on the other hand, includes a subjective process concerned with "doctrine, intent, significance, language, and...domestic considerations."¹⁴⁹ Verification uses information gained from monitoring in order to make a judgment about a member's compliance with the regime's tenets. Two good examples of this come from the former and ongoing efforts to curb Iranian and North Korean nuclear development programs, respectfully. Each nation claims that it has the right to develop "peaceful" nuclear reactors.¹⁵⁰ Some of that technology, however, easily transfers to weapons technology. The international community must verify at what point the program crosses the line from peaceful use to weapon development; monitoring alone would not be sufficient

¹⁴⁷ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 59.

¹⁴⁸ Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 230.

¹⁴⁹ Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 230.

¹⁵⁰ Both of these nations make their "peaceful use" claim by invoking Article IV of the Nonproliferation Treaty. This article states, "[n]othing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes..." "Treaty on the Non-Proliferation of Nuclear Weapons," July 1, 1968, 21 *United States Treaties and Other International Agreements* 483.

to task. The recent Joint Comprehensive Plan of Action (JCPOA) involving Iran contains an agreement to limit uranium enrichment and allow intense monitoring and verification in exchange for the lifting of sanctions against Iran.

This dissertation uses compliance as the dependent variable against which I will test the hypotheses. The hypotheses will explore those factors that predict compliance. Compliance with the regime is often the definition of success; furthermore, compliance is also the measure the strength of a regime. In the case of this dissertation, compliance is enactment of domestic legislation.

Roger K. Smith utilized the term *institutionalization* when he described the characteristics of a successful regime. Smith borrowed the term and its components from Samuel P. Huntington's matrix for evaluating the stability of domestic regimes. Smith specifically adapted the matrix to analyze the nuclear non-proliferation regime arguing that mere compliance was insufficient to measure success.¹⁵¹ I adopt this analysis and broaden it for use in the NP regime in an effort to fully capture regime success beyond that which the quantitative analysis reveals. If, as I predict, the enactment of domestic legislation yields increased compliance, high levels of institutionalization lend qualitative support to the quantitative indicia of regime success.

¹⁵¹ Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 228; Joseph S. Nye, Jr. lends support to a more nuanced look at non-proliferation regimes when he discusses the "bomb in the basement." If every nation has a secret nuclear weapons program but no one detonates a bomb, is nuclear non-proliferation working? Joseph S. Nye, Jr., "The Diplomacy of Nuclear Proliferation," in *Negotiating World Order: The Artisanry and Architecture of Global Diplomacy*, ed., Alan K Hendrickson (Wilmington: Scholarly Resources, 1986): 92-93.

A regime displays high levels of institutionalization when members adhere to its norms, rather than simply follow its rules and procedures.¹⁵² The concept of institutionalization is different from that of compliance. Recall that compliance is a measure of state action in accordance with rules and procedures; institutionalization is compliance that references rules and procedures for form, not for obligation. While institutionalization itself is actually a characteristic of the member nation, it is the structure of the regime that provides the blocks upon which institutionalization is built.

Practical Context

Lending insight to the model developed below is both the Convention Against Torture (CAT) and UNSCR 1540. The CAT requires member nations to enact domestic legislation against torture. UNSCR 1540 makes domestic legislation in the NP regime mandatory. I argue that both the drafters of the CAT and the drafters of UNSCR 1540 realized that member nations need to take additional action for these regimes to succeed. Thus, accession to a regime is more than ratification of an agreement.

The NP regime is also ineffective if nations combat proliferation using different standards. Without the baseline of domestic legislation, one nation may arrest non-state actors as they attempt to cross the border with WMD while another state may simply turn them away. The heart of UNSCR 1540 is

¹⁵² Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 229.

compliance with the obligation to enact domestic legislation. This obligation fills a gap in the NP regime into which non-state actors currently fall.

The domestic legislation obligation of UNSCR 1540 also provides both a basis against which the domestic polity judges its leaders' actions and upon which leaders may justify their actions. Even if a leader intended to violate domestic law, the fact that such violation would embolden the opposition (if any) may give him or her pause.¹⁵³

The test for regime success is compliance by those states that would not have selected to accede to a voluntary version of UNSCR 1540. Downs, Rocke, and Barsoom examined international agreements and argued that compliance is not a problem because of self-selection. A state will not join an agreement that it is not inclined to follow.¹⁵⁴ With this in mind, the obligations of UNSCR 1540 are minimal for states that already have enacted appropriate domestic legislation; these states are akin to those that self-select.

Example, Routine, and Proximity

The concept of *good example* harnesses the beneficial impact of encouraging others to take the same actions that you take. Cooperation in a regime provides a common benefit that transcends issues of power or rivalry

¹⁵³ Andrew Hurrell, "International Society and the Study of Regimes: A Reflective Approach," in *Regime Theory and International Relations*, ed. Volker Rittberger (Oxford: Clarendon Press, 1993): 71.

¹⁵⁴ George Downs, David Rocke, and Peter Barsoom, "Is the Good News About Compliance Good News About Cooperation?" *International Organization* 50, no. 3 (1996): 380. Selection effect is lost on those who ratify the CAT. See, Emilia Justyna Powell, and Jeffrey K. Staton, "Domestic Judicial Institutions and Human Rights Treaty Violation," *International Studies Quarterly* 53, no. 1 (March 2009): 149-174.

and in some cases (like the NP regime) can contribute to state security.¹⁵⁵ The fact that other states are complying with the regime enhances continued regime compliance.¹⁵⁶

In *bad example*, nations fear to violate the regime because it may promote others to do the same, especially when regime violations are not that severely punished.¹⁵⁷ A regime like the NP regime that requires surveillance or allows sanction (or both) requires an explicit enforcement organization.¹⁵⁸

The issue of Iranian nuclear proliferation provides an interesting example. Until recently, this nation flouted the international community's demands to open access to its nuclear program. The IAEA continually found the Iranians in violation of its proscriptions on weapons development and international monitoring and the international community continued to sanction Iran. For Iran, however, it seems self-interested defiance of the nonproliferation regime was without penalty. Iran may have exhibited bad example behavior because for many years, the international community failed to sanction meaningfully and the sanctions that they did impose took a long

¹⁵⁵ "Cooperation could be sustained by the prospect of mutual benefit, apart from superpower rivalry." Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), xi.

¹⁵⁶ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 89.

¹⁵⁷ See generally, Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 105. The "Fairness Model" outlined by Oona Hathaway provides another viewpoint on the Iranian issue. In this model, compliance is a function of legitimacy and justice. Thus, for Iran, prohibitions on nuclear development are not legitimate in that other nations do not permit Iran to have the advantages that some enjoy. It is not fair. Oona A. Hathaway, "Do Human Rights Treaties Make a Difference?" *Yale Law Journal* 111, no. 8 (June 2002), 1958-59.

¹⁵⁸ Oran R. Young, "International Regimes: Problems of Concept Formation," *World Politics* 32 (April 1980): 344.

time to show results. This bad behavior encourages others to defy proliferation tenets as well.

The failure to sanction meaningfully is another point altogether. Many nations fail to sanction because they fear the penalties of their own future transgressions. Thus, when their turn comes they can rely on support from the current non-compliant nation.

This chapter traced the nonproliferation regime and its impact on UNSCR 1540 as well as its role within the regime. With the background in measures of regime compliance as well as factors contributing to compliance, this dissertation transitions to operationalizing compliance in a testable way. The next chapter builds upon this one and tests predictors of regime success against a recent dataset. I will introduce a model to assess regime success and to allow analysts to predict more accurately the potential for success.

Four: Introducing the Variables and Conducting Analysis

This institution was founded because men and women who came before us had the foresight to know that our nations are more secure when we uphold basic laws and basic norms, and pursue a path of cooperation over conflict.

President Barack Obama
Remarks to the UNGA, September 28, 2015

Testing the Non-proliferation Regime

While a number of international agreements comprise this regime, I focus on examining one in particular: United Nations Security Council Resolution 1540. This resolution is a rare mandate enforceable through the collective security authority found in Chapter VII of the UN Charter.¹⁵⁹ It also contains specific provisions mandating implementation in a way that should make their efforts easier to observe. The resolution applies to all states, and targets potential sub-national actors (e.g. terrorist groups) who may seek to acquire WMD. Consequently, it serves as a good case for examining the relationship between international legal responsibilities and domestic enforcement efforts.

I conduct this analysis using novel quantitative data on regime implementation and compliance. Results reveal a significant link between the nature of states' domestic politics, and the breadth and depth of their commitments to an important non-proliferation effort. The implications for policy are clear: actors who seek to control the spread of WMD must be mindful

¹⁵⁹ Samantha Pitts-Kiefer and Page Southland, *NTI Nuclear Materials Security Index: Building a Framework for Assurance, Accountability, and Action, Second Edition* (Nuclear Threat Initiative, 2014), <http://ntiindex.org/wp-content/uploads/2014/01/2014-NTI-Index-Report.pdf> (accessed December 4, 2015).

of the domestic context. They must make national enforcement part of the regime or the regime will not be effective. Before I begin the analysis of Resolution 1540, however, I examine security regimes more generally in order to highlight the benefits and challenges associated with these agreements.

Hypotheses

The literature strongly suggests that the nature of the domestic constituency, if supportive of the regime, contributes to increased compliance. In a review of international regime theory, Stephan Haggard and Beth Simmons argued, “foreign policy is integrally related to domestic structures and processes.”¹⁶⁰ These same structures control the ability of the state to sustain compliance to regimes to which it has committed.¹⁶¹ A later quantitative study by Simmons using compliance with the International Monetary Fund’s standards and obligations, found that nations with rule of law-based principles were more likely to comply with the commitments inherent in regime membership.¹⁶² In this study, domestic respect for laws translated to international respect for laws and fulfillment of regime requirements because nations would avoid damaging a reputation for respect of laws.¹⁶³

¹⁶⁰ Stephan Haggard and Beth A. Simmons, “Theories of International Regimes,” *International Organization* 41, no. 3 (1987): 499.

¹⁶¹ Stephan Haggard and Beth A. Simmons, “Theories of International Regimes,” 516.

¹⁶² Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 832.

¹⁶³ Beth A. Simmons, “International Law and State Behavior,” 820.

Another domestic factor contributing to regime compliance is the translation of the regime obligations into domestic legislation.¹⁶⁴ The fact that domestic courts sometimes enforce regimes directly relates to domestic legislation.¹⁶⁵ Such enforcement is a function of the governmental system of the regime member. In other words, when more domestic actors weigh in on a regime, there is a better chance that a member will follow the regime's tenets. In the US, domestic laws require a majority of the Congress as well as presidential input. The domestic discourse involves, at a minimum, 536 people not to mention the other two sides of the policy triangle: the bureaucracy and interest groups.

This level of lawmaker engagement and domestic buy-in prior to enactment is a sound predictor of compliance and potential regime success.

A similar analysis is applicable to the treaty itself irrespective of domestic legislation. A democracy like the US considers a treaty as part of the law of the land.¹⁶⁶ In the US, treaties require presidential signature and senate ratification. Measures of compliance so heavily tied to domestic processes challenge the realist assumption of unitary self-interest and the assertion that regime compliance at a given time is more than a reflection of a current cost-

¹⁶⁴ Harald Müller, "The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes," in *Regime Theory and International Relations*, ed., Volker Rittberger (Oxford: Clarendon Press, 1993), 385.

¹⁶⁵ Oran R. Young, "International Regimes: Problems of Concept Formation," *World Politics* 32 (April 1980): 333; see also n. 5, p. 333, citing, *The Role of Domestic Courts in the International Legal Order* (Syracuse: Syracuse University Press, 1964).

¹⁶⁶ US Constitution, Article IV; Harald Müller, "The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes," in *Regime Theory and International Relations*, ed., Volker Rittberger (Oxford: Clarendon Press, 1993), 386.

benefit analysis in the international context. Ratification of a treaty involves domestic discourse among the members of the senate. As with domestic legislation, lawmaker endorsement predicts compliance.

For some nations, regime success under the heading of domestic elements is also a function of the adversarial political process. Regime membership alone exerts a tremendous pressure to comply.¹⁶⁷ When a government seeks to refute a treaty or a regime – particularly one that has strong domestic and/or international support – the opposition latches on to the treaty as a basis for comparison. As Hurrell observed, “[I]t is often the violation of specific international norms and laws that provides the focal point around which domestic opposition is able to mobilize.”¹⁶⁸ For example, when the Bush Administration announced in December 2001 that the US would withdraw from the ABM Treaty, its political opposition moved to coalesce around treaty obligations. The opposition demanded to know both the purpose of the withdrawal and the proposed replacement to fill the perceived security gap.

The major difference of the NP regime after the enactment of UNSCR 1540, and the obligation that adds the most to the success of the NP regime, is the requirement for the enactment of domestic legislation. There are, however, other predictors of regime success. This section builds upon the framework of successful regime characteristics outlined in the last section. Before

¹⁶⁷ Harald Müller, “The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes,” in *Regime Theory and International Relations*, ed., Volker Rittberger (Oxford: Clarendon Press, 1993), 383.

¹⁶⁸ Andrew Hurrell, “International Society and the Study of Regimes: A Reflective Approach,” in *Regime Theory and International Relations*, ed. Volker Rittberger (Oxford: Clarendon Press, 1993): 71.

addressing domestic legislation, I discuss rule of law and proportional compliance. For each I provide identifiable and measurable indicators.

An independent judiciary - one that checks political power - is the cornerstone of a rule of law state. In a rule of law-based society, the judiciary is independent from the other branches of government. The judges are free to apply the law without input from those members of the state that make the law or those members that enforce the law. The judiciary provides a stabilizing influence in that it adjudicates cases brought before it in the same manner every time; everyone has equal access to the courts and the courts treat everyone alike.¹⁶⁹ Other branches of government must follow and enforce the decisions of the highest courts.

Below, I will introduce a rule of law measure. Nations that embrace rule of law-based principles are more likely to comply with the commitments included as part of regime membership.¹⁷⁰ Rule of law refers to the structure of the judicial system that enables judicial independence with respect to separation from other government branches. A government “that provides a stable framework of law and system of property rights domestically” is considered rule of law-based.¹⁷¹

¹⁶⁹ Anne-Marie Slaughter, "International Law in a World of Liberal States," *European Journal of International Law* 6 (1995): 511, fn. 18, 524.

¹⁷⁰ Beth A. Simmons, "International Law and State Behavior: Commitment and Compliance in International Monetary Affairs," *American Political Science Review* 94, no. 4 (December 2000): 832.

¹⁷¹ Beth A. Simmons, "International Law and State Behavior: Commitment and Compliance in International Monetary Affairs," *American Political Science Review* 94, no. 4 (December 2000): 832.

Researchers have tested a number of different measures for rule of law. Both Simmons, and Powell and Staton, used the International Country Risk Guide (ICRG) a privately developed economics-based measure of rule of law based upon the respect for which nations have for property rights. This measure tests the ability of a non-native investor to gain satisfaction in the local courts when wronged in contract or other property disputes.¹⁷² Employing the ICRG, Simmons noted high scores in rule of law “indicate such institutional characteristics as a strong court system, sound political institutions, and provisions for orderly succession. Low scores reflect extralegal activities in response to conflict and to settle disputes.”¹⁷³

Clague, Keefer, Knack, and Olson studied the relationship between contract enforceability and national economic performance. They defined CIM as “the ratio of non-currency money to the total money supply.”¹⁷⁴ The CIM measure illustrates the trust that a nation places in the judiciary to enforce property rights such as those envisioned in a contract.¹⁷⁵

¹⁷² Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 819-38; Emilia Justyna Powell, and Jeffrey K Staton, “Domestic Judicial Institutions and Human Rights Treaty Violation,” *International Studies Quarterly* 53, no. 1 (March 2009): 149-174. One drawback of the ICRG is its high price (Currently \$4,750.00 on Amazon).

¹⁷³ Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 828.

¹⁷⁴ Christopher Clague, Philip Keefer, Stephen Knack, and Mancur Olson, “Contract-Intensive Money: Contract Enforcement, Property Rights, and Economic Performance,” *Journal of Economic Growth* 4 (June 1999): 191.

¹⁷⁵ Emilia Justyna Powell, and Jeffrey K. Staton, “Domestic Judicial Institutions...,”: 159.

In a study of human rights treaty compliance, Powell and Staton use a Contract Intensive Money (CIM) measure as well as three measures developed from the US State Department's (DoS) annual human rights reports. Higher numbers represent a greater trust from "citizens, domestic and international businesses and banks," in the governmental system to enforce banking obligations.¹⁷⁶ Hard currency is less necessary for investment protection in states with a high CIM score. This measure directly relates to the Powell and Staton study that bound norm compliance rule of law state containing a judiciary that strongly enforced property rights.¹⁷⁷

Emilia Justyna Powell and Jeffrey Staton used the Convention against Torture and other Cruel, Inhuman, or Degrading Treatment or Punishment (CAT) as a lens through which they studied compliance with the human rights regime.¹⁷⁸ They made a rule of law assumption that "states that possess judicial institutions that protect property rights are likely to have judicial institutions that protect rights generally."¹⁷⁹ Their findings also support the premise that once a state commits to an international agreement, respect for rule of law, evidenced by a judicial system with independence and enforceability to protect property rights, will increase the chances the state will

¹⁷⁶ Ryan E. Carlin. "Rule-of-Law Typologies in Contemporary Societies," *Justice System Journal*, 33(2) (2012), 154-173

¹⁷⁷ Emilia Justyna Powell, and Jeffrey K Staton, "Domestic Judicial Institutions...", 167.

¹⁷⁸ Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment.

¹⁷⁹ Emilia Justyna Powell, and Jeffrey K Staton, "Domestic Judicial Institutions and Human Rights Treaty Violation," *International Studies Quarterly* 53, no. 1 (March 2009), 159.

comply with that agreement.¹⁸⁰ Studies of the CAT are particularly relevant to studies of UNSCR 1540 because Article 2 of the CAT states, “Each State Party shall ensure that all acts of torture are offences within its criminal law...Each State shall make these offences punishable by appropriate penalties which take into account their grave nature.”¹⁸¹ The UNSCR 1540 language closely resembles these actual words, but more importantly duplicates them in intent. Unlike UNSCR 1540, however, compliance under the CAT is mandatory only for nations that accede to the treaty. Powell and Staton assumed that accession yields compliance with the domestic legislation provision of the CAT.¹⁸²

UNSCR 1540 is a piece of the NP regime. This chapter analyzes the assumption that domestic legislation will prove effective in NP efforts as member nations institutionalize its tenets. Respect for the rule of law is critical for the success of the NP regime. I predict that nations that exhibit a strong commitment to the rule of law will have increased compliance with both the NP regime and implementation of UNSCR 1540.

H1a: Countries that value the rule of law – strong court system, sound political institutions, plans for orderly succession, stable contract enforcement, and independent judiciaries - will exhibit increased *compliance* with the NP Regime.

H1b: Countries that value the rule of law – strong court system, sound political institutions, plans for orderly succession, stable contract enforcement, and independent judiciaries - will exhibit increased *implementation* with UNSCR 1540.

¹⁸⁰ Emilia Justyna Powell, and Jeffrey K Staton, “Domestic Judicial Institutions,” 167.

¹⁸¹ CAT Article 4 section 1, 2.

¹⁸² Emilia Justyna Powell, and Jeffrey K. Staton, “Domestic Judicial Institutions and Human Rights Treaty Violation,” *International Studies Quarterly* 53, no. 1 (March 2009): 153.

Nations that are members of a regime share agreement on the principles and norms of the regime. The existence of many agreements, supporting nonproliferation as well as UNSCR 1540, indicates the existence of an international norm that disfavors proliferation of WMD.¹⁸³ Yet, the regime does not exhibit a universal commitment to counter- and non-proliferation. Enforcement is nonexistent in some states and uneven in others, especially in comparison to other nations. Within this chapter, I argue that increasing scores on Nuclear Threat Initiative's Nuclear Materials Security Index (NTI Index) is a good proxy for institutionalization. I work to validate the idea that increased institutionalization helps predict regime success.

The hypotheses distinguish between compliance and implementation. Compliance with the principles and norms of a regime and institutionalizing the regime's tenets is possible without formally becoming a signatory to a regime. The opposite is also true; a nation can exhibit full implementation of the regime's rules and procedures without compliance with the principles and norms. These hypotheses, therefore, attempt to capture more comprehensively predictors of a nation's intent and actions.

Testing Compliance

Based upon the previously discussed characteristics of successful regimes, I identified quantitative and qualitative predictors of NP Regime compliance. The dependent variable highlights the implementation of UNSCR 1540: increased barriers to proliferation due to an obligation for states to enact

¹⁸³ Robert O. Keohane, *After Hegemony*, 58.

domestic legislation to counter proliferation of WMD to non-state actors. This study uses regression analysis to identify the factors that predict changes in compliance with NP norms across the domain of states in the international system. I use the NTI Index as a proxy for a nation's compliance with the NP regime. Compliance encompasses the measures that states take to ensure effectiveness of international accords in domestic law.¹⁸⁴ Increasing compliance levels is evidence of institutionalization of the principles and norms of the NP regime.¹⁸⁵ The NTI Index separates 176 nations into two categories: 25 states with one kilogram or more of weapons grade nuclear materials and 151 states with less than one kilogram. For the 25 states with one kilogram of weapons grade nuclear material or more, the NTI Index assesses the following: (1) Quantities and Sites, (2) Security and Control Measures, (3) Global Norms, (4) Domestic Commitments and Capacity, and (5) Risk Environment. For the 151 nations without the threshold level of nuclear material, the NTI Index only measures the last three categories. This is a qualitative score (except for amount of nuclear material) derived from 19 indicators and 56 sub-indicators within the 5 categories. Appendix D contains a complete breakout of indicators and sub-indicators. Lending to strength and standardization, in a further

¹⁸⁴ Harold K. Jacobson and Edith Brown Weiss, "A Framework for Analysis," in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 4.

¹⁸⁵ This is contrary to Jacobson and Brown Weiss' assertion that "[o]ne cannot simply read domestic legislation to determine whether countries are complying," for in this instance, the existence of legislation is evidence of implementation. Edith Brown Weiss and Harold K. Jacobson, "A Framework for Analysis," in *Engaging Countries: Strengthening Compliance with International Environmental Accords*, ed. Edith Brown Weiss and Harold K. Jacobson (Cambridge: The MIT Press, 1998): 2.

attempt to remove human error, the sub-indicators are generally binary. Scores can range from 0 to 100, though no nation is at either of those extremes. The NTI Index covers 2012 and 2014.¹⁸⁶ Figure 1 illustrates the distribution of the NTI Index.

Among the 19 indicators in the NTI Index is UNSCR 1540 Implementation (in the Domestic Commitments and Capacity category), which includes UNSCR 1540 reporting and the Extent of UNSCR 1540 Implementation as sub-indicators. Consequently, I coded a second dependent variable based on this indicator (NTI_1540_n). This is an ordered variable with values from 0 to 100 in intervals of 10 with lower values indicating little or no implementation and higher values nearing complete implementation. Hypothesis 1b uses a different dependent variable, a narrow look at the implementation of UNSCR 1540 – one of the 19 components of the greater NP regime. Hypothesis 1b predicts increased UNSCR 1540 implementation due to increased rule of law. Figure 2 depicts the distribution of the dependent variable based upon UNSCR 1540 Implementation.

¹⁸⁶ Samantha Pitts-Kiefer and Page Southland, *NTI Nuclear Materials Security Index*, 2, 9, 37-39, 56-58. The Domestic Commitments and Capability category specifically includes UNSCR 1540 Implementation, Domestic Nuclear Materials Security Legislation, Safeguards Adherence and Compliance, and Independent Regulatory Agency.

Figure 1: Distribution of the NTI Index

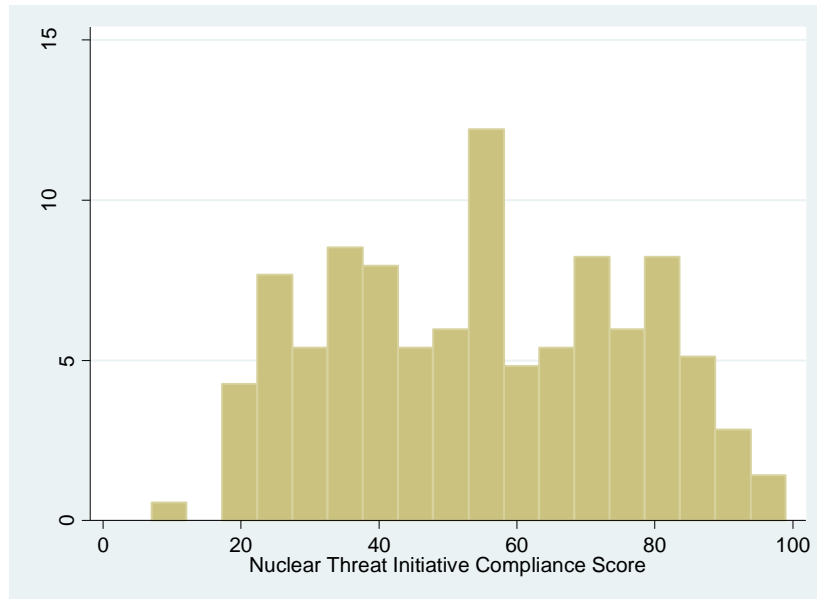
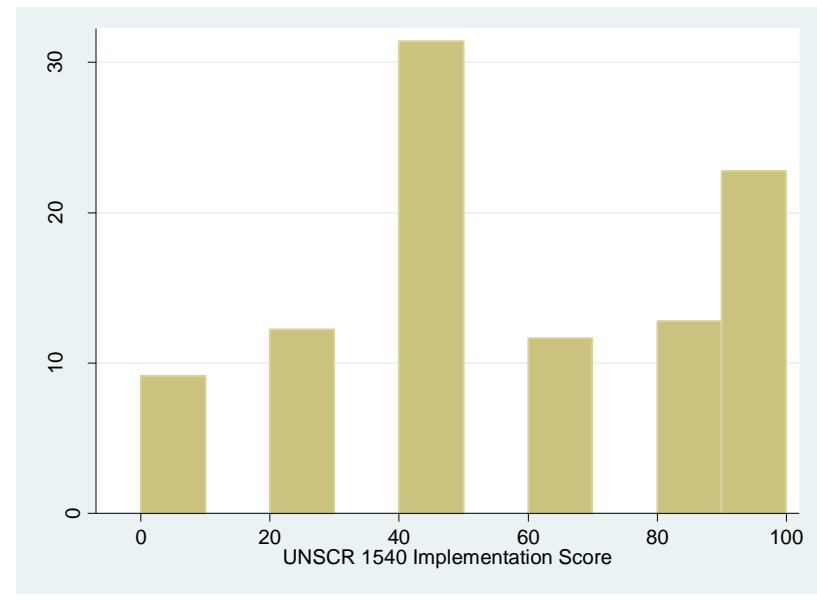


Figure 2: Distribution of the UNSCR 1540 Implementation Variable



The variables that predict compliance - as expressed in the NTI Index - encompass two categories. These measures include both a rule of law indicator, and regional proportional compliance.

The rule of law indicator is the World Governance Indicator (RoL_WGI) from the World Bank and the Brookings institution. This database captures data from 31 different sources and aggregates into six categories.¹⁸⁷ The rule of law indicator, “captur[es] perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.”¹⁸⁸

De la Croix and Delavallade studied the relationships among corruption, income growth, judicial institution strength, and political institutions. They used the different World Governance Indicators for rule of law and extent of corruption. Rule of Law “is an aggregate of perceptions of the quality of contract enforcement and property rights, the likelihood of crime, and the effectiveness and predictability of the judiciary.”¹⁸⁹ Their study found that a weak judiciary makes corruption easier and more prevalent. States with a low

¹⁸⁷ Daniel Kaufmann, Aart Kraay, and Massimo Mastruzzi, “The Worldwide Governance Indicators: Methodology and Analytical Issues,” (September 2010). *World Bank Policy Research Working Paper* No. 5430, 4. (The six indicators are Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.)

¹⁸⁸ Kaufmann, et.al. “The Worldwide Governance Indicators...,” 6.

¹⁸⁹ David de la Croix, and Clara Delavallade, “Democracy, Rule of Law, Corruption Incentives, and Growth,” *Journal of Public Economic Theory* 13, no. 2 (2011), 170.

WGI rule of law score also score low in other indicators of accountability such as political rights.¹⁹⁰

Using WGI as a rule of law measure is only one of many ways to measure this variable. At appendix A, I outline the results of analyses using two alternative rule of law indicators. The results are consistent. I detail these alternative measures, Contract Intensive Money and the Corruption Perceptions Index within the DV and IV table at appendix B.

In addition, I test the effect of Competitiveness of Participation (ParComp) a variable I take from the Polity IV dataset. This variable measures the amount of participation by parties and individuals opposed to the ruling regime the governmental system allows. It is coded from 1 to 5 which corresponds to the following categories that indicate national government situations that span from no competitiveness through regular participation by enduring political groups: repressed, suppressed, factional, transitional, or competitive.¹⁹¹ Patricia Weitsman and George Shambaugh used the ParComp variable in a study of governmental risk-taking between 1816 and 1992. They found a strong association between conservative governmental decision-making and not only democracies, but also specifically those democracies with highly

¹⁹⁰ De la Croix and Dellavallade, *Democracy, Rule of Law...*, 175.

¹⁹¹ Monty G. Marshall, Ted Robert Gurr, and Keith Jagers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2013, Dataset Users' Manual* (Center for Systemic Peace, 2014): 26-28, <http://www.systemicpeace.org/inscr/p4manualv2013.pdf> (accessed November 3, 2015); Patricia A. Weitsman, and George E. Shambaugh. 2002. "International Systems, Domestic Structures, and Risk," *Journal of Peace Research* 39 (3), 301.

competitive political systems.¹⁹² Bruce Bueno de Mesquita, et.al., found a significant relationship between increased participation and competition and compliance with human rights norms.¹⁹³ I predict that increased competitive participation within a nation's government will predict increased compliance with the nonproliferation norm and specifically with UNSCR 1540 implementation. This prediction is based upon the idea that in a highly competitive political environment, the goods produced by office holders must benefit a larger proportion of society. In a low-competitive environment, the leaders must satisfy a smaller segment. Compliance with NP norms benefits all society in terms of safety, security, and opportunity.

The next variable I use in the model is proportional compliance at the regional level. The premise behind proportional compliance is that nations are more likely to comply with regime obligations if the number of complying nations increases. In other words, the proportion of compliant nations is a factor in predicting an individual nation's compliance. In studying the commitment and compliance with the International Monetary Fund's Article VIII requirement for unrestricted exchange (essentially disallowing restriction on things like imports or cash outflow) Beth Simmons found across both the international system and the region, commitment increased as the proportion of committed states increased.¹⁹⁴ Members tend to commit to a regime's

¹⁹² Patricia A. Weitsman, and George E. Shambaugh. 2002. "International Systems, Domestic Structures, and Risk," *Journal of Peace Research* 39 (3), 306.

¹⁹³ Bruce Bueno de Mesquita, George W. Downs, Alastair Smith, and Feryal Marie Cherif., "Thinking Inside the Box: A Closer Look at Democracy and Human Rights," *International Studies Quarterly* 49 (3) (2005): 453.

¹⁹⁴ Beth A. Simmons, "International Law and State Behavior...", 824.

obligations because others around them commit and once they begin to comply, compliance becomes routine.

In a study of money regimes, Simmons found that commitment to the regime's tenets increased as the proportion of committed states increased and was particularly prevalent among states in the same region.¹⁹⁵ Once a nation joins the regime, however, subsequent non-compliance decreases because "[m]ost institutions are easier to maintain than to establish."¹⁹⁶ Maintenance and continued adherence to a regime derives from legitimacy based upon patterned behavior.¹⁹⁷ In fact, repetition bolsters even imposed regimes.¹⁹⁸

I use the Proportion of Regional compliance measure to control for the effects of regional influence. These variables – calculated from different data for each DV - predict that as the compliance percentage of states in a region rises, additional states will also comply. Essentially a high percentage of adhering nations will yield additional adherence through increased institutionalization locking in the principles and norms of the NP Regime. Simmons developed this variable and found when testing the international compliance within the international monetary regime that increasing the proportion of both

¹⁹⁵ Beth A. Simmons, "International Law and State Behavior...", 824.

¹⁹⁶ Robert Jervis, *System Effects: Complexity in Political and Social Life* (Princeton: Princeton University Press, 1997), 38; Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*, 2005 ed. (Princeton: Princeton University Press, 2005), 50, 100, 102.

¹⁹⁷ Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," in *International Regimes*, ed., Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 18; Robert O. Keohane, "International Relations and International Law: Two Optics," *Harvard International Law Journal* 38, no. 2 (1997): 491.

¹⁹⁸ Oran R. Young, "Regime Dynamics: The Rise and Fall of International Regimes," in *International Regimes*, ed. Stephen D. Krasner (Ithaca: Cornell University Press, 1983): 102..

international and regional compliance had a positive effect.¹⁹⁹ I predict that regional compliance in both the NP regime and specifically in implementing UNSCR 1540 will have a positive effect within the region.

Goodliffe and Hawkins utilized a similar approach when testing ratification of the CAT. They too found a positive effect within the region.²⁰⁰ I incorporate both system and regional proportion within the model developed in this section. As a result, I develop another measure that averages the compliance or implementation scores for each major region in the world as delineated by the Correlates of War project (North America, South America, Europe, Africa, Middle East-North Africa, and the Asia-Pacific).²⁰¹

This dataset contains partial information on 180 nations and full information on 115 nations, a majority of UN member states.²⁰² With this dataset I am trying to determine which factors influence members of the risk set to comply with the mandates of UNSCR 1540. What follows is the regression form of the models:

¹⁹⁹ Beth A. Simmons, "International Law and State Behavior: Commitment and Compliance in International Monetary Affairs," *American Political Science Review* 94, no. 4 (December 2000): 824.

²⁰⁰ Jay Goodliffe and Darren G. Hawkins, "Explaining Commitment: States and the Convention against Torture," *Journal of Politics* 68, no. 2 (May 2006): 365; Regional pressure has been found to be more important than general international pressure when it comes to encouraging a state to comply with certain norms (Simmons, Beth. 2000. "International Law and State Behavior: Commitment and Compliance in International Monetary Affairs." *American Political Science Review* 94(4):819-35.) This is due to the fact that regional countries not only tend to share a common heritage and culture, which increases opportunity for understanding and cooperation, but also tend to be each other's largest trading partners due to the cost-effectiveness of trading with those nearby as opposed to those on the other side of the globe.

²⁰¹ Goodliffe and Hawkins used regions defined by The World Bank: Africa, East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, and South Asia.

²⁰² The lists of nations within each analysis appears at appendix C.

$$H1a: Compliance_{(NP\ Regime)} = \beta_0 + \beta_{Rule\ of\ Law} + \beta_{Competitive\ Participation} + \beta_{Regional\ Compliance} + e$$

$$H1b: Compliance_{(UNSCR\ 1540\ Implementation)} = \beta_0 + \beta_{Rule\ of\ Law} + \beta_{Competitive\ Participation} + \beta_{Regional\ Compliance} + e$$

Appendix B captures and summarizes all the variables and sources within this chapter. This table illustrates problems encountered both with using temporal proximity to the observations. One rule of law measure, contract intensive money, suffers from lags in reporting and calculations within a nation's monetary system. In time, these data will improve through reporting and investigation. This model captures the essential predictors of regime implementation and allows the researcher to identify a nation's shortcomings when that nation fails to comply with the tenets of the regime. With a better understanding, one can credibly determine whether a regime is, or has the potential to be, successful.

Analysis

Because the dataset is small, I chose to run this with a bootstrap in order to increase the reliability of the results.²⁰³ Both analyses exhibited solid goodness-of-fit indicators, however, this may result from the effect of the

²⁰³ Bradley Efron, "Better Bootstrap Confidence Intervals," *Journal of the American Statistical Association* 82 (397) (1987): 171.

regional compliance control variable. Table 2 summarizes the results from the regression analysis:

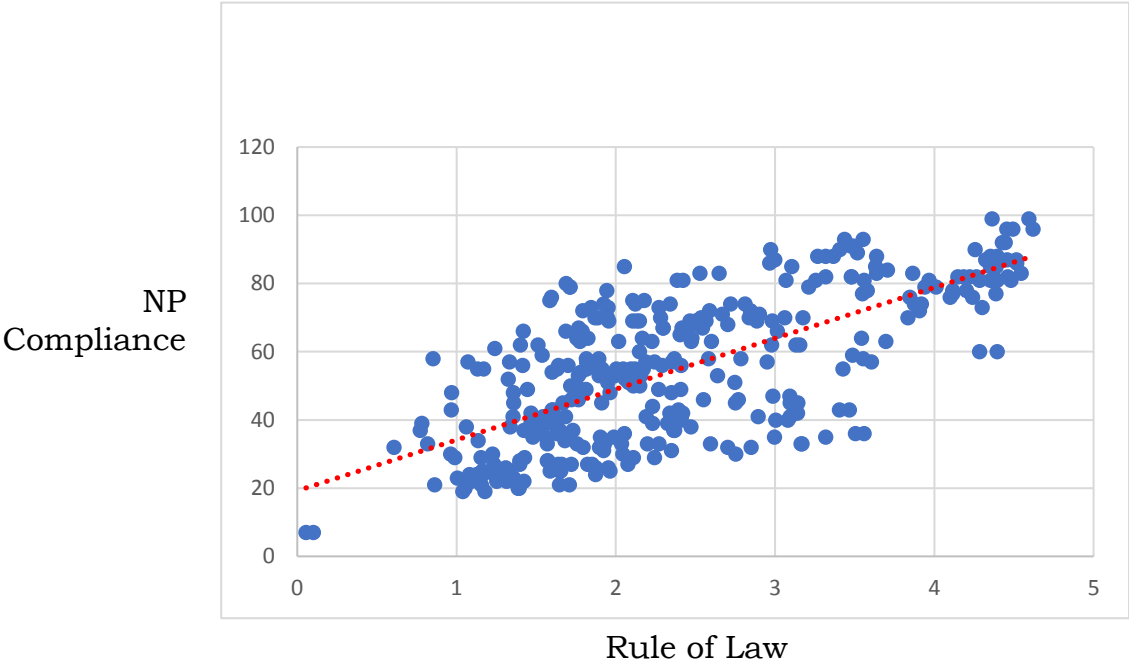
Table 1: Regression Results, World Governance Indicators

Variable	H1a: NTI Index					H1b: 1540 Implementation Score				
	Coeff	Std Error	P> z	95% Conf Interval		Coeff	Std Error	P> z	95% Conf Interval	
Rule of Law (World Governance Indicator)	13.758	4.614	.000	12.029	15.487	9.252	1.361	.000	6.584	11.920
Competitiveness w/in Govt	.074	.083	.371	-.886	.237	.089	.054	.098	-.016	.194
Regional Compliance Mean	-29.76	13.797	.031	-56.801	-2.719	.893	.059	.000	-.016	.194
Constant	39.471	8.192	.000	23.414	55.527	-13.618	2.942	.000	-19.384	-7.85
Goodness of Fit	R ² = .523		Adjusted R ² = .516			R ² = .642		Adjusted R ² = .639		

Hypothesis 1a used compliance with the NP regime as a dependent variable (NTI Index). This hypothesis predicted that as a nation exhibited a greater respect for the rule of law, compliance with the NP regime would increase. The results from the regression analysis lend support to this hypothesis and indicate a strong relationship between compliance with the NP regime's two variables: rule of law and regional proportional compliance.

Included at Figure 3 is the scatter plot of the WGI Rule of Law Indicator and Compliance with the NP Regime. This figure illustrates a correlation between the two variables and lends support to the regression results.

Figure 3: Scatterplot of WGI Rule of Law and NP Compliance



In those nations that have a strong judiciary and enforcement processes we can expect a high compliance with the NP regime. Nations that must depend upon individual actions like cash transactions – since credit lacks

enforceability – will exhibit lower rates of NP compliance. Using the WGI data provides significant results for the rule of law measure. This analysis shows that for compliance with the non-proliferation regime, rule of law and regional compliance are the most significant predictors with the competitiveness in government variable offering no significant explanatory value.²⁰⁴ A nation that exhibits strong rule of law tendencies through an enforceable banking system should tend to comply with international norms.

The control variable of regional compliance indicates a strong regional relationship among nations. Nations tend to mirror their region and either increase NP regime compliance with their neighbors or remain low as a region. These findings are consistent Simmons' results in studying money regimes that showed commitment to the regime's tenets increased as the proportion of committed states increased, particularly among states in the same region.²⁰⁵

When considering hypothesis 2, the implementation of UNSCR 1540, the results are even stronger as exhibited by the strength of the goodness of fit indicator (exhibiting an adjusted R² of .639 versus the .516 found in the overall NP regime compliance). This analysis shows that for implementation of the mandates with UNSCR 1540, as above, rule of law and regional compliance

²⁰⁴ By description, the Rule of Law and Competitive Government variables would naturally seem to overlap in measurement, resulting in collinearity. If so, this would affect the coefficients, making their value uncertain, leading to false conclusions. I used two STATA add-ins to test for collinearity. Both the Variance Inflation Factor (VIF) test and the Collinearity (COLLIN) test indicated that collinearity was well within acceptable limits for these factors. Furthermore, there was no multicollinearity when I tested all the factors simultaneously. This remained consistent with the Contract Intensive Money and the Corruption Perceptions Index rule of law proxies as well. Michael S. Lewis-Beck, *Data Analysis: An Introduction* (Thousand Oaks: Sage Publications, 1985), 62.

²⁰⁵ Beth A. Simmons, "International Law and State Behavior..." 824.

remain the most significant predictors. The fact that money is safe, and contracts enforceable in functioning courts, also predicts implementation with the specifics of UNSCR 1540. The regional mean variable retains significance. As in the compliance model, above, the competitiveness of government is not, comparatively, very explanatory.

Discussion and Conclusions

This chapter began with a look at the NP regime and a relatively new part of it, UNSCR 1540, a mandate for UN member nations to enact and enforce domestic legislation criminalizing the proliferation of WMD and dual-use technologies by non-state actors. The proliferation of WMD by non-state actors presents a threat to all nations and the system as a whole and successful NP efforts benefit all. This chapter contains a new approach to measuring and finding the factors important to compliance. Using the Nuclear Threat Initiative Index and select subcategories, the analyses focused on the role of rule of law and the competitiveness of participation, with regional implementation as a control.

The results of this chapter indicate a strong relationship between each of these indicators and a nation's compliance with the overall NP regime. As nations become more stable in monetary transactions, their compliance will increase. For most nations, stable transactions and good governance leads to additional international transactions - potentially opening markets and opportunities for trade. Similarly, a political system that includes and

encourages competition among many participants supports compliance with the NP regime.

Using the specific implementation of UNSCR 1540 as a dependent variable remained consistent with NP regime compliance. The rule of law and the regional compliance measures were significant, with little explanatory power attributed to the presence of a participatory government. These results indicate a nation will institutionalize the NP norms, and comply with the specifics of implementation. Using Krasner's definition as a lens to observe these results reveals nations in concert with the principles, norms, rules, and decision-making procedures.²⁰⁶ Of course, compliance with the latter two categories is easier to measure.

While these results are positive, the data and analysis are not without criticism. The years studied are 2012 and 2014. For many nations, the 2014 data are either preliminary or incomplete. The IMF continues to refine the information based on their normalizing and verification procedures following receipt. Additionally, the Eurozone is not as homogenous as the data make it appear. The 19 members of the Eurozone report similar rule of law measures, which though accurate, does not reveal anything about the differences among these nations. The NTI Index itself has differences in that there are additional subcategories in the scores for the 25 current nations, and 31 nations in 2012

²⁰⁶ “[S]ets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor expectations converge in a given [issue] area of international relations,” Stephen D. Krasner, “Structural Causes and Regime Consequences: Regimes as Intervening Variables,” in *International Regimes*, ed., Stephen D. Krasner (Ithaca: Cornell University Press, 1983), 2.

that possess 1 kilogram or more of weapons grade nuclear material. Separating the data from the Eurozone and the nuclear nations into unique individual observations and conducting analyses on them and the remaining nations will potentially reveal differences in analysis results.

The results in this chapter lend support to liberal theories of peace and the international system. Regimes dilute the central power of a state and limit the effect of self-interested decision-making without directly challenging sovereignty.²⁰⁷ The passing of UNSCR 1540 drives directly toward domestic politics and, necessarily, a liberal view of the international system. Liberal institutionalists believe that regimes bridge the differences between states and encourage increased dialogue. UNSCR 1540 specifically does not demand accession to any treaty; however, the mandate for domestic legislation limits the sovereignty of some nations and places them on the path to compliance with the NP regime. This chapter contributes to liberal theories of international relations because the results tie domestic actions to system cooperation for a common good.

²⁰⁷ Robert O. Keohane and Joseph S. Nye, *Power and Interdependence* 2nd ed. (New York: Harper Collins, 1989), 30-31.

Five: Case Studies of Argentina, South Africa, and Malaysia

The last chapter detailed an empirical test of two hypotheses based on using the *rule of law* as a predictor for compliance with both the non-proliferation regime and the specific mandates of UNSCR 1540. Rule of law represented an independent judicial system free of influence from external influence, notably from other political branches.²⁰⁸ I used three different proxies for rule of law: World Governance Indicators, Corruption Perceptions Index, and contract intensive money. Control variables included political competition and regional influence. The test results included strong support for the hypothesis that states with a strong rule of law will exhibit better compliance with both the NP regime and the UNSCR 1540 mandates. Regional compliance also proved a strong predictor.

The previous chapter and quantitative research generally, can produce precise results that lack descriptive explanation; such explanation is particularly important to international relations.²⁰⁹ Tarrow, in his work, “Bridging the Quantitative-Qualitative Divide,” outlines six methods for combining quantitative and qualitative studies, including triangulation or the combination of methods in order to increase inferential leverage.²¹⁰ This paper

²⁰⁸ Beth A. Simmons, “International Law and State Behavior: Commitment and Compliance in International Monetary Affairs,” *American Political Science Review* 94, no. 4 (December 2000): 832.

²⁰⁹ King, Gary, Robert O. Keohane, and Sydney Verba. 1994. *Designing Social Inquiry*. Princeton, NJ: Princeton University Press. 4.

²¹⁰ Tarrow, Sidney. 2004. “Bridging the Quantitative – Qualitative Divide.” In Henry E. Brady and David Collier (eds.), 106-107. *Rethinking Social Inquiry: Diverse Tools, Shared Standards*. Lanham, Md.: Rowman & Littlefield.

uses quantitative data as a departure point for the case studies below. With them, I attempt to put some “qualitative flesh on quantitative bones” by focusing analysis in this chapter on the same problem of regime compliance addressed in chapter four.²¹¹

This chapter will further explore the theoretical arguments tested in chapter four by engaging in three case studies. The case studies focus on the explanatory variables developed in the previous chapter. I expect the concepts of rule of law, competitive political participation, and regional compliance will correlate with individual states’ compliance with the NP regime and implementation of UNSCR 1540 mandates.

I used a two-step method based upon relevance and characteristics to select countries for case study. Crail identified 84 “key” states – those for whom UNSCR 1540 is most relevant - within the NP regime.²¹² Identifying these incorporated two criteria, primary origin states, and transit states. Primary origin states are those that “have declared, or been suspected of maintaining, a stockpile of or program for the development of nuclear, biological, and/or chemical weapons.”²¹³ Transit states are those that pose a risk because of the

²¹¹ Tarrow, Sidney. 2004. “Bridging the Quantitative – Qualitative Divide.” In Henry E. Brady and David Collier (eds.), 106-107. *Rethinking Social Inquiry: Diverse Tools, Shared Standards*. Lanham, Md.: Rowman & Littlefield.

²¹² Peter Crail, “Implementing UN Security Council Resolution 1540,” *Nonproliferation Review* 13, No. 2 (July 2006), 361.

²¹³ Crail, 362. This includes “[s]tates that have declared WMD capabilities include those recognized in relevant treaties, as well as states outside those treaties, that have publicly confirmed such capabilities...states that have declared clandestine WMD capabilities and are in the process of dismantling their weapons and programs....states that have been suspected of maintaining WMD capabilities... and [s]tates that formerly possessed WMD or WMD programs.”

potential for people to transport WMD across or through them. Crail's list of 84 states account for all the known WMD origin states as well as over 80% of the world's container traffic.²¹⁴

Realizing that I am engaging in non-random case selection I took steps to prevent bias. I endeavor to select cases based upon the explanatory value of rule of law and not the dependent variables of either compliance or implementation. Selection without any reference to compliance or implementation should ensure that the studies avoid biased causal inferences.²¹⁵ Thus, I selected the three states for study without reference to either dependent variable or even compliance with other regimes.

The selection process took place as follows: I ordered the rule of law scores from least to greatest and marked each country that also appeared on Crail's list. Crail further broke down the key states by identifying the reasons they appeared (Nuclear, Biological, Chemical, and/or Transit).²¹⁶ It is appropriate to use data-richness among the criteria for case selection because the case studies must be meaningful in order to be illustrative.²¹⁷ Bearing this in mind, I further refined the list to only include cases that met three or more of the Crail criteria, including nuclear potential. I then selected one of these countries from among the lower, middle, and top thirds of the rule of law scores. The countries I selected are Argentina, South Africa, and Malaysia.

²¹⁴ Crail, 365.

²¹⁵ King, Keohane, and Verba, 128

²¹⁶ Crail, 366-7.

²¹⁷ Stephen Van Evera, *Guide to Methods for Students of Political Science* (Ithaca: Cornell University Press, 1997), 79.

The chapter proceeds as follows. I introduce each case study and describe the history, government, judiciary, economy, and other relevant factors that seemingly predict compliance with the NP regime and UNSCR 1540. Then I compare these qualitative facts against the empirical data for each country to evaluate the predictive value of the model from the previous chapter.

Argentina

Argentina, along with Brazil is one of only two South American states with a nuclear nexus. It is a nuclear power-producing country but not a nuclear weapon state. For many years, Argentina and Brazil worked on rival nuclear and missile programs that seemed to head them in the direction of nuclear-armed ballistic missiles. In the 1980s and 1990s, however, both nations completed transitions from military to civilian government and renounced any plans for nuclear weapon development. They signed a bilateral treaty that established a nuclear inspection agency to ensure the other used nuclear energy for only peaceful purposes.

In addition to this important treaty, Argentina signed the NPT as a non-nuclear weapon state. Accession to two other treaties also indicate Argentina's position: The Treaty of Tlatelolco establishes a nuclear weapons free zone in Central and South America, and membership in the Nuclear Suppliers Group, a commitment by member nations to export nuclear technology only to nations

with strong non-proliferation standards.²¹⁸ This treaty is an important regional international organization that declares Latin and South America as well as the Caribbean a nuclear weapons free zone. Every nation in the region, including those with overseas possessions in the region, have ratified this treaty.

Currently, Argentina is operating three nuclear power plants that together produce about 10% of their energy. There are plans to build another reactor in cooperation with China and there is a cooperation agreement with Russia that has not yet produced any firm plans for additional nuclear activities.

Following the World Governance Indicator (WGI) measure, Argentina scored in the lower third of states. This rule of law indicator captures “perceptions of the quality of contract enforcement and property rights, the likelihood of crime, and the effectiveness and predictability of the judiciary.”²¹⁹ Thus, it includes a property-rights measure that shows the trust an investor, particularly a non-native investor, has in the ability of the courts to enforce contracts or justly settle other property disputes.

Economically, Argentina declined in the 20th century and has fared poorly in the 21st. The decline followed judicial approval of the 1930 coup d'état that ousted the democratically elected president. Probably before 1930, but certainly after, the judiciary began to lose its independence from the other

²¹⁸ The long form of this treaty is *The Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean*.

²¹⁹ David de la Croix, and Clara Delavallade, “Democracy, Rule of Law, Corruption Incentives, and Growth,” *Journal of Public Economic Theory* 13, no. 2 (2011), 170.

branches of government, primarily the executive.²²⁰ Argentina's constitution, much like that of the United States, calls for executive nomination and legislative approval of the judiciary. In Argentina, however, the legislature largely rubber-stamps the president's selections. The result of such an independence loss makes members of the judiciary politically reliant upon the executive for their positions. Thus, they are less likely to rule against the executive or those he or she favors.

Argentina is a presidential republic with three branches of government. The government consists of an executive branch, a bicameral legislature with a Senate and a Chamber of Deputies, and a Supreme Court, whose members can serve until age 75. This system of constitutional government has been in place since 1862 and worked well until 1930. Since then, however, there have been numerous governments, including 6 military governments. Military and civilian coups forcibly removed 12 presidents. Electoral rules place much power in the governorships of the nation's 23 provinces and federal capital (treated as a 24th province). This power derives from the ability to name candidates for election from among closed party lists, and the power to spend federal money. Smaller provinces benefit disproportionately because they have a higher density of representation and they receive more money than they pay in federal taxes.²²¹

²²⁰ "Becoming a Serious Country," *Economist*, June 3, 2004, <http://www.economist.com/node/2704457> (accessed January 4, 2017); Matias Iaryczower, Pablo T. Spiller, and Mariano Tommasi, "Judicial Independence in Unstable Environments, Argentina 1935-1998," *American Journal of Political Science* 46, no. 4 (2002), 700.

²²¹ Pablo T Spiller and Mariano Tommasi, "The Institutional Foundations of Public Policy: A Transactions Approach with Application to Argentina," *Journal of Law, Economics, & Organization* 19, no. 2 (2003), 296.

Argentinian government appears competitive according to its constitution, in practice, however, a small number of political elites in the provinces hold most of the power. Members of the federal legislature have short terms of service because, opposite to what the United States witnesses, legislators aspire to graduate “down” the provincial government versus up to federal service.

Decades of government turmoil, characterized by authoritarian violence and disregard for the rule of law, ended with democratic elections following Argentina’s 1982 loss in the war with Great Britain over the Islas Malvinas/Falkland Islands. Until the 21st century, the years following the 1930 coup witnessed Argentinian presidents averaging 2.6 years in office, with legislators averaging 2.9 and appointed-for-life Supreme Court justices averaging 4.6.²²² In addition to short tenures (sometimes due to executive-influenced impeachment by the congress), the courts have lost independence due to court enlargement efforts. The result of these facts is a political court that is rarely in opposition to the executive.²²³

In 2001, the country saw a bank run resulting from an economic depression and a public uncertain that the nation could service its internal and external debt. Consequently, in December 2001, the president declared a default on over \$100 billion of the country’s foreign debt and devalued the

²²² Matias Iaryczower, Pablo T. Spiller, and Mariano Tommasi, "Judicial Independence in Unstable Environments, Argentina 1935-1998," *American Journal of Political Science* 46, no. 4 (2002), 701.

²²³ Matias Iaryczower, et.al., "Judicial Independence in Unstable Environments...", 702.

exchange rate by 75%.²²⁴ The economy worsened in the near term, but has slowly moved toward stabilization, though it remains in recession. In May 2012, Argentina nationalized the oil company YPF (Yacimientos Petrolíferos Fiscales) forcing an additional debt on the nation and damaging foreign investment. Currently, Argentina is both very restrictive on imports and on its currency controls to restrain currency flight. It is in default on many international debts, including settlement agreements resulting from the 2001 crisis.²²⁵ The country has not engaged in court-advised negotiations with other acknowledged creditors.

The hypotheses, used in this paper predict that Argentina would comply poorly with both the NP regime and the mandates of UNSCR 1540. The results, however, are not as predicted. Argentina exhibits varying levels of respect for the rule of law based on the different indicators used, and it scores very high in political competitiveness measured in 2012 and 2014.

Table 2: Compliance Predictors and Indicators for Argentina

Indicator/ Regional Mean	2012	2014
NP Compliance	72 54.33	76 55.08
UNSCR 1540	92 60	92 60
ParComp (max=5)	4	4
Rule of law - CIM	0.25	0.26
Rule of Law - WGI	1.79	1.56
Rule of law - Corruption	35	34

²²⁴ Benjamin Hebert and Jesse Schreger, “The Costs of Sovereign Default: Evidence from Argentina,” *National Bureau of Economic Research*, Working Paper 22270, May 2017, <http://www.nber.org/papers/w22270> (accessed December 29, 2016); Mekay, Emad. 2002. “Finance: Argentina Pays Small Fraction Only of World Bank Debt,” *Global Information Network*, Nov 15, 1;

²²⁵ Hebert and Schreger, “The Costs of Sovereign Default...”

Yet, Argentina is highly compliant with both the NP regime and the UNSCR 1540 mandates. This nation scores well above the regional mean for both, including an almost perfect (92/100) score for UNSCR 1540 implementation. None of the rule of law measures predicts this level of compliance. In this case, it appears that the region is the most dominant factor in predicting Argentina's success.

Table 3: Argentina's Region and Compliance

Argentina				
	Compliance		Implementation	
Country	2012	2014	2012	2014
Regional Mean	54.33333	55.08333	60	60
Argentina	72	76	92	92
Belize	33	33	26	26
Bolivia	37	37	33	33
Brazil	65	67	100	100
Chile	74	74	60	60
Colombia	52	53	52	52
Ecuador	48	49	55	55
Guyana	35	35	20	20
Mexico	78	85	100	100
Paraguay	55	55	51	51
Peru	70	70	93	93
Suriname	42	42	67	67
Uruguay	70	70	87	87
Venezuela	37	37	48	48

Argentina is a regional leader, and among the most compliant in the entire system. Each of the rule of law indicators paints a negative picture for Argentina. Argentina is in the lower third for all three rule of law measures,

indicating a lack of confidence in the justice system, particularly in the “quality of contract enforcement and property rights.”²²⁶

Regional compliance is solid, but Argentina is significantly above the average, with the region itself scoring in the middle third for compliance. Something else must influence Argentina. Brazil, also well above the average, is the most relevant state to Argentina in NP terms. Brazil scores a 65 (54.33 regional average) in NP compliance, and a perfect 100 (regional average 60) for UNSCR 1540 implementation.

This raises the potential for alternative hypotheses. Is regional compliance alone the indicator or does “rival” compliance provide better predictability? Perhaps cooperative compliance is the predictor. Either a rival a rival or cooperative hypotheses have support in the case of Argentina’s compliance. While now tied very closely, Argentina and Brazil are long-time competitors in every aspect. They simultaneously engaged in nuclear weapons development, a conventional arms race, and rival space programs. These nations worked through territory disputes as well. With a relationship now better termed as cooperative, these two nations lead their region in compliance.

Trade probably also plays a part in Argentina’s compliance. Without a true military or nuclear rivalry on its border, Argentina may choose conspicuous compliance as a method to build and maintain relationships that

²²⁶ ²²⁶ Daniel Kaufmann, Aart Kraay, and Massimo Mastruzzi, “The Worldwide Governance Indicators: Methodology and Analytical Issues,” (September 2010). *World Bank Policy Research Working Paper* No. 5430, 4.

can lead to more immediate gains. In this case, compliance is almost easier than non-compliance and avoids international attention on non-proliferation commitment. Argentina and Brazil have successfully given this issue second-tier status in the region.

Much of Argentina's trade is with fellow Mercosur nations of which Brazil is a dominant member. Its main trading partners are Brazil, China, the US, Chile, Venezuela, Germany, and Bolivia. Soybean meal, soybean oil, soybeans, and corn account for over 33% of Argentina's exports.²²⁷ Avoiding trade conflict with Brazil through compliance and implementation may also explain Argentina's exceptional scores.

Mercosur is a trade agreement among many South American nations.²²⁸ This agreement promotes a free trade zone among member nations. Importantly however, Mercosur includes agreements to adjust domestic laws that inhibit the free trade. Thus, it is an international organization that directly references the sovereign processes of domestic governance.

Argentina was late to the compliance arena. The timing of Argentina's outward acceptance of the NP regime's norms may boost compliance. Despite developing nuclear technology – even slowly pursuing a weapon – starting in the 1950s and using nuclear power to generate electricity for many years,

²²⁷ AJG Simoes, and CA Hidalgo, "The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development," *Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence (2011)*, <http://atlas.media.mit.edu/en/profile/country/arg> (accessed March 4, 2017).

²²⁸ [Argentina](#), [Brazil](#), [Paraguay](#), [Uruguay](#) and [Venezuela](#) (suspended) with associate members [Bolivia](#), [Chile](#), [Peru](#), [Colombia](#), [Ecuador](#) and [Suriname](#).

Argentina did not join the NPT until the mid-1990s. Like a religious convert becoming the most devout, Argentina's compliance may be related to its relatively recent embrace of international agreements despite a long history of nuclear involvement. The fact that Argentina acceded to the NPT so late may also indicate a greater commitment to the regime. While this is an area ripe for additional study, hypothesis formation would begin with the concept that a late convert is a usually a more devout adherent.

The previous discussion addresses compliance with the NP regime, a regime of universal application. Yet, membership in the regional international organizations and regional treaties may prove a better predictor of compliance. This is a complementary hypothesis that amplifies the reasons for regional influence in compliance. Thus, trade is an influence, but in the context that it is the currency of Mercosur membership. Perhaps membership in and compliance with the Treaty of Tlatelolco and the expectations of regional international groups like the Organization of American States – or more likely the smaller group UNASUR - drive Argentina to high levels of NP compliance.²²⁹ Compliance is a function of factors that include fear of condemnation by those Argentina finds most beneficial, the neighbors to which it has made direct commitment.

South Africa

²²⁹ UNASUR is the (in English) Union of South American Nations, a South American continental international group that works toward more cooperation among these 12 nations. Initiatives include a Bank, freedom of human movement, and the interoceanic highway connecting both sides of the continent.

South Africa is home to the continent's only nuclear facilities, two power-generating reactors. This nation developed both nuclear power capability and nuclear weapons. In the 1970s, they used nuclear explosions for mining. Beginning in 1989, along with the election of F. W. de Klerk, the leader who abolished apartheid in 1991 then oversaw universal elections in 1994, South Africa ended its nuclear weapons program and disposed of any weapons it had.²³⁰ It acceded to the NPT in 1991 and is now a member of the Comprehensive Test Ban Treaty as well.

It gains about 5% of its power from two nuclear power plants that came on line about 30 years ago. As South Africa prepares to expand its nuclear power generation and seeks potential partners and investors, it has signed agreements with the US, Russia, China, South Korea, and France as well as various private industries.

Economically, South Africa has had a turbulent history. Founded in the 17th century by the Dutch, it came under British control early in the 19th century. After numerous wars between the Dutch descendants and the British, South Africa became part of the British Commonwealth from 1910 through 1961. In 1948, South Africa instituted apartheid, a whites-only rule that entrenched the small minority of Afrikaners in power over the black population. The policy of apartheid eventually made South Africa a pariah nation.

²³⁰ Stephen Burgess and Helen Purkitt, *The Rollback of South Africa's Chemical and Biological Warfare Program* (Maxwell Air Force Base: The USAF Counterproliferation Center, 2001), 42.

Starting in the 1960s, nations began sanctioning South Africa in response to apartheid.²³¹ More damaging, however, was the effect of private firms refusing to do business with and within the nation.²³² These sanctions economically isolated an already geographically isolated country. Abolishing the nuclear weapon program sent an early signal that South Africa intended to rejoin the community of nations from which it found itself on the outside as a result of apartheid. In addition, the nuclear weapon program was costly and abandoning it freed funds for other military and civilian purposes.²³³

South Africa is a parliamentary republic with the President serving as the chief of state and head of government. There is a bicameral legislature consisting of the National Assembly and the National Council of Provinces. The National Assembly consists of directly elected representatives with seats allocated proportionately. The National Assembly elects the president from among its members. The National Council consists of 10 representatives appointed from each of the 9 provinces. This body's charter includes representing special provincial interests. While currently dominated by one party, the African National Congress (ANC), there are many political parties active in South African government and represented in the National Assembly. The ANC, however, has ruled South Africa since 1994 when apartheid ended and the nation held its first universal elections.

²³¹ Philip I. Levy, "Sanctions on South Africa: What Did They Do?" *American Economic Review* 89, no. 2 (1999), 416.

²³² Philip I. Levy, "Sanctions on South Africa...", " 418.

²³³ Burgess and Purkitt, *The Rollback of South Africa's...* 27.

The first president was Nelson Mandela, the apartheid protestor jailed for 27 years (and ultimately released) by the previous Afrikaner-dominated government. In 1998, Thabo Mbeki became president with Jacob Zuma as his deputy. In 2005, pending a corruption case against his deputy, Mbeki dismissed Zuma. Zuma also faced rape allegations. Subsequently, the state accused Mbeki of corruption, hastening his retirement from the presidency. Zuma then became president and since then has received additional accusations of corruption including self-enrichment for home upgrades at state expense.²³⁴

The courts serve as a check on the President and the legislature for all constitutional issues. However, the Constitutional Court is the highest court for all matters, not just constitutional matters.²³⁵ The highest court of general jurisdiction is the Supreme Court of Appeals, which consists of a president, deputy president, and 21 judges appointed by the nation's president after consultation with the heads of the National Assembly. The members serve until discharged by an Act of Parliament. Recently, the courts ruled against President Zuma and ordered the release of a report both detailing potential corruption committed by him and recommending further inquiry.

²³⁴ Associated Press, "South African Watchdog Report Increases Pressure on President," *The Washington Post*, November 2, 2016, https://www.washingtonpost.com/world/africa/south-africa-watchdog-report-increases-pressure-on-president/2016/11/02/d2bb4764-a10f-11e6-8d63-3e0a660f1f04_story.html?utm_term=.f6d3809a0805 (accessed January 23, 2017).

²³⁵ K Malan, "Reassessing Judicial Independence and Impartiality Against the Backdrop of Judicial Appointments in South Africa," *Potchestroom Electronic Law Journal*, Vol. 17, No. 5 (2014), 3, <http://www.ajol.info/index.php/pelj/article/view/112104> (accessed February 21, 2017).

For each of the rule of law proxies, South Africa scores near the mean: WGI (2.59 v. 2.49), CPI (.45 v. .42), and CIM (.45 v. .489). Thus, no matter how measured, South Africa is still solidly within the middle third. South Africa scores high (4 of 5) for political competitiveness, which measures the amount of participation the governmental system allows by parties and individuals opposed to the ruling regime. A “4” indicates a transitional government or one “accommodative of competing, parochial interests but,” not fully linking parochial interests with broader interests of applicability to the general population. In a transitional government, “sectarian and secular interest groups coexist.”²³⁶ It is important to note that since such governments can be transitioning in either direction, not every move is positive. I predicted that increased competitive participation within a nation’s government would yield increased compliance.

In regional compliance, South Africa is considerably above the mean, scoring 30 points higher for NP compliance and 75 points higher for UNSCR 1540 compliance in both 2012 and 2014. The region scores in the lower third for compliance, while South Africa is among the most compliant of these nations. Like Argentina, unless political competition is dominating the results, something else must influence compliance.

²³⁶ Monty G. Marshall, Ted Robert Gurr, and Keith Jagers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2013, Dataset Users’ Manual* (Center for Systemic Peace, 2014): 31, <http://www.systemicpeace.org/inscr/p4manualv2013.pdf> (accessed November 3, 2015).

Three of South Africa’s closest neighbors - Namibia, Botswana, and Mozambique – score above the regional mean for NP regime. Zimbabwe, however, does not, and the enclave countries of Swaziland and Lesotho record compliance levels above and consistent with the mean, respectively. In UNSCR 1540 compliance, however, these neighbor nations, except for Namibia, are all below the very low mean of 24.58.

The hypotheses, used in this paper predict South Africa to comply marginally with both the NP regime and the mandates of UNSCR 1540. Once again, the nation’s action defies the predictions. Using each of the rule of law measures, South Africa scores in the middle third of states indicating moderate trust in the judiciary to enforce property rights. South Africa scores very high in political competitiveness measured in 2012 and 2014.

Table 4: Compliance Predictors and Indicators for South Africa

Indicator/ Regional Mean	2012	2014
NP Compliance	72 39.13	71 40.04
UNSCR 1540	100 24.58	100 24.58
ParComp (max=5)	4	4
Rule of law - CIM	0.45	0.44
Rule of Law - WGI	2.59	2.67
Rule of law - Corruption	43	44

An alternative explanation for compliance, as seen in the Argentina case study, is that the South African government simply values the regional treaties more than the worldwide treaties. South Africa is a member of the Treaty of Pelindaba or the African Nuclear Weapon Free Zone Treaty. This treaty includes all of South Africa’s contiguous neighbors and extends north to

include most of their contiguous neighbors as well.²³⁷ In addition to an agreement to keep Africa nuclear weapons free, there is an additional protocol prohibiting nuclear weapon states from using or threatening to use a nuclear weapon against any party to the treaty or within a party's territory.²³⁸ The US, China, France, the UK, and Russia have all signed this additional protocol to the Treaty of Pelindaba.

Once again, the analytical results provide an opportunity for additional hypotheses. South Africa does not have a rival nation nearby, but it does have trade cooperative nations. Its main trading partners are China, the US, India, the United Kingdom, Hong Kong, Germany, and Saudi Arabia (oil imports).²³⁹ Gold, diamonds, and platinum account for almost 30% of South Africa's exports. A simple compliance check of these nations reveals that South Africa's compliance is on par with the nuclear nations in this group. The US, UK, and Germany are all highly compliant with both the NP regime and UNSCR 1540's mandates (78/80, 78/100, and 85/100 respectively), with China and India splitting between the two dependent variables. Thus, trade may be the

²³⁷ The following nations have acceded to this treaty: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Chad, Comoros, Congo, Cote d'Ivoire, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea-Bissau, Guinea, Kenya, Lesotho, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Sahrawi Arab Democratic Republic, Senegal, South Africa, Swaziland, Togo, Tunisia, Tanzania, Zambia, Zimbabwe, <http://www.nti.org/learn/treaties-and-regimes/african-nuclear-weapon-free-zone-anwzf-treaty-pelindaba-treaty/> (accessed January 24, 2017).

²³⁸ Treaty of Pelindaba (Africa Nuclear Weapon Free Treaty), <http://disarmament.un.org/treaties/t/pelindaba> (accessed February 28, 2017).

²³⁹ AJG Simoes, and CA Hidalgo, "The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development," *Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence (2011)*, <http://atlas.media.mit.edu/en/profile/country/zaf/> (accessed February 27, 2017).

dominant factor for a geographically isolated nation like South Africa (or even the US), with region (and maybe rivalry) more dominant for China and India.

Table 5: South Africa's Region and Compliance

South Africa				
	Compliance		Implementation	
Country	2012	2014	2012	2014
Regional Mean	39.12766	40.04255	24.58333	24.58333
South Africa	72	71	100	100
Angola	27	27	20	20
Benin	26	26	20	20
Botswana	62	62	20	20
Burkina Faso	51	48	40	40
Burundi	28	29	0	0
Cameroon	40	42	40	40
Cape Verde	47	47	20	20
Central African Republic	38	37	20	20
Chad	20	20	0	0
Comoros	35	35	20	20
Congo (Brazzaville)	22	20	0	0
Congo (Democratic Republic of)	58	57	80	80
Côte d'Ivoire	28	53	20	20
Djibouti	37	37	20	20
Equatorial Guinea	22	22	0	0
Eritrea	19	19	20	20
Ethiopia	27	27	40	40
Gabon	55	55	20	20
Gambia	25	24	20	20
Ghana	64	68	40	40
Guinea	24	24	0	0
Guinea-Bissau	29	29	0	0
Kenya	56	52	40	40
Lesotho	44	49	0	0
Liberia	25	25	0	0
Madagascar	43	46	40	40
Malawi	33	33	0	0
Mali	57	56	40	40
Mauritania	40	41	0	0
Mauritius	43	43	40	40

Mozambique	45	45	0	0
Namibia	51	53	60	60
Niger	57	58	40	40
Nigeria	52	56	20	20
Rwanda	57	58	40	40
São Tomé and Príncipe	21	21	0	0
Senegal	41	43	40	40
Seychelles	63	63	40	40
Sierra Leone	27	28	40	40
Somalia	7	7	0	0
Swaziland	36	39	0	0
Tanzania	51	51	40	40
Togo	33	36	40	40
Uganda	50	50	40	40
Zambia	29	29	20	20
Zimbabwe	21	22	0	0

Malaysia

Malaysia is a transit state, meaning there is a great potential that WMD would travel through it, especially if NP efforts failed in the originating state.²⁴⁰ Malaysia has seven ports and accounts for the fourth highest container throughput in the world. A water nation that borders the busiest shipping point in the world, the Strait of Malacca, Malaysia is the only nation that shares a border with Singapore, the second busiest container port.²⁴¹

Malaysia is not yet a nuclear country; however, it has considered adding nuclear power to its existing energy-generation complex, but this is not an urgent need. Malaysia has the fourth largest oil and gas reserves in Asia and is

²⁴⁰ Peter Crail, "Implementing UN Security Council Resolution 1540," *Nonproliferation Review* 13, No. 2 (July 2006), 365.

²⁴¹ United Nations Conference on Trade and Development, "Review of Maritime Transport 2015," Geneva, 2015, 1-122, http://unctad.org/en/PublicationsLibrary/rmt2015_en.pdf (accessed February 17, 2017).

a net exporter of energy. Currently, Malaysia runs a nuclear reactor for research purposes only. The nation has not sought nuclear weapons.

Malaysia has a complex government borne of colonial expansion and consolidation. Parts of what is now Malaysia became British colonies in the early part of the 19th century. The nation gained independence from the British in 1957 (forming the confederation of modern Malaysia in 1963) and largely adopted the government type of its colonial ruler. There is a king, however, who comes from among the leaders of the nine hereditary ruling houses in Malaysia. The king is largely ceremonial; however, he does play a substantive part in certain government areas. The king position rotates every five years in a set order.

Like the British, there are three branches of government, which are led by a prime minister that the parliament indirectly elects from within. The parliament consists of a senate and a house. The senate has 70 seats of which 26 come from the 13 states and 44 by appointment of the King. The house has 222 directly and proportionally elected seats.

There are many aspects to Malaysian law, which does not generally get good anecdotal marks for judicial independence or, in fairness, for politically motivated cases.²⁴² The King, in close consultation with the prime Minister, appoints the federal judges who may serve until age 65. This creates a situation where the judiciary is very close to the executive.

²⁴² See generally, International Commission of Jurists, "Attacks on Justice 2005 – Malaysia," August 15, 2008, <https://www.icj.org/malaysia-attacks-on-justice-2005/> (accessed February 26, 2017).

Further complicating the jurisdiction of the courts are the Shariah Law courts which exist to hear cases involving Muslims with special reference to “marriage, divorce, guardianship, maintenance, adoption, legitimacy, family laws, gifts, succession testate and intestate.”²⁴³ Over 60% of Malaysia is Muslim and it is the state religion. Practically speaking, however, the Shariah Courts will hear many cases outside of these prescriptions, especially if it pertains to certain Muslim restrictions, for example lending money with interest.²⁴⁴

Malaysia’s states hold much political power. This nation is bifurcated with significant distance across the South China Sea separating the east and west parts. There are ethnic divisions as well that lend to diffusing power. West or Peninsular Malaysia counts many ethnic Malaysians and Chinese among the population. West Malaysia is the location of both the governmental and administrative capitals of Kuala Lumpur and Putrajaya, respectively. This is also the large Muslim area. East Malaysia includes many indigenous peoples. There are 13 states in Malaysia, 9 of which have hereditary rulers at the head.

Political competition appears weak in Malaysia, but also falls into the transitional definition (4/5). Since independence, the nation has had only five prime ministers, and they are all from the same ruling coalition. Yet, these same conditions allowed the longest-serving prime minister, Mahathir

²⁴³ Ruzian Markom, Sharina Ali Pitchay, Zinatul Ashiqin Zainol, Anita Abdul Rahim, and Rooshida Merican Abdul Rahim Merican, “Adjudication of Islamic Banking and Finance cases in the civil Courts of Malaysia,” *European Journal of Law and Economics*, vol. 36, no. 1 (2013), 2.

²⁴⁴ Markom, Pitchay, et.al., “Adjudication of Islamic Banking...,” 4.

Mohamed (1981-2003), to move the country from being primarily agriculture based to an industrial economy. Malaysia is one of the fastest-growing nations in the world, and leads Asia. Its main trading partners are Singapore, China, the US, Japan, and Thailand.²⁴⁵ Circuits, petroleum, and palm oil account for almost 30% of Malaysia’s exports.

This case study would predict Malaysia to comply well with both the NP Regime and UNSCR 1540. *Yet, it does not, and it lags its region.* The region scores in the middle third for compliance. For the rule of law measures other than corruption, Malaysia scores in the top third of states indicating a high trust in the judiciary to enforce property rights.

Table 6: Compliance Predictors and Indicators for Malaysia

Indicator/ Regional Mean	2012	2014
NP Compliance	40	42
	45.57	49
UNSCR 1540	40	40
	53.16	54.21
ParComp (max=5)	3	3
Rule of law - CIM	0.78	0.78
Rule of Law - WGI	3	3.14
Rule of law - Corruption	49	52

Again, this research confronts practical results the opposite of predicted. Clearly, something else must influence Malaysia’s compliance levels. The literature cited above, as well as the other case studies, point toward local nations or trade as an influence on compliance. I will first look at the closest neighbors then the trading partners. Malaysia’s closest neighbors are

²⁴⁵ AJG Simoes, and CA Hidalgo, “The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development,” *Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence (2011)*, <http://atlas.media.mit.edu/en/profile/country/mys/> (accessed February 27, 2017).

Indonesia, Brunei, Singapore, Thailand, Cambodia, Vietnam, and Myanmar. Other than Singapore, Malaysia’s compliance is consistent with its neighbors. Singapore’s perfect compliance with UNSCR 1540’s mandates may also be a function of that nation’s tremendous administrative capability – it only scores 60 of 100 for NP regime compliance.

Next, a simple comparison with China reveals compliance consistent with this influential nuclear weapon state. There is also a tremendous Chinese influence in the Malaysia with both ethnic Chinese (over 20% of population) and China’s claims too much of Malaysia’s territorial sea. China is Malaysia’s second largest trading partner (behind Singapore).

Finally, I’ll remove the regional outliers, Australia, New Zealand, Japan, and South Korea. For trade purposes, these nations arguably feel influence more from outside their region – specifically with the US and the EU nations – than within the region. Removing the outliers reveals a Malaysia with compliance levels in line with its regional neighbors. The new means appear below in Table 7.

Table 7: Adjusted Regional Mean (removing outliers)

Country	Compliance		Implementation	
	2012	2014	2012	2014
Adj Regional Mean	41	42.2963	46.667	47.778
Malaysia	40	42	40	40

In earlier case studies, I noted the timing of accession to the treaty obligations. Malaysia was early to the compliance arena and this may make them less concerned with compliance. Malaysia was one of the early ratifiers of

the NPT.²⁴⁶ Unlike the devout Argentina, poor compliance may be related to the long-standing commitment to the NP regime. For a nation with very little nuclear nexus, actual adherence is not difficult and UNSCR 1540 compliance seen as unnecessary. This raises the possibility of a parallel hypothesis to the proposal that a late convert is a usually a more devout adherent.

Table 8: Malaysia's Region and Compliance

Malaysia				
	Compliance		Implementation	
Country	2012	2014	2012	2014
Regional Mean	47.56757	49	53.15789	54.21053
Malaysia	40	42	40	40
Australia	90	92	100	100
Bangladesh	54	54	60	60
Bhutan	32	32	40	40
Brunei	35	35	40	40
Cambodia	41	41	40	40
China	63	64	40	40
Fiji	50	53	60	60
India	40	41	100	100
Indonesia	55	55	40	40
Japan	70	76	100	100
Korea, Dem People's Rep of	30	30	0	0
Korea, Republic of	82	82	100	100
Laos	32	34	40	40
Mongolia	69	69	60	60
Myanmar	21	23	40	40
Nepal	27	27	40	40
New Zealand	85	86	80	80
Pakistan	43	46	80	80
Papua New Guinea	25	27	40	40
Philippines	53	55	40	40
Samoa	33	33	40	40
Singapore	60	60	100	100
Solomon Islands	31	33	60	60
Sri Lanka	49	48	60	60

²⁴⁶ United Nations Office for Disarmament Affairs, *Treaty on the Non-Proliferation of Nuclear Weapons*, <http://disarmament.un.org/treaties/t/npt> (accessed March 6, 2017).

Taiwan	58	63	0	40
Thailand	39	31	40	40
Timor-Leste	22	25	20	20
Tonga	38	37	60	60
Vanuatu	30	33	40	40
Vietnam	37	51	40	40

Malaysia is party to a number of regional agreements including Asia Cooperation Dialogue (ACD), Association of Southeast Asian Nations (ASEAN), Asian Development Bank (ADB), and the Asian-Pacific Economic Cooperation (APEC). Of these, the most useful for predicting Malaysian compliance is the ASEAN.²⁴⁷ Table 9 illustrates that Malaysia’s compliance is in line with the other ASEAN nations (except the obvious outlier Singapore) and consistent with the ASEAN mean. Like observed in the Argentina case study, the regional influence is subtler than geography. The formal regional links through international organizations correlates with compliance levels for member nations.

²⁴⁷ ASEAN Aims and Purposes, <http://asean.org/asean/about-asean/> (accessed April 14, 2017). As set out in the ASEAN Declaration, the aims and purposes of ASEAN are: (1) To accelerate the economic growth, social progress and cultural development in the region...; (2) To promote regional peace and stability through abiding respect for justice and the rule of law...; (3) To promote active collaboration and mutual assistance on matters of common...; (4) To provide assistance to each other in the form of training and research facilities...; (5) To collaborate more effectively for the greater utilization of their agriculture and industries, the expansion of their trade...; (6) To promote Southeast Asian studies; and (7) To maintain close and beneficial cooperation with existing international and regional organizations with similar aims and purposes, and explore all avenues for even closer cooperation among themselves.

Table 9: ASEAN Nation Compliance

ASEAN Nations				
Country	Compliance		Implementation	
	2012	2014	2012	2014
Regional Mean	41.3	42.7	46	45
Malaysia	40	42	40	40
Brunei	35	35	40	30
Cambodia	41	41	40	40
Indonesia	55	55	40	40
Laos	32	34	40	40
Myanmar	21	23	40	40
Philippines	53	55	40	40
Singapore	60	60	100	100
Thailand	39	31	40	40
Vietnam	37	51	40	40

Conclusion

This chapter offered an in-depth look at the NP regime through the lens of three nations with a close nexus to it. Two of these nations, Argentina and South Africa, have a defined nuclear nexus in that they both use nuclear power and pursued (successfully in South Africa) nuclear weapons. A third state, Malaysia, is a transit state and sits astride one of the world's busiest shipping corridors. While never pursuing nuclear power or nuclear weapons, proliferation requires transit and a nation that sees millions of containers passing through each year, like Malaysia, is an ideal place to surreptitiously move such material.

If the goal of this chapter was solely to confirm the insights gained from the previous chapter containing the empirical study, the case studies would be a failure. This chapter, however, has provided more insights into the influences on national compliance with the NP regime. These factors potentially influence

compliance with all security regimes. The empirical studies lent weight to hypotheses emphasizing compliance is a function of a nation's respect for rule of law and the level of compliance in a region. Such results were consistent with liberal theories of peace and the international system.

The case studies indicate something deeper going on within nations. UNSCR 1540 dives into sovereignty with a mandate to enact domestic legislation. The case studies lend weight to a constructivist view of nations. How does a nation perceive its own identity? What are the influencers and what is important to it?

Argentina is well above the regional average for both NP regime compliance and UNSCR 1540 implementation. Argentina's longtime rival, Brazil, mirrors these compliance levels. Between these two nations, is there something more powerful than the region influencing compliance? In this instance, rival compliance might be more powerful. If so, this indicates Argentina (and possibly Brazil) identify themselves with reference to their rival, and, in neorealist fashion, will not let the other have a relative gain in international prestige. Another plausible explanation comes from trade literature. Argentina's main trading partners all score high in compliance. In order to maintain these relationships Argentina may mimic their compliance, removing a potential barrier to continued trade. Perhaps most telling on Argentinian compliance is the nation's membership in regional international organizations. From the many and varied agreements that bind nations in the Americas, with Latin heritage, and exclusively on the South American

Continent emerges regional influences not explainable by geography or membership in the UN.

Trade seems a likely factor in South Africa's compliance as well. A large part of the South African trade is in precious materials like gold, platinum, and diamonds. Some of these may be sanction-proof, but having been subject to years of suppressed trade due to apartheid, which ended less than 30 years ago, South Africa may consciously adopt a non-controversial role. Region too could be a factor if operationalized differently. South Africa's contiguous neighbors reflect similar compliance with it.

A changed regional operationalization could also better predict compliance levels in Malaysia. Simply removing the regional outliers – and distant nations – of Australia, New Zealand, South Korea, and Japan placed Malaysia's compliance level in line with the remaining nations. Malaysian compliance is also explained by theories of regional hegemony with China or India leading the way. Yet, like Argentina, Malaysia appears most influenced by its regional international organization memberships, particularly the ASEAN.

Compliance is not a wooden shoe – individually built for each nation. These case studies illuminate that predicting individual compliance is more complex than system compliance, and illustrate the danger of ecological fallacy. Predicting the individual behavior based upon that of the system clearly produces poor results. International relations, like thoroughbred handicapping, is most revealing with in-depth research on individual cases. While the case studies proved disappointing for their ability to support the empirical results,

they have each raised additional hypotheses, possibilities and opportunities for further research – even within this existing data set.

Six: Conclusions

This dissertation addressed the question: What factors help predict the potential for a nation to comply with an international security regime? Using the NP regime as a lens through which to examine this topic, I specifically focused on UNSCR 1540. UNSCR 1540 calls upon member nations to establish and enforce domestic legislation to counter the proliferation of WMD to non-state actors. This resolution is unique in that it specifically targets domestic laws – a particular issue of sovereignty. The intention of UNSCR 1540 is to enable the NP regime by catalyzing nations into compliance.

There are four sections in this chapter. The first section reviews findings that emerged from the quantitative and qualitative analysis. The second section addresses the implications of these findings on predicting compliance and perhaps even developing conditions conducive to compliance. Translating these into actions for policymakers engaged in securing security regime compliance is the focus of the third section. The final section of this chapter discusses areas ripe for future research.

Review of Findings

I used the term *institutionalization* as the lens through which to determine regime success. Institutionalization occurs when members adhere to a regime's norms, rather than simply follow its rules and procedures.²⁴⁸ Compliance differs from institutionalization because it is a measure of state

²⁴⁸ Roger K. Smith, "Institutionalization as a Measure of Regime Stability: Insights," *Millennium: Journal of International Studies* 18, no. 2 (1989): 229.

action in accordance with rules and procedures; institutionalization is compliance that references rules and procedures for form, not for obligation. UNSCR 1540 is an attempt to change a nation, by mandating changes in domestic law, and enable institutionalization. There are relatively few nations with a direct nexus to nuclear or other weapons of mass destruction. For a nation with no nexus, compliance with the NP regime is not difficult. By institutionalizing compliance through implementation of UNSCR 1540's tenets, a nation without current WMD nexus is now better prepared for future WMD-related challenges. This is particularly relevant to transit nations.

Thus, this dissertation explored the factors that predict both compliance with the NP regime and implementation of UNSCR 1540 with the goal of determining country characteristics that indicate success. The literature points to rule of law and regional compliance as dominant indicators. This led to a two-part - quantitative and qualitative - analysis and evaluation. I proposed hypotheses that incorporated these factors. The first hypothesis predicted increased compliance with the NP regime if a nation scored high in rule of law and/or had a place in a region of complaint neighbors. The second hypothesis addressed institutionalization of the NP regime directly by using the same predictors and looking at national compliance actions demanded by UNSCR 1540 with regard to WMD activities.

The results of these analyses indicated a strong relationship between rule of law and regional compliance and a nation's compliance with the overall NP regime. Using the specific implementation of UNSCR 1540 as a dependent

variable delivered consistent results. These results indicate a nation will institutionalize the NP norms, and comply with the specifics of implementation.

The second part of the analysis was qualitative. I first culled the universe of nations down to 84 potential proliferating nations based upon either primary origin or transit nation status. I then selected a country from the high, medium, and low levels of the WGI rule of law measure in order to validate in prose the quantitative analysis. The results of in-depth analysis of Argentina, South Africa, and Malaysia showed that predicting an individual nation's compliance is more complex than descriptions of government capacity or geography. Argentina and South Africa, expected by the hypotheses to exhibit low to medium compliance and implementation, scored high and well above their region for both measures. Malaysia, expected to score high in compliance, was disappointingly low.

These results are the opposite of what the quantitative analysis revealed and indicate other factors influence compliance. Regional compliance, however, remained strong suggesting predictive factors reside in national attributes other than rule of law. I place greater weight on the relationships nations have as influencers of their compliance. Most nations are states of the world in that they have international connections through trade or other agreements. Yet, the three case studies seemed to point more toward economics than region as a prime influencer of compliance. The existence or absence of a government that supported a robust rule of law did not matter in the three cases presented. Malaysia, the state with the highest scores for rule of law scored the lowest on

compliance. Argentina and South Africa were in the middle and lower thirds for rule of law (with South Africa probably on the decline) exhibited some of the highest compliance levels. Something other than rule of law, therefore, must influence.

Implications

These results lend weight to liberal theories of international relations, specifically liberal ideas of cooperation as reflected in regime theory. UNSCR 1540 mandates changes to domestic legislation in an effort to further the principles and norms of proliferation. Of course, the enactment of legislation relies upon domestic politics. The quantitative results support theories that domestic politics determine state action. As rule of law scores rise, the incidence of NP compliance rises. These results using region as a predictor also support cooperation-based theories. Regional compliance is still a good predictor - indicating nations within a region are acting in similarly.

The qualitative results support liberal theories of compliance, however, they do so for reasons other than those found in the quantitative chapter. The case studies point toward influences other than rule of law as predictors of compliance. All three nations studied exhibited compliance levels contrary to that predicted by the quantitative research. This points to cooperation as a dominant predictor. The difficulty is in discerning “cooperation with what?” The possibilities include trade cooperation, cultural influences, and cooperation with contiguous nations. For Argentina, it has a very beneficial relationship with former rival Brazil. South Africa capitalizes on its historical relationships

with western nations. Malaysia mirrors its neighbors while engaging in tremendous amounts of container trade.

Argentina and Brazil have many international connections, yet their compliance levels are similar and both well above the regional mean. With fewer countries than the other regions, the South American region is relatively straightforward to observe. In addition, the region shares culture and even exhibits language similarities, something not found in other regions. These nations are longtime military rivals and now deep trading partners. They both have a defined nuclear nexus. In this region, the easily observable relationships among nations point toward cooperation across topics as beneficial to each. The NP regime benefits from a history of cooperation and compliance in other arenas, like the Mercosur agreements starting in 1991, as evidenced by Argentina's 1994 ratification of the Treaty of Tlatelolco establishing a prohibition on nuclear weapons in Latin America and the Caribbean. Argentina was second only to Cuba as the final holdout from this treaty that went into effect in 1968

Observations of South Africa and Malaysia are not nearly as clear-cut as that of Argentina. South Africa is unique in a very diverse and geographically large region, even among its closest neighbors. It has a history not shared by any others that includes centuries of privileged status among European nations. Within the last 30 years, it has transitioned from apartheid to true democracy. Thus, South Africa does not share culture (nor even language) with its neighbors. Observing relationships among the nations in the African regions

is difficult and requires inferential analysis. Insights gained from Argentina allow me to discount rule of law as the predictor of South African compliance.

Similarly, results from Malaysia allow me to discount rule of law as a primary predictor of compliance and look deeper into the reasons Malaysia exhibits such low levels of compliance. Malaysia's region is probably as diverse as that of South Africa, yet Malaysia has close relationships and shared culture with its neighbors. The ASEAN nations those with the closest geographic, cultural, and trade ties with Malaysia exhibit compliance levels consistent with those of Malaysia. This implies that close geographic proximity is but a factor in compliance with culture and other ties serving as more dominant predictors.

Policymaking

How should policymakers use this research? First, they must recognize that institutionalization of the principles and norms of the NP regime demands patience. There are timelines and compliance measures associated with UNSCR 1540 that are supported by a robust committee within the UN. This body closely monitors and regularly reports on implementation. The UNSC enacted this resolution under Chapter VII authority which authorizes uses of force to ensure compliance. Yet there is little chance the UN will punish nations who fail to comply with the reporting and enactment mandates. Compliance, therefore, must be meaningful for a nation. Worldwide compliance will develop incrementally. US policymakers should focus on nations with which the US has close economic ties. If non-compliant, the US needs to encourage and facilitate compliance both bilaterally and through the UN methods. The UN will

provide support for a nation's efforts to draft appropriate legislation and education for officials charged with enforcement.

Next, policymakers need to evaluate the geographic and other factors, like shared culture, ethnicity, trade, and regional agreements that bind nations. This will identify "close nations" or those that exert influence on the targeted country. If a close nation is compliant, then US policy makers need to encourage that nation to advocate to non-compliant nations with which it has ties not shared by the US. South Africa is a nation ripe for such an approach. It is UNSCR 1540 compliant, but its neighbors are not. South Africa has close economic ties to three western nations that are also very compliant, the US, the UK, and Germany. This method, like the oil stain theory of counter-insurgency, should slowly build more universal compliance. Compliance with the legislative mandates of UNSCR 1540 sets the stage for a nation to enforce. This creates a non-permissive state environment for potential proliferators.

Future Research

Future studies should redefine regions in two ways. First, the geographic regions are too big, and this dilutes the value of the indicator. Africa, for example, should become two or even three regions, Saharan, Sub-Saharan, and South African. Such delineations would allow the researcher a more robust ability to tease out the regional influences nations have upon each other.

The second regional redefinition is economic. Grouping nations by their economic ties will allow the researcher to investigate this important influence. The international ties of many dominant economic engines like the US and

China will have these nations in many economic “regions.” This will drive examination of the most influential nation and likely tie in geographic regional influence as well.

These results need validation against other security regimes then other regimes. A good starting point is the Humanitarian Security Regime (HSR). Like the NP Regime, the HSR consists of a patchwork of agreements within an “overarching goal of creating a framework for the reduction of human suffering.”²⁴⁹ There are multiple component parts of the HSR of which the most prominent are the Mine Ban Treaty, the Convention on Cluster Munitions, and the Arms Trade Treaty. Unlike the NP Regime, the focus of the HSR is all of humanity, not issues involving discreet states. The HSR attempts to change the focus of arms control treaties from the national security calculation of individual states to a focus on the benefits for humanity. Examination of the HSR regime and validation of the findings herein provides a logical bridge between security regimes and regimes with other foci.

It was the goal of this dissertation to identify factors contributing to the institutionalization of non-proliferation norms around the world. The qualitative studies did not explicitly validate the hypotheses about rule of law’s role in compliance. Yet the research ultimately captures the essential predictors of regime implementation and offers researchers and policymakers a starting point for prospective NP efforts. This better understanding of

²⁴⁹ Denise Garcia, “Global Norms on Arms: The Significance of the Arms Trade Treaty for Global Security in World Politics”, *Global Policy* 5: 4 (2014), 426.

institutionalization will enable a credible determination of whether an international regime is or how it can be successful.

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[http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/E6D340011E720FC9C1257516005818B8/\\$file/Convention+on+Cluster+Munitions+E.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/E6D340011E720FC9C1257516005818B8/$file/Convention+on+Cluster+Munitions+E.pdf) (accessed April 11, 2016).
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Appendix A: Alternate Rule of Law Indicators

The first alternate rule of law indicator is Contract Intensive Money (RoLCIM). I created this variable using the same methods as Clague, et.al. Using the International Monetary Fund's (IMF) International Financial Statistics (IFS), I created the CIM measure used in this analysis by subtracting M1 from M2 then dividing by M2 $[(M2-M1)/M2]$. The US Federal Reserve defines M1 as the most liquid component of the money supply, as it primarily consists of cash and other on-demand forms of money.²⁵⁰ M2 includes elements of money that are less liquid, such as savings deposits, money markets, and mutual funds that are not as suitable for rapid exchange.²⁵¹ The variable derived from these measures of money directly relates to the rule of law and the confidence investors have in the enforcement of contract. In countries with weaker rule of law indicators, individuals will be more reliant on cash.

Using the same equations as in the main article, I re-ran the analyses and found robust support for the rule of law variable. The results appear at Table A1, below. While the model's goodness of fit indicator is slightly higher than when I place it beside the results of the model using the World Governance indicators measure (adjusted R² of .574 versus .516), there is also a strong relationship between compliance and the political competitiveness

²⁵⁰ Board of Governors of the Federal Reserve System, *Money Stock Measures – H.6*, January 7, 2016, <http://www.federalreserve.gov/releases/h6/current/default.htm> (accessed January 11, 2016).

²⁵¹ Board of Governors of the Federal Reserve System, *Money Stock Measures*.

within a government. This indicates that democracies with a high competitive participation score will tend to comply with the NP regime.

Despite the strength of the relationship between Contract Intensive Money and NP Compliance, this variable does not have a statistically significant impact on UNSCR 1540 implementation (see Table 2/H1b). The fact that money is safe, and contracts enforceable in functioning courts, does not predict implementation with the specifics of UNSCR 1540. However, the competitive political participation and regional mean variables retain significance. These results indicate that a nation could be respectful of the rule of law and a competitive participatory democracy, yet fail to implement UNSCR 1540, just like its neighbors. . The goodness of fit indicator – which was robust in the WGI model – is even (adjusted R^2 of .608 to .639). As in the compliance model, above, the competitiveness of government is not, comparatively, very explanatory.

The second alternate indicator I used as a rule of law proxy was Transparency International's Corruption Perceptions Index (RoL_CPI_Corrupt).²⁵² This is a composite indicator that uses 13 different data measures from 12 sources that “capture[s] perceptions of corruption” in the public sector of over 170 nations.²⁵³ This indicator shares a close relationship

²⁵² As noted above, the WGI data includes a “Control of Corruption” indicator. I chose not to use this because, the six WGI categories are “strongly positively correlated across countries” and thus it made sense to seek a different source. Kaufmann, et.al. “The Worldwide Governance Indicators...,” 7.

²⁵³ Transparency International, “Corruptions Perception Index 2016: Technical Methodology Note,” http://www.transparency.org/news/feature/corruption_perceptions_index_2016 (accessed January 31, 2017).

with WGI's rule of law indicator. A recent study explored the relationship among corruption, democracy, and bureaucracy, using the CPI as a dependent variable and WGI's rule of law indicator as an independent variable. The results were intuitive, showing that a higher rule of law decreases corruption.²⁵⁴

This indicator proved to be the least valuable of the three for explaining compliance with the non-proliferation regime. In terms of goodness of fit, the explanatory power of the model dropped (from .574 to .476) with regional compliance and political competitiveness taking on a larger role in the results. For Hypothesis 2, the goodness of fit results almost equaled the results of the WGI indicators and proved more robust than the CIM measure (R^2 of .637 versus .608). Yet, the CPI rule of law measure, like the WGI variable, paired with regional mean provides more explanatory power than the CIM rule of law measure.

These results naturally lead to further areas for study. The WGI indicator includes some corruption indicators within it. Langbein and Knack conducted both analyses of the WGI dataset holistically and the subcategories and concluded the WGI measures are so overlapping that they were almost identical.²⁵⁵ Thus, using the CPI indicators allows for some differentiation between corruption measures within the two databases. The lack of corruption ("the extent to which power is exercised for private gain, including both petty

²⁵⁴ Aviral Kumar Tiwari, "Corruption, Democracy and Bureaucracy," *Theoretical and Applied Economics* XIX, no. 9 (2012), 26.

²⁵⁵ Laura Langbein and Stephen Knack, "The Worldwide Governance Indicators: Six, One, or None?" *Journal of Development Studies* 46, No. 2 (2008), 365.

and grand forms of corruption, as well as ‘capture’ of the state by elites and private interests.”)²⁵⁶ appears as a good indicator that a state will comply with the finer aspects of UNSCR 1540 implementation. This includes the exacting reporting requirements as well as enacting and enforcing counter- and non-proliferation legislation. In a highly corrupt state, government officials – those primarily responsible for activities such as implementation reporting – are loyal and usually beholden to elites. Thus, their loyalty is not to the state or system, but to an individual.

²⁵⁶ Kaufmann, et.al. “The Worldwide Governance Indicators...,” 6.

Table A1: Regression Results, Contract Intensive Money

Variable	H1a: NTI Index					H1b: 1540 Implementation Score				
	Coeff	Std Error	P> z	95% Conf Interval		Coeff	Std Error	P> z	95% Conf Interval	
Rule of Law (Contract Intensive Money)	13.101	4.614	.005	4.058	22.144	4.432	6.099	.467	-7.522	16.386
Competitiveness w/in Govt	.264	.064	.000	.139	.388	.297	.113	.008	.076	.517
Regional Compliance Mean	.966	.041	.000	.886	1.047	1.112	.062	.000	.991	1.233
Constant	-2.526	3.627	.486	-9.635	4.583	-4.667	5.511	.397	-15.469	6.136
Goodness of Fit	R ² = .580		Adjusted R ² = .574			R ² = .613		Adjusted R ² = .608		

Table A2: Regression Results, Corruption Perceptions Index

Variable	H1a: NTI Index					H1b: 1540 Implementation Score				
	Coeff	Std Error	P> z	95% Conf Interval		Coeff	Std Error	P> z	95% Conf Interval	
Rule of Law (Corruption Perceptions Index)	.653	.038	.000	.579	.728	.468	.049	.000	.373	.563
Competitiveness w/in Govt	.103	.051	.04	.003	.203	.094	.069	.171	-.041	.228
Regional Compliance Mean	-36.232	13.164	.006	-62.034	-10.431	.915	.052	.000	.812	1.017
Constant	-2.526	3.627	.486	-9.635	4.583	-12.525	2.979	.000	-18.364	-6.685
Goodness of Fit	R ² = .483		Adjusted R ² = .476			R ² = .641		Adjusted R ² = .637		

Appendix B: Variable Descriptions and Summary Statistic

Name	Description	Expected Direction	Source	Obs	Mean	Std Dev	Min	Max
Dependent Variables								
NTI Nuclear Materials Security Index (NTI_Index)	This is an ordinal measure with possibilities from 0 to 100 that evaluates legal, institutional, and implementation factors of a country's compliance with the NP regime.		Nuclear Threat Initiative Database	352	54.792	21.233	7	99
UNSCR 1540 Implementation (NTI_1540_n)	This is an ordinal measure from 0 to 100 in increments of 10; includes the sub-indicators of UNSCR 1540 reporting and Extent of UNSCR 1540 implementation.		Nuclear Threat Initiative Database	360	55	32.320	0	100
Independent and Control Variables								
Contract Intensive Money (RoLCIM)	This ratio measure between 0 and 1 shows the strength of law and order within a nation as a function demand for cash transactions.	Positive	International Monetary Fund's <i>International Financial Statistics</i>	230	.489	.204	.024	.891
Worldwide Governance Indicators (RoL_WGI)	This ratio measure between 0 and 5 shows confidence in contract enforcement, property rights, the police, and the courts,	Positive	World Bank and Brookings Institution	421	2.488	.995	.055	4.621
Corruption Perceptions Index (RoL_CPI_Corrupt)	This is an ordinal measure from 0 to 100 that indicates the perceptions of corruption in a country. It is a composite measure.	Positive	Transparency International	343	42.799	19.560	8	92
Competitiveness of Participation (parcomp)	This ordinal measure identifies the competitiveness of the political system. It is coded from 1 (repressed) to 5 (competitive)	Positive	Polity IV Democracy Index	334	.341	15.531	1	5
Proportion of Regional Compliance NTI Index (regNTImean)	This ratio variable is coded 0 to 1 in percentages.	Positive	Self-generated based upon the sample, year, and the COW regions.	352	54.793	15.056	39.128	80.233
Proportion of Regional Compliance UNSCR Compliance (regNTI1540mean)	This ratio variable is coded 0 to 1 in percentages.	Positive	Self-generated based upon the sample, year, and the COW regions.	360	53.495	22.461	24.583	91.111

Appendix C
Included Countries *Contract Intensive Money*

- | | | |
|--|---------------------------|--------------------|
| 1. Afghanistan | 37. Ecuador | 77. Moldova |
| 2. Albania | 38. Egypt | 78. Mongolia |
| 3. Algeria | 39. El Salvador | 79. Morocco |
| 4. Angola | 40. Equatorial
Guinea | 80. Mozambique |
| 5. Argentina | 41. Estonia | 81. Namibia |
| 6. Armenia | 42. Finland | 82. Nepal |
| 7. Austria | 43. France | 83. Netherlands |
| 8. Azerbaijan | 44. Gabon | 84. New Zealand |
| 9. Bahamas | 45. Gambia | 85. Nicaragua |
| 10. Bahrain | 46. Germany | 86. Nigeria |
| 11. Bangladesh | 47. Greece | 87. Oman |
| 12. Belarus | 48. Guatemala | 88. Pakistan |
| 13. Belgium | 49. Guyana | 89. Paraguay |
| 14. Belize | 50. Haiti | 90. Peru |
| 15. Benin | 51. Honduras | 91. Portugal |
| 16. Bhutan | 52. Hungary | 92. Qatar |
| 17. Bolivia | 53. Iceland | 93. Romania |
| 18. Bosnia and
Herzegovina | 54. Indonesia | 94. Russia |
| 19. Botswana | 55. Iraq | 95. Singapore |
| 20. Bulgaria | 56. Ireland | 96. Slovakia |
| 21. Burundi | 57. Israel | 97. Slovenia |
| 22. Cambodia | 58. Italy | 98. South Africa |
| 23. Cameroon | 59. Jamaica | 99. Spain |
| 24. Central African
Republic | 60. Japan | 100. Sri Lanka |
| 25. Chad | 61. Jordan | 101. Sudan |
| 26. Chile | 62. Kazakhstan | 102. Suriname |
| 27. China | 63. Kenya | 103. Swaziland |
| 28. Colombia | 64. Korea, Republic
of | 104. Sweden |
| 29. Comoros | 65. Kuwait | 105. Switzerland |
| 30. Congo
(Brazzaville) | 66. Kyrgyz Republic | 106. Tajikistan |
| 31. Congo
(Democratic
Republic of) | 67. Latvia | 107. Tanzania |
| 32. Costa Rica | 68. Lebanon | 108. Tonga |
| 33. Cyprus | 69. Lesotho | 109. Turkey |
| 34. Czech Republic | 70. Lithuania | 110. Uganda |
| 35. Denmark | 71. Luxembourg | 111. United States |
| 36. Dominican
Republic | 72. Macedonia | 112. Uruguay |
| | 73. Malawi | 113. Vanuatu |
| | 74. Malaysia | 114. Venezuela |
| | 75. Malta | 115. Zambia |
| | 76. Mexico | |

Included Countries *World Governance Indicators*

1. Afghanistan
2. Albania
3. Algeria
4. American Samoa
5. Andorra
6. Angola
7. Anguilla
8. Antigua And Barbuda
9. Argentina
10. Armenia
11. Aruba
12. Australia
13. Austria
14. Azerbaijan
15. Bahamas
16. Bahrain
17. Bangladesh
18. Barbados
19. Belarus
20. Belgium
21. Belize
22. Benin
23. Bermuda
24. Bhutan
25. Bolivia
26. Bosnia and Herzegovina
27. Botswana
28. Brazil
29. Brunei
30. Bulgaria
31. Burkina Faso
32. Burundi
33. Cambodia
34. Cameroon
35. Canada
36. Cape Verde
37. Cayman Islands
38. Central African Republic
39. Chad
40. Chile
41. China
42. Colombia
43. Comoros
44. Congo (Brazzaville)
45. Congo (Democratic Republic of)
46. Cook Islands
47. Costa Rica
48. Croatia
49. Cuba
50. CÔte d'Ivoire
51. Cyprus
52. Czech Republic
53. Denmark
54. Djibouti
55. Dominica
56. Dominican Republic
57. Ecuador
58. Egypt
59. El Salvador
60. Equatorial Guinea
61. Eritrea
62. Estonia
63. Ethiopia
64. Fiji
65. Finland
66. France
67. French Guiana
68. Gabon
69. Gambia
70. Georgia
71. Germany
72. Ghana
73. Greece
74. Greenland
75. Grenada
76. Guam
77. Guatemala
78. Guinea
79. Guinea-Bissau
80. Guyana
81. Haiti
82. Honduras
83. Hong Kong Sar, China
84. Hungary
85. Iceland
86. India
87. Indonesia
88. Iran
89. Iraq
90. Ireland
91. Israel
92. Italy
93. Jamaica
94. Japan
95. Jersey, Channel Islands
96. Jordan
97. Kazakhstan
98. Kenya
99. Kiribati
100. Korea, Dem People's Rep of
101. Korea, Republic of
102. Kosovo
103. Kuwait
104. Kyrgyz Republic
105. Laos
106. Latvia
107. Lebanon
108. Lesotho
109. Liberia
110. Libya
111. Liechtenstein
112. Lithuania
113. Luxembourg
114. Macao Sar, China
115. Macedonia
116. Madagascar
117. Malawi
118. Malaysia
119. Maldives
120. Mali
121. Malta
122. Marshall Islands
123. Martinique
124. Mauritania
125. Mauritius
126. Mexico
127. Micronesia, Fed. Sts.
128. Moldova
129. Monaco
130. Mongolia
131. Montenegro
132. Morocco

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|---------------------------------------|--|
| 133. Mozambique | 179. St. Vincent And
The Grenadines |
| 134. Myanmar | 180. Sudan |
| 135. Namibia | 181. Suriname |
| 136. Nauru | 182. Swaziland |
| 137. Nepal | 183. Sweden |
| 138. Netherlands | 184. Switzerland |
| 139. Netherlands
Antilles (Former) | 185. Syria |
| 140. New Zealand | 186. Taiwan |
| 141. Nicaragua | 187. Tajikistan |
| 142. Niger | 188. Tanzania |
| 143. Nigeria | 189. Thailand |
| 144. Niue | 190. Timor-Leste |
| 145. Norway | 191. Togo |
| 146. Oman | 192. Tonga |
| 147. Pakistan | 193. Trinidad and
Tobago |
| 148. Palau | 194. Tunisia |
| 149. Panama | 195. Turkey |
| 150. Papua New
Guinea | 196. Turkmenistan |
| 151. Paraguay | 197. Tuvalu |
| 152. Peru | 198. Uganda |
| 153. Philippines | 199. Ukraine |
| 154. Poland | 200. United Arab
Emirates |
| 155. Portugal | 201. United Kingdom |
| 156. Qatar | 202. United States |
| 157. Romania | 203. Uruguay |
| 158. Russia | 204. Uzbekistan |
| 159. Rwanda | 205. Vanuatu |
| 160. Samoa | 206. Venezuela |
| 161. Sao TomÈ and
PrÌncipe | 207. Vietnam |
| 162. Saudi Arabia | 208. Yemen |
| 163. Senegal | 209. Zambia |
| 164. Serbia | 210. Zimbabwe |
| 165. Serbia | |
| 166. Seychelles | |
| 167. Sierra Leone | |
| 168. Singapore | |
| 169. Slovakia | |
| 170. Slovenia | |
| 171. Solomon Islands | |
| 172. Somalia | |
| 173. South Africa | |
| 174. South Sudan | |
| 175. Spain | |
| 176. Sri Lanka | |
| 177. St. Kitts And
Nevis | |
| 178. St. Lucia | |

Included Countries *Corruption Perceptions Index*

1. Afghanistan
2. Albania
3. Algeria
4. Angola
5. Argentina
6. Armenia
7. Australia
8. Austria
9. Azerbaijan
10. Bahamas
11. Bahrain
12. Bangladesh
13. Barbados
14. Belarus
15. Belgium
16. Benin
17. Bhutan
18. Bolivia
19. Bosnia and Herzegovina
20. Botswana
21. Brazil
22. Bulgaria
23. Burkina Faso
24. Burundi
25. Cambodia
26. Cameroon
27. Canada
28. Cape Verde
29. Central African Republic
30. Chad
31. Chile
32. China
33. Colombia
34. Comoros
35. Congo (Brazzaville)
36. Congo (Democratic Republic of)
37. Costa Rica
38. Croatia
39. Cuba
40. CÔte d'Ivoire
41. Cyprus
42. Czech Republic
43. Denmark
44. Djibouti
45. Dominica
46. Dominican Republic
47. Ecuador
48. Egypt
49. El Salvador
50. Eritrea
51. Estonia
52. Ethiopia
53. Finland
54. France
55. Gabon
56. Gambia
57. Georgia
58. Germany
59. Ghana
60. Greece
61. Guatemala
62. Guinea
63. Guinea-Bissau
64. Guyana
65. Haiti
66. Honduras
67. Hungary
68. Iceland
69. India
70. Indonesia
71. Iran
72. Iraq
73. Ireland
74. Israel
75. Italy
76. Jamaica
77. Japan
78. Jordan
79. Kazakhstan
80. Kenya
81. Korea, Dem People's Rep of
82. Korea, Republic of
83. Kosovo
84. Kuwait
85. Kyrgyz Republic
86. Laos
87. Latvia
88. Lebanon
89. Lesotho
90. Liberia
91. Libya
92. Lithuania
93. Luxembourg
94. Macedonia
95. Madagascar
96. Malawi
97. Malaysia
98. Mali
99. Malta
100. Mauritania
101. Mauritius
102. Mexico
103. Moldova
104. Mongolia
105. Montenegro
106. Morocco
107. Mozambique
108. Myanmar
109. Namibia
110. Nepal
111. Netherlands
112. New Zealand
113. Nicaragua
114. Niger
115. Nigeria
116. Norway
117. Oman
118. Pakistan
119. Panama
120. Papua New Guinea
121. Paraguay
122. Peru
123. Philippines
124. Poland
125. Portugal
126. Qatar
127. Romania
128. Russia
129. Rwanda
130. Samoa
131. Saudi Arabia
132. Senegal
133. Serbia
134. Serbia
135. Seychelles
136. Sierra Leone
137. Singapore
138. Slovakia

139. Slovenia
140. Somalia
141. South Africa
142. Spain
143. Sri Lanka
144. Sudan
145. Suriname
146. Swaziland
147. Sweden
148. Switzerland
149. Syria
150. Taiwan

151. Tajikistan
152. Tanzania
153. Thailand
154. Timor-Leste
155. Togo
156. Trinidad and
Tobago
157. Tunisia
158. Turkey
159. Turkmenistan
160. Uganda
161. Ukraine

162. United Arab
Emirates
163. United Kingdom
164. United States
165. Uruguay
166. Uzbekistan
167. Venezuela
168. Vietnam
169. Yemen
170. Zambia
171. Zimbabwe

Appendix D

NTI Index Categories, Indicators, and Sub-indicators

1. QUANTITIES AND SITES
 - 1.1. Quantities of Nuclear Materials
 - 1.1.1. Quantities of nuclear materials
 - 1.2. Sites and Transportation
 - 1.2.1. Number of sites
 - 1.2.2. Bulk processing facility
 - 1.2.3. Frequency of materials transport
 - 1.3. Material Production and Elimination Trends
 - 1.3.1. Material production and elimination trends
2. SECURITY AND CONTROL MEASURES
 - 2.1. On-site Physical Protection
 - 2.1.1. Mandatory physical protection
 - 2.1.2. On-site reviews of security
 - 2.1.3. Design basis threat
 - 2.1.4. Security responsibilities and accountabilities
 - 2.1.5. Performance-based program
 - 2.2. Control and Accounting Procedures
 - 2.2.1. Legal and regulatory basis for material control and accounting (MC&A)
 - 2.2.2. Measurement methods
 - 2.2.3. Inventory record
 - 2.2.4. Material balance area(s)
 - 2.2.5. Control measures
 - 2.3. Insider Threat Prevention
 - 2.3.1. Personnel vetting
 - 2.3.2. Frequency of personnel vetting
 - 2.3.3. Reporting
 - 2.3.4. Surveillance
 - 2.4. Physical Security During Transport
 - 2.5. 2.5 Response Capabilities
 - 2.5.1. Emergency response capabilities
 - 2.5.2. Armed response capabilities
 - 2.5.3. Law enforcement response training
 - 2.5.4. Nuclear infrastructure protection plan
3. GLOBAL NORMS
 - 3.1. International Legal Commitments

- 3.1.1. Convention on the Physical Protection of Nuclear Material (CPPNM)
- 3.1.2. 2005 Amendment to the CPPNM
- 3.1.3. International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)
- 3.2. Voluntary Commitments
 - 3.2.1. International Atomic Energy Agency (IAEA) membership
 - 3.2.2. Proliferation Security Initiative (PSI) membership
 - 3.2.3. Global Initiative to Combat Nuclear Terrorism (GICNT) membership
 - 3.2.4. G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction membership
 - 3.2.5. World Institute for Nuclear Security (WINS) contributions
 - 3.2.6. IAEA Nuclear Security Fund contributions
 - 3.2.7. Bilateral or multilateral assistance
 - 3.2.8. Centers of Excellence
- 3.3. International Assurances
 - 3.3.1. Published regulations and reports
 - 3.3.2. Public declarations and reports about nuclear materials
 - 3.3.3. Invitation(s) for review of security arrangements.1* Physical security during transport
- 4. DOMESTIC COMMITMENTS AND CAPACITY
 - 4.1. United Nations Security Council Resolution (UNSCR) 1540 Implementation
 - 4.1.1. UNSCR 1540 reporting
 - 4.1.2. Extent of UNSCR 1540 implementation
 - 4.2. Domestic Nuclear Materials Security Legislation
 - 4.2.1. CPPNM implementation authority
 - 4.2.2. National legal framework for CPPNM
 - 4.3. Safeguards Adherence and Compliance
 - 4.3.1. IAEA safeguards agreement (excluding Additional Protocol)
 - 4.3.2. IAEA Additional Protocol
 - 4.3.3. Facility exclusion from safeguards
 - 4.3.4. Safeguards violations
 - 4.4. Independent Regulatory Agency
 - 4.4.1. Independent regulatory agency
- 5. RISK ENVIRONMENT
 - 5.1. Political Stability
 - 5.1.1. Social unrest
 - 5.1.2. Orderly transfers of power
 - 5.1.3. International disputes or tensions
 - 5.1.4. Armed conflict
 - 5.1.5. Violent demonstrations or violent civil or labor unrest
 - 5.2. Effective Governance

- 5.2.1. Effectiveness of the political system
- 5.2.2. Quality of the bureaucracy
- 5.3. Pervasiveness of Corruption
 - 5.3.1. Pervasiveness of corruption
- 5.4. Groups Interested in Illicitly Acquiring Materials
 - 5.4.1. Groups interested in illicitly acquiring materials

Vita

Sean Frederick Conroy is the Chief, Air National Guard Director's Action Group. He leads the research and development of the Director's vision, guidance and policy statements.

He previously served as the Associate Director of Air, Space and Cyber Operations (NGB/A3) for the Air National Guard. As such, he was the senior civilian responsible for National Guard Bureau support for operations, training, and deployment of 105,400 air guardsmen assigned to 89 wings and 579 mission support units spanning 54 states, territories, and the District of Columbia. Prior assignments include Analysis Branch Chief in the Air National Guard Plans and Programs Directorate (NGB/A8A9) and executive officer on the National Commission of the Structure of the Air Force.

Sean is a 19-year member of the Louisiana National Guard. He served as commander of the 113th Security Forces Squadron (DC ANG) and 159th Security Forces Squadron (LA ANG). In addition to his command duties, he served as head of commodities distribution for St. Bernard and Plaquemines Parishes following Hurricane Isaac.

Sean mobilized with the 159th Fighter Wing in response to Hurricane Katrina, serving as liaison to local government then command judge advocate for Operation Crescent Guard and Task Force Orleans. His actions earned him the Reginald C. Harmon Award as the Outstanding Reserve JAG Officer of the Year. From November 2003 to April 2004, he deployed with the 152nd Air Operations Group (NY ANG) as current operations legal advisor and long-range planner at Al-Udeid AB, Qatar.

Mr. Conroy has held positions at the Suffolk County (NY) District Attorney's Office, a private law firm. While a graduate assistant at the University of New Orleans, he taught courses in National Security and Constitutional Law.

Sean earned an undergraduate degree from the University of Maine; a law degree at St. John's University School of Law; masters degrees from Stonybrook University (policy), the University of New Orleans (political science), the Marine Corps Command and Staff College (military studies), the USAF School of Advanced Air and Space Studies (airpower art and science), and the Air War College (strategic studies).

He is married to Rebekah Blake Conroy, MD a local pediatrician. They have four children.