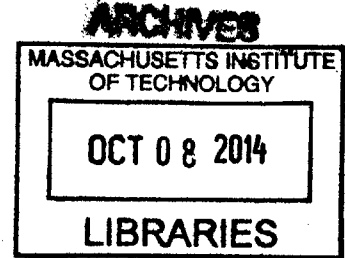


Hegemony and Nuclear Proliferation

by

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B.A. Government
Wesleyan University, 2009



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Submitted to the Department of Political Science on August 6, 2014 in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Political Science

ABSTRACT

Contrary to longstanding of predictions of nuclear tipping points, the number of states interested in nuclear weapons has sharply declined in recent decades. In contrast to existing explanations, this dissertation argues that the decline is largely attributable to US nonproliferation policies, in particular the threat of sanctions that was instituted in the late 1970s. By credibly threatening to cut off economic and military support to countries pursuing nuclear weapons, I argue that this threat of sanctions deters states within the US sphere of influence from proliferating, reducing the overall rate of proliferation and also explaining why recent nuclear aspirants have exclusively been “rogue” states outside the US sphere of influence. Because states that depend on the United States have been deterred from proliferating in recent decades, the observed success rate of sanctions should be low, since they will generally be targeted at states that do not rely on US resources. This dissertation also offers a theory of the sources of US nonproliferation policy, arguing that fears of nuclear domino effects are necessary to explain (1) why US policy strengthened so dramatically in the wake of Chinese and Indian nuclear tests in the 1960s and 1970s, and (2) why the US abandoned a selective nonproliferation policy and decided to enforce nonproliferation across the board.

To test these two arguments, this dissertation employs a mix of quantitative and qualitative methods. First, I draw on archival documents to show that fears of nuclear domino effects motivated US nonproliferation policy advances in the 1960s and 1970s, and that this motivation was prominent in individual cases of nonproliferation. Second, I show quantitatively that states dependent on the United States have been less likely to pursue nuclear weapons since sanctions policies were instituted in the late 1970s, that observed cases of sanctions have been largely ineffective, and that the deterrent effect of sanctions largely accounts for the temporal decline in proliferation. Case studies of US policy toward Pakistan and Taiwan demonstrate that a credible threat of sanctions can arrest ongoing nuclear programs when the proliferator is dependent on the United States and underestimated the likelihood of sanctions.

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I took a circuitous path to writing this dissertation. Six years ago, as an undergraduate at Wesleyan, I wrote a senior thesis on U.S. nonproliferation policy. When I entered graduate school at MIT, I initially intended to continue with this line of inquiry. However, by the time I completed my coursework, I had been converted to a budding civil war scholar and set out to write a dissertation on collaboration and resistance in the context of foreign occupation. After two years of work on this topic, the seductive siren song of nuclear nonproliferation beckoned me back. In the spring of my fourth year, I made the radical decision to switch topics and build a dissertation off two papers on U.S. nonproliferation policy that I had been writing on the side.

I could not have made this decision, nor successfully executed the project, were it not for the support of my committee members. Taylor Fravel graciously agreed to serve as chair of the new project and provided excellent feedback throughout the process. Vipin Narang and Fotini Christia enriched my graduate school experience in more ways than I can count, not only by serving on my committee(s) but also by acting as mentors, enthusiastic champions of my work, and trusted confidantes and friends. Taylor, Vipin, and Fotini were all tremendously helpful when I was on the job market, helping me craft and hone my application materials and job talk, ultimately guiding me to a successful outcome. Frank Gavin joined the project a bit later but was equally influential. His work on the history of U.S. nonproliferation policy was in many ways the inspiration for both my senior thesis at Wesleyan and my dissertation at MIT. He has been extraordinarily helpful both in terms of providing feedback and in helping connect me to the broader community of nuclear security scholars.

Outside of my committee, a number of faculty members and institutions at MIT made strong impressions on me and helped me along the way. Rick Locke, Ed Steinfeld, and Jens Hainmueller collectively instilled in me a genuine appreciation of mixed-methods research, which not only shaped this dissertation but my overall view of the discipline. Despite his many competing demands as a new faculty member with no formal connection to my dissertation, Rich Nielsen generously provided feedback and invaluable advice on my job talk. The MIT Political Science Department, Security Studies Program, and Center for International Studies provided the institutional resources and intellectual environment that made this project possible.

I probably would not have survived graduate school, and certainly would not have enjoyed it, if not for the tremendous group of graduate students I was lucky enough to overlap with at MIT. I want to thank in particular Chris Clary, David Jae, Chad Hazlett, Yue Hou, Jeremy Ferwerda, Krista Loose, Dan Altman, Sameer Lalwani, Mark Bell, Brian Haggerty, Alec Worsnop, and Noel Anderson. In addition to learning an immeasurable amount from this group, and receiving excellent feedback from them on my dissertation, I relied on them to provide much needed doses of laughter, camaraderie, and graduate student commiseration (often over a beer or three). I also want to thank a trio of MIT alumni who provided sage advice both at the beginning and end of my graduate school career. Peter Krause, Paul Staniland, and Josh Shifrinson helped to recruit me to MIT in the first place and then helped me navigate the job market five years later. Lastly, outside of MIT I want to thank Kai Thaler. In addition to being a fellow political scientist down

the road at Harvard who has provided great feedback, Kai has been a faithful friend of mine since high school.

As I mentioned previously, this project is in an important sense a continuation of the senior thesis I wrote while at Wesleyan. I therefore could not have written this dissertation, nor would I have aspired to become a political scientist in the first place, without the influence of my professors at Wesleyan, in particular Doug Foyle, Erica Chenoweth, David Kearns, and Marc Eisner.

Long before I was an undergraduate, and before the glamorous idea of a career in political science was even a glimmer in my eye, my enthusiasm for learning and knowledge was encouraged and nurtured by my parents. I want to thank them, as well as my six siblings, for their support over the years.

Finally, I owe the greatest debt to Eugenie, who for the past five years has tolerated my neuroses, indulged my often-obsessive work habits, and provided me with more love and emotional support than I can possibly deserve. I dedicate this dissertation to her.

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Chapter 1: Introduction

Since the earliest years of the nuclear age, analysts and policymakers have warned of nuclear tipping points, domino effects, and cascades, predicting exponential increases in the number of states pursuing and acquiring nuclear weapons.¹ As early as 1957, an American National Intelligence Estimate warned of ten states likely to develop nuclear weapons.² In 1961, in negotiations with Khrushchev over a Test Ban Treaty, Kennedy predicted, “If no agreement is reached, then in a few years there might be ten or even fifteen nuclear powers.”³ That same year, as nuclear sharing with NATO allies was a matter of public debate, Albert Wohlstetter warned in the pages of *Foreign Affairs* of the “N+1” problem, in particular arguing that “it has always been clear...that the acquisition of nuclear military power by some of our allies can impel its acquisition by enemies...The spread occurs in chain.”⁴ Two years later, Kennedy publicly warned that without preventive action, the world could soon face a scenario with anywhere from fifteen to twenty-five nuclear-armed powers.⁵

These fears were strengthened immensely by China’s nuclearization in the 1960s. In the wake of the first Chinese test in late 1964, the influential Gilpatric Committee warned, “The world is fast approaching a point of no return in the prospects of controlling the spread of nuclear

¹ See, for example, William Potter, “Divining Nuclear Intentions,” *International Security* 33, No. 1 (Summer 2008): 159-160; John Mueller, *Atomic Obsession: Nuclear Alarmism from Hiroshima to Al Qaeda* (Oxford: Oxford University Press, 2010), 91-94; Moeed Yusuf, “Predicting Proliferation: The History of the Future of Nuclear Weapons,” *Brookings Institution Foreign Policy Paper #11*, January 2009, <http://www.brookings.edu/>; and Francis Gavin, “Same As It Ever Was: Nuclear Alarmism, Proliferation, and the Cold War,” *International Security* 34, No. 3 (Winter 2009/2010): 7-37.

² William Potter, “Divining Nuclear Intentions,” 159.

³ Memorandum of Conversation, 4 June 1961, Kennedy Administration, *Foreign Relations of the United States* [hereafter FRUS] 1961-1963, vol. 7, doc. 31.

⁴ Albert Wohlstetter, “Nuclear Sharing: NATO and the N+1 Country,” *Foreign Affairs* 39, No. 3 (1961): 356.

⁵ William Potter, “Divining Nuclear Intentions,” 159-60.

weapons...The recent Chinese Communist nuclear explosion has reinforced the belief, increasingly prevalent throughout the world, that nuclear weapons are a distinguishing mark of a world leader, are essential to national security, and are feasible even with modest industrial resources.” The Committee specifically warned that India and Japan would be tempted to pursue nuclear weapons, and that this in turn could compel Pakistan, Israel, the United Arab Republic, Germany, and other European states to follow suit.⁶

After India tested its first nuclear device a decade later, delivering a blow to the nascent nonproliferation regime, a government report sounded a similarly pessimistic note. The report judged that the effort to prevent proliferation “is now at a crucial stage. Commercial nuclear power generation is coming into wider use throughout the world; as a result of the Indian nuclear test, other non-nuclear weapons states may rethink their decisions regarding the acquisition of nuclear explosives. We are in general entering a period when political barriers to proliferation appear to be weakening, given movements toward a multipolar world and decreasing credibility with respect to security guarantees.”⁷

This theory of nuclear dominos has remained a core motivation for US nonproliferation policy ever since; rather than dying with the Cold War, belief in the theory persisted and perhaps became even stronger.⁸ Today, scholars, pundits, and policymakers worry that an Iranian nuclear bomb could lead Saudi Arabia, Egypt, and Turkey to pursue nuclear weapons.⁹ As Nicholas Kristof wrote in 2004, “If Iran develops nukes, jittery Saudi Arabia will seek to follow, and then

⁶ Report by the Committee on Nuclear Proliferation, 21 January 1965, Johnson Administration, *FRUS*, vol. 11, doc. 64. On the Gilpatric Committee, see Francis Gavin, “Blasts from the Past: Proliferation Lessons from the 1960s,” *International Security* 29, No. 3 (2004-2005): 100-135.

⁷ NSC Under Secretaries Committee to Deputy Secretary of Defense et al, “US Nuclear Non-Proliferation Policy,” 4 December 1974, in “The Iranian Nuclear Program, 1974-1978,” *National Security Archive* [hereafter *NSA*], *EBB* no. 268.

⁸ See Mueller, *Atomic Obsession*, 91-94.

⁹ See, for example, Barry Posen, “A Nuclear-Armed Iran: A Difficult But Not Impossible Policy Problem,” *Century Foundation Report*, 2006.

Egypt, which prides itself as the leader of the Arab world. Likewise, anxiety about North Korea is already starting to topple one domino—Japan is moving in the direction of a nuclear capability.”¹⁰ A belief in the nuclear domino theory also underlies the security-centered approach that traditionally dominated the scholarly study of nuclear proliferation. According to the security model, states without the shelter of a nuclear umbrella seek to build nuclear weapons in order to ensure their security from a nuclear rival, although an overwhelming conventional threat may also suffice.¹¹ As William Potter wrote in 2009, “It is hard to find an analyst or commentator on nuclear proliferation who is not pessimistic about the future. It is nearly as difficult to find one who predicts the future without reference to metaphors such as proliferation chains, cascades, dominoes, waves, avalanches, and tipping points.”¹²

Yet there is a significant problem with these repeated predictions of nuclear domino effects: they have proven spectacularly wrong. As Figure 1.1 shows, the number of states with nuclear weapons has grown slowly and steadily, with no single instance of nuclear acquisition leading to a cascade of additional nuclear states. Indeed, in 1985, a National Intelligence Council report observed that, “The most striking characteristic of the present-day nuclear proliferation scene is that, despite the alarms rung for some decades by past National Intelligence Estimates, no additional overt proliferation of weapons has actually occurred since China tested its bomb in 1964.”¹³ Moreover, Figure 1.1 also shows that this slow growth has occurred even as the number of states with the technical capacity to build nuclear weapons has dramatically increased. This apparent failure of nuclear domino predictions has motivated a large literature in recent years,

¹⁰ Nicholas Kristof, “The Nuclear Shadow,” *New York Times*, 14 August 2004, A15.

¹¹ Scott Sagan, “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb,” *International Security* 21, No. 3 (Winter 1996/1997): 57.

¹² Potter, “Divining Nuclear Intentions,” 159.

¹³ The Dynamics of Nuclear Proliferation: Balance of Incentives and Constraints, September 1985, *Digital National Security Archive* [hereafter *DNSA*], WM00296.

producing a revisionist consensus that holds the nuclear domino theory is invalid.¹⁴ In explaining the failure of nuclear domino effects to materialize, scholars have emphasized the role of identity conception,¹⁵ norms embodied in the NPT,¹⁶ as well as security guarantees, the defensive character of nuclear weapons, and efforts by superpowers to prevent proliferation.¹⁷

If one examines the number of states *exploring* or *pursuing* nuclear weapons over time, a similar picture emerges. Figure 1.2 demonstrates that after an initial surge in interest in nuclear weapons in the early years of the nuclear age, the number of states with ongoing nuclear weapons programs fluctuated within a relatively narrow range between 1955 and 1985—there was neither a consistent nor exponential increase in interest in nuclear weapons. What is perhaps more interesting about Figure 1.2, however, and which has attracted little if any scholarly attention, is the striking temporal *decline* in global interest in nuclear weapons. This trend in the product of two developments: (1) an increasing rate of states abandoning ongoing nuclear weapons programs, and (2) an even more striking decline in the rate of *new* nuclear weapons programs being initiated.

¹⁴ See Yusuf, “Predicting Proliferation: The History of the Future of Nuclear Weapons,” Mueller, *Atomic Obsession*; Gavin, “Same As It Ever Was,” Jacques Hymans, *The Psychology of Nuclear Proliferation: Identity, Emotions, and Foreign Policy* (New York: Cambridge University Press, 2006); Potter, “Divining Nuclear Intentions,” Benoit Pelopidas, “The Oracles of Proliferation,” *Nonproliferation Review* 18, no. 1 (March 2011): 297–314; Philipp Bleek, “Does Proliferation Beget Proliferation? Why Nuclear Dominoes Rarely Fall” (PhD diss., Georgetown University, 2010).

¹⁵ Hymans, *The Psychology of Nuclear Proliferation*.

¹⁶ Maria Rost Rublee, *Nonproliferation Norms: Why States Choose Nuclear Restraint* (Athens, GA: University of Georgia Press, 2009); and Harald Muller and Andreas Schmidt, “The Little Known Story of De-Proliferation: Why States Give Up Nuclear Weapons Activities,” in *Forecasting Nuclear Proliferation in the 21st Century: The Role of Theory* (Palo Alto, CA: Stanford University Press, 2010), ed. by William Potter and Gaukhar Mukhatzhanova, 124–158.

¹⁷ Bleek, “Does Proliferation Beget Proliferation?”

Figure 1.1: Number of states with technical capacity to build nuclear weapons vs. number of states with nuclear arsenals¹⁸

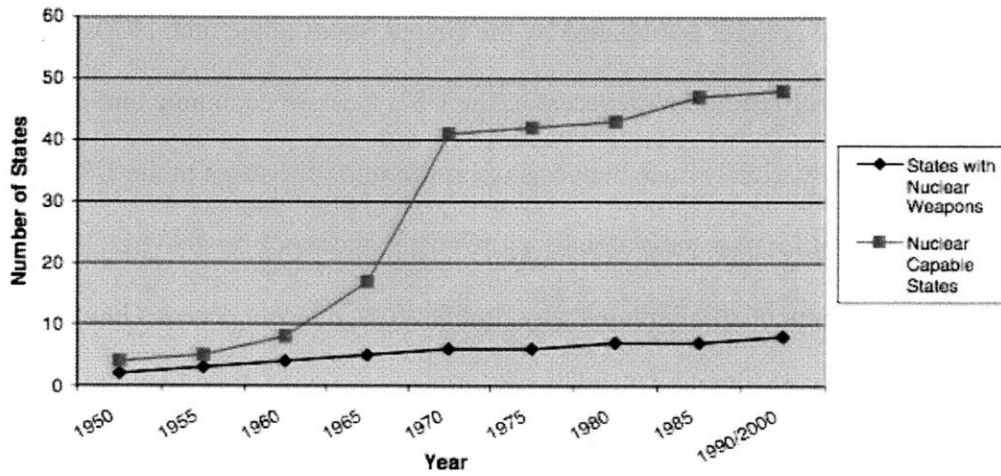
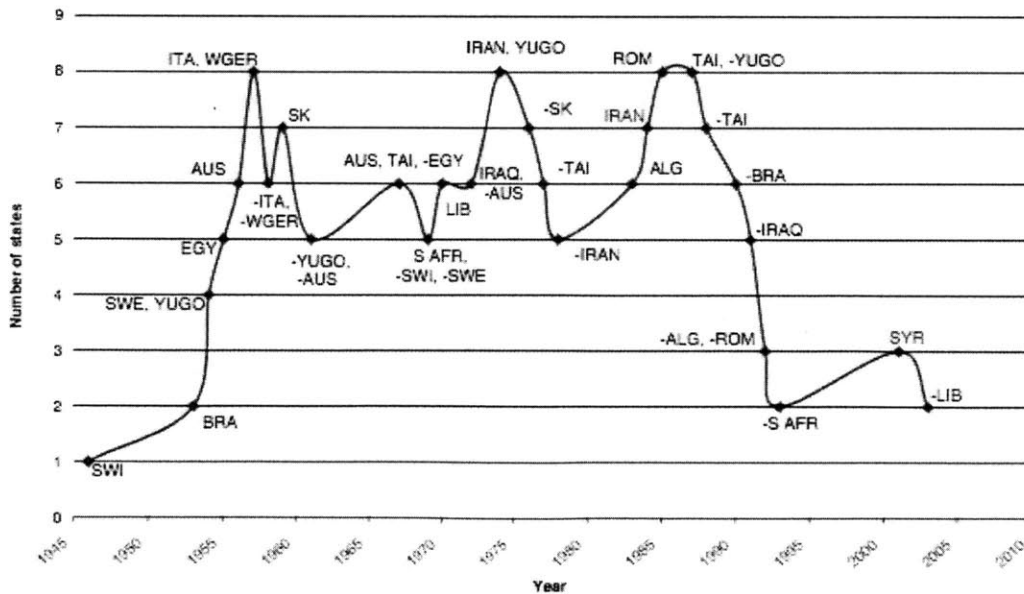


Figure 1.2: Number of states with ongoing nuclear weapons programs over time¹⁹



¹⁸ Figure from Scott Sagan, "The Causes of Nuclear Weapons Proliferation," *Annual Review of Political Science* 14 (2011): 225-244.

¹⁹ Ibid.

This dissertation proposes the first direct explanation for this surprising decline in nuclear proliferation. In contrast to recent work that emphasizes the role of domestic political regimes,²⁰ leader identity conception,²¹ regional security environment,²² foreign technological assistance,²³ or norms embedded in the NPT in shaping proliferation decisions,²⁴ I argue for the importance of nonproliferation sanctions policies established by the United States in the mid-1970s, policies which credibly link nonproliferation with access to the US's massive economic and military resources and thereby dramatically raise the costs of proliferation for states in the US sphere of influence. By making proliferation substantially more costly, these policies have reduced the rate of proliferation. This argument also explains why proliferators in recent decades have been exclusively "rogue" states outside the US sphere of influence: namely, Iraq, Iran, North Korea, Libya, Syria, and (perhaps) Burma. I also offer a theory for the causes of US nonproliferation policies, arguing that fears of nuclear domino effects explain why US policy was strengthened so dramatically in response to the Chinese and Indian nuclear tests of 1964 and 1974, and why the United States decided to enforce nonproliferation across the board rather than selectively.

The remainder of the chapter proceeds by (1) explaining the importance of the research question both for reasons of policy and theory, (2) describing the empirical patterns of proliferation and US nonproliferation policy that this dissertation seeks to explain, (3)

²⁰ Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton, NJ: Princeton University Press, 2007).

²¹ Hymans, *The Psychology of Nuclear Proliferation*.

²² TV Paul, *Power Versus Prudence: Why Nations Forgo Nuclear Weapons* (Montreal: McGill-Queen's University Press, 2000).

²³ Matthew Fuhrmann, "Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements," *International Security* 34, No. 1 (Summer 2009): 7-41; and Matthew Kroenig, "Importing the Bomb: Sensitive Nuclear Assistance and Nuclear Proliferation," *Journal of Conflict Resolution* 53, No. 2 (April 2009): 161-180.

²⁴ See Rublee, *Nonproliferation Norms*; and Muller and Schmidt, "The Little Known Story of De-Proliferation."

previewing the theoretical argument on the causes and consequences of US nonproliferation policy, and (4) laying out a roadmap for the dissertation as a whole.

Why Nonproliferation Matters

The spread of nuclear weapons, and the efficacy of efforts to prevent this spread, is important both for theoretical and policy reasons. First, in terms of policy, nuclear proliferation is consequential since it affects both the risk of nuclear use and the likelihood and character of conventional interstate conflict. While theoretical arguments about whether nuclear weapons stabilize or destabilize international politics persist,²⁵ a growing body of empirical work suggests that nuclear weapons may not deter conventional conflict to the extent previously thought,²⁶ may provide bargaining advantages in crises,²⁷ encourage greater resolve or aggression,²⁸ and lead states to broaden their interests and initiate disputes against new adversaries.²⁹

²⁵ See Scott Sagan and Kenneth Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: WW Norton and Company, 2003), John Mearsheimer, "Nuclear Weapons and Deterrence in Europe," *International Security* 9, No. 3 (Winter 1984/1985): 19-46; Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca: Cornell University Press, 1989), Peter Feaver, "Command and Control in Emerging Nuclear Nations," *International Security* 17, No. 3 (Winter 1992/1993): 160-187; Scott Sagan, "The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of Nuclear Weapons," *International Security* 18, No. 4 (Spring 1994): 66-107; Glenn Snyder, "The Balance of Power and the Balance of Terror," in *Balance of Power*, ed. Paul Seabury (San Francisco: Chandler, 1965); and John Mueller, "The Essential Irrelevance of Nuclear Weapons: Stability in the Postwar World," *International Security* 13, No. 2 (1988): 55-79.

²⁶ See Vipin Narang, "What Does it Take to Deter? Regional Power Nuclear Postures and International Conflict," *Journal of Conflict Resolution* 57, No. 3 (2013): 478-508; Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton: Princeton University Press, 2014); and Mark Bell and Nicholas Miller, "Questioning the Effect of Nuclear Weapons on Conflict," *Journal of Conflict Resolution*, forthcoming. For an exception, see Curtis Signorino and Ahmer Tarar, "A Unified Theory and Test of Extended Immediate Deterrence," *American Journal of Political Science* 50, No. 3 (2006): 586-605.

²⁷ See Kyle Beardsley and Victor Asal, "Winning with the Bomb," *Journal of Conflict Resolution* 53, No. 2 (April 2009): 278-301; Matthew Kroenig, "Nuclear Superiority and the Balance of Resolve: Explaining Nuclear Crisis Outcomes," *International Organization* 67, No. 1 (Winter 2013): 141-171. For a contrasting finding, see Todd Sechser and Matthew Fuhrmann, "Crisis Bargaining and Nuclear Blackmail," *International Organization* 67, No. 1 (Winter 2013): 173-195.

Moreover, even the pursuit of nuclear weapons can cause regional instability and war. Fuhrmann and Kreps identify nine cases where nuclear programs were preventively attacked, in addition to ten other cases where states seriously considered preventive attacks against nuclear programs.³⁰ Most prominently, the mistaken belief that Iraq continued to pursue nuclear weapons was a significant motivation for the US invasion of Iraq in 2003.³¹ Israel attacked an Iraqi nuclear reactor in 1981 and Syrian nuclear facilities in 2007,³² while some have argued that the Soviets instigated the Six-Day War in order to attack Israel's nuclear program.³³ Of course, there has been widespread discussion of the possibility of an American or Israeli attack on Iranian nuclear facilities, with the threat of force publicly "on the table."³⁴

While it is impossible to definitively say whether more nuclear-armed states would increase the risk of nuclear use, scholars subscribing to the "proliferation pessimism" school of thought generally argue that this is the case. This argument is plausible for two main reasons. First, there will simply be more opportunities for advertent or inadvertent use as the number of nuclear-armed states increases. As Kroenig put it in a recent article, "The greatest threat posed

²⁸ Michael Horowitz, "The Spread of Nuclear Weapons and International Conflict: Does Experience Matter?" *Journal of Conflict Resolution* 53, No. 2 (April 2009): 234-257; S. Paul Kapur, "India and Pakistan's Unstable Peace: Why Nuclear South Asia is Not Like Cold War Europe," *International Security* 30, No. 2 (2005): 127-152; and Vipin Narang, "Posturing for Peace: Pakistan's Nuclear Postures and South Asian Stability," *International Security* 34, No. 3 (Winter 2009-2010): 38-78.

²⁹ Bell and Miller, Forthcoming.

³⁰ Matthew Fuhrmann and Sarah Kreps, "Targeting Nuclear Programs in War and Peace: A Quantitative Empirical Analysis, 1941-2000," *Journal of Conflict Resolution* 54, No. 6 (December 2010): 831-859.

³¹ See, for instance, David Lake, "Two Cheers for Bargaining Theory: Assessing Rationalist Explanations of the Iraq War," *International Security* 35, No. 3 (Winter 2010-2011): 24-25; and Alexandre Debs and Nuno Monteiro, "Known Unknowns: Power Shifts, Uncertainty, and War," *International Organization* 68, No. 1 (January 2014): 1-31.

³² Sarah Kreps and Matthew Fuhrmann, "Attacking the Atom: Does Bombing Nuclear Facilities Affect Proliferation?" *Journal of Strategic Studies* 34, No. 2 (April 2011): 162-175.

³³ Isabella Ginor and Gideon Remez, "The Spymaster, the Communist, and Foxbats over Dimona: the USSR's Motive for Instigating the Six-Day War," *Israel Studies* 11, No. 2 (2006): 88-130.

³⁴ For recent examples, see Matthew Kroenig, "Time to Attack Iran: Why a Strike is the Least Bad Option," *Foreign Affairs* 91, No. 1 (2012): 76-86; and Colin Kahl, "Not Time to Attack Iran: Why War Should Be a Last Resort," *Foreign Affairs* 91, No. 2 (2012): 166-173.

by the spread of nuclear weapons is nuclear war. The more states in possession of nuclear weapons, the greater the probability that somewhere, someday, there will be a catastrophic nuclear war.”³⁵ A second perspective holds that next-generation proliferators are likely to be weaker, poorer, military-dominated states that lack the financial and institutional capacity to minimize the risk of accidental or intentional nuclear use.³⁶

This topic is also important for theoretical reasons. First, the decline in nuclear pursuit is puzzling from the standpoint of most existing theories. As noted above, it has occurred even as technology has diffused and the number of states with the technical capacity to build nuclear weapons has starkly increased, in sharp contrast to the arguments stressing the role of technology. Moreover, from the perspective of realism, which assumes states seek security and survival above all else and argues that nuclear weapons are the ultimate guarantor of a state’s survival, it makes little sense that interest in nuclear weapons has gone down over time.³⁷ After all, it is not as if all states with a potential motive and capability have proliferated. According to one recent estimate, there are currently 56 non-nuclear states with the basic technical capacity to build nuclear weapons; moreover, 40 of these states have at least one nuclear-armed neighbor, generally thought to be the strongest motivation for nuclear proliferation.³⁸ Second, while it is possible that norms associated with the NPT could explain this decline, this argument is problematic because the NPT itself and the decisions of states to adhere to it have often been a consequence of superpower interests and pressure. Finally, the role of sanctions in limiting proliferation that this dissertation highlights is theoretically important since the majority of

³⁵ Matthew Kroenig, “The History of Proliferation Optimism: Does It Have a Future?” *Journal of Strategic Studies*, Forthcoming, 17.

³⁶ See, for example, Peter Lavoy, “The Strategic Consequences of Nuclear Proliferation: A Review Essay,” *Security Studies* 4, No. 4 (1995): 708-711; Feaver, “Command and Control in Emerging Nuclear Nations,” and Sagan and Waltz, *The Spread of Nuclear Weapons*, 46-88.

³⁷ See Waltz in Sagan and Waltz, *The Spread of Nuclear Weapons*.

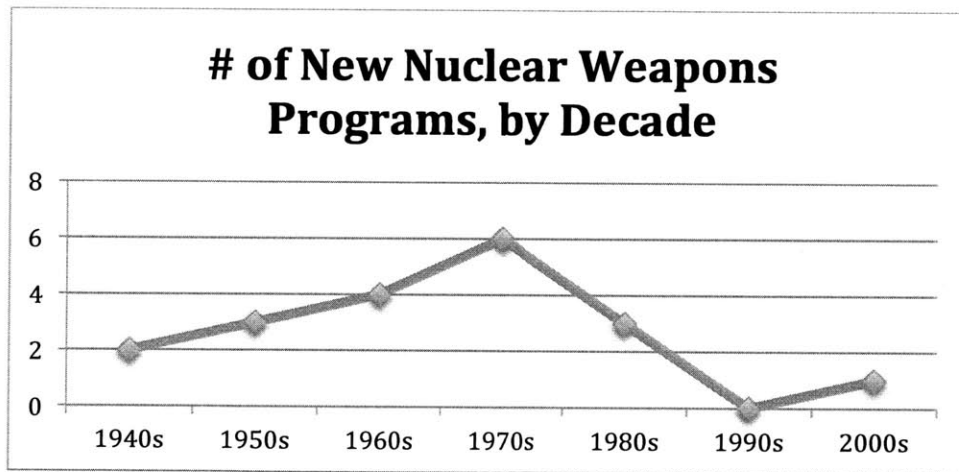
³⁸ Rublee, *Nonproliferation Norms*, 30-31.

existing scholarship on sanctions argues that they are generally ineffective.³⁹ In sum, there are both practical and theoretical reasons why the study of nonproliferation is important.

Patterns of Proliferation, 1945-2000

As noted above, the primary pattern this dissertation seeks to explain is the declining rate of proliferation over time. This pattern is at its most stark when measuring the initiation of new nuclear weapons programs (pursuit of nuclear weapons). As Figure 1.3 illustrates, the rate of initiation steadily increased into the 1970s, as nuclear domino theories might expect, but then precipitously declined thereafter with only one new nuclear program since 1990.⁴⁰

Figure 1.3: Number of new nuclear weapons programs, by decade



³⁹ See, for instance, Johan Galtung, “On the Effects of International Economic Sanctions: With Examples from the Case of Rhodesia,” *World Politics* 19, No. 3 (1967): 378-416; James Lindsay, “Trade Sanctions As Policy Instruments: A Re-Examination,” *International Studies Quarterly* 30, No. 2 (1986): 153-173; Robert Pape, “Why Economic Sanctions Do Not Work,” *International Security* 22, No. 2 (Fall 1997): 90-136; T. Clifton Morgan and Valerie Schwebach, “Fools Suffer Gladly: The Use of Economic Sanctions in International Crises,” *International Studies Quarterly* 41, No. 1 (1997): 27-50; and Daniel Drezner, “Conflict Expectations and the Paradox of Economic Coercion,” *International Studies Quarterly* 42, No. 4 (1998): 709-731.

⁴⁰ Data is from Christopher Way, “Nuclear Proliferation Dates,” 2012. The one case post-1990 is Syria, for which evidence is circumstantial at best. On the Syria case, see Desmond Butler and George Jahn, “UN: Syria Complex Bolsters Suspicion of Nuke Ambitions,” Associated Press, 1 November 2011, http://www.msnbc.msn.com/id/45113484/ns/world_news-mideast_n_africa/t/un-syria-complex-bolsters-suspicion-nukeambitions/#.TyGgKiNbvC4.

Table 1.1 below identifies the countries that have pursued nuclear weapons since 1945 along with the years they initiated their programs, acquired nuclear weapons, and/or abandoned their programs. In addition to the declining rate of proliferation over time, there is a striking change in the *type* of countries that have pursued nuclear weapons in different time periods. Prior to the mid-1970s, proliferating states were often allied with the United States either formally or informally—for example, the UK, France, Israel, Australia, Taiwan, South Korea, and Pakistan—whereas after the mid-1970s, proliferating states have exclusively been states either with troubled, ambivalent relations with the United States (Argentina, Brazil) or states entirely outside the US sphere of influence (North Korea, Iraq, Iran, Syria). This dissertation’s theory aims to explain both empirical patterns: the declining rate of proliferation over time and the different type of proliferator in recent decades.

Table 1.1: States that have pursued nuclear weapons, 1945-2000 (Way 2012)

	Program Start	Acquire Year	Abandon Year
Soviet Union	1945	1949	
United Kingdom	1947	1952	
France	1954	1960	
China	1955	1964	
Israel	1958	1969	
Australia	1961		1973
India	1964	1988	
Egypt	1965		1974
Taiwan	1967		1977
South Korea	1970		1978
Libya	1970		2003
Pakistan	1971	1987	
South Africa	1974	1979	1991
Argentina	1978		1990
Brazil	1978		1990
North Korea	1980	2006	
Iraq	1983		1995
Iran	1985		
Syria	2000		

The Evolution US Nonproliferation Policy, 1945-1978

This dissertation also seeks to explain changes in US nonproliferation policy over time, which I argue are central to understanding the declining rate and character of proliferation. There has been wide variation in US policy historically with respect to whether the US government has sought to impede proliferation across the board or has facilitated it in particular cases. Table 1.2 below lists thirty distinct policy decisions on nonproliferation between 1945 and 1978, coded by whether the decision facilitated proliferation, impeded it, or was ambiguous in its effect. I define facilitating proliferation as increasing the ability of one or more states to have independent control over nuclear weapons, or contributing to a state's existing nuclear weapons capabilities. I define impeding proliferation as efforts to restrict the spread of sensitive nuclear technologies or to reduce the ability of states to gain independent control of nuclear weapons. Each of these policy decisions will be discussed in detail in Chapter 3, but what is relevant here is the changing pattern of facilitating vs. impeding proliferation over time.

After early efforts to restrain proliferation, namely the failed Baruch Plan and the Atomic Energy Act, policy in the mid-1950s markedly shifted toward the facilitation of proliferation, with efforts to increase the control of NATO allies over nuclear weapons, revisions of the Atomic Energy Act to allow the United States to provide aid to Britain's nuclear weapons program, and the ambiguous Atoms for Peace program which promised to spread nuclear technology globally for "peaceful purposes." Nonproliferation policy in the early 1960s was schizophrenic, with significant efforts to impede proliferation such as the Limited Test Ban Treaty and the installation of permissive action links on US nuclear weapons in Europe, but also a refusal to give up the plan for the nuclear-armed Multilateral Force (MLF) in NATO and the decision to offer additional aid to the French and British nuclear weapons programs. From 1964

to 1968, US policy shifted strongly in favor of nonproliferation, most notably with the scrapping of the MLF and the conclusion of the Nuclear Nonproliferation Treaty (NPT). After a turn against nonproliferation from 1969 through 1972, from 1973 through 1978 US policy again shifted strongly in favor of nonproliferation with the establishment of supplier controls and strong sanctions policies.

Table 1.2: Major US Policy Decisions on Nonproliferation, 1945-1978

		Facilitates Proliferation	Ambiguous	Impedes Proliferation
Baruch Plan	1946			✓
Atomic Energy Act	1946			✓
Atoms for Peace	1954		✓	
Atomic Energy Act Amended	1954	✓		
NATO Stockpile Plan	1957	✓		
Atomic Energy Act Amended	1958	✓		
Multilateral Force Proposal	1960	✓		
ACDA Founded	1961			✓
NSAM 147 (MLF)	1962		✓	
NSAM 160 (PALs)	1962			✓
Nassau Agreement (Nuclear Aid to UK)	1962	✓		
Offer of Nuclear Aid to France	1963	✓		
NSAM 240 (MLF)	1963	✓		
Limited Test Ban Treaty	1963			✓
NSAM 294 (Bans Nuclear Aid to France)	1964			✓
NSAM 322 (MLF Delayed)	1964			✓
NSAM 335 (Nonpro. Program Ordered)	1965			✓
Nuclear Planning Group to Replace MLF	1967			✓
Nuclear Nonproliferation Treaty (NPT)	1968			✓
NSDM 6 (No Pressure for NPT)	1969	✓		
Nixon-Meir Deal	1969		✓	
NSDM 103 (France Nuclear Aid)	1971	✓		
NSDM 124 (Britain Nuclear Aid)	1971	✓		
NSDM 235 (HEU Exports)	1973			✓
NSDM 255 (Export Controls)	1974			✓
Nuclear Suppliers Group	1975			✓
Ford Policy Review	1976			✓
Symington Amendment	1976			✓
Glenn Amendment	1977			✓
Presidential Directive/NSC-8	1977			✓
Nuclear Non-Proliferation Act	1978			✓

The Argument in Brief

This dissertation advances theories to explain both the evolution of US nonproliferation policy over time and the declining rate and changing character of proliferation, which I argue is a result of changes in US policies. With respect to the sources of US nonproliferation policy, I argue that the Chinese and Indian nuclear tests caused increased fears of nuclear domino effects—the belief that proliferation in one state increases the probability of proliferation in other states—and spurred the policy changes in favor of nonproliferation from 1964-1968 and 1974-1978. More specifically, I argue that the consequences of proliferation for the United States and the costs of enforcing nonproliferation differ from case to case as a function of whether the potential proliferator is an enemy, ally, or unaligned, and therefore that an across-the-board nonproliferation policy only makes sense when nuclear domino effects are perceived to be strong: in other words, when policymakers believe proliferation cannot be contained to individual cases of allied or unaligned states. Fears of nuclear domino effects are consequently crucial to explaining why the United States shifted from a selective nonproliferation policy to a universalistic approach. These fears are likely to be highest in the wake of tests by new nuclear states, which explains why US policy changed so dramatically from 1964-68 and 1974-78, and why the United States has worked to prevent first nuclear tests even amongst states with acknowledged nuclear weapons capabilities.

The second theory explains how these universalistic policies—in particular the threat of sanctions instituted in the mid-1970s—caused a declining rate of proliferation. As a global hegemon with unparalleled military and economic resources, the United States maintains important security and economic relationships with a large number of countries that provide leverage the United States can bring to bear in the nuclear realm. Specifically, by threatening to

cut off economic and military support to states that pursue nuclear weapons, the United States dramatically raises the costs of proliferation for states that depend on the United States and therefore has the power to deter states from pursuing nuclear weapons in the first place, so long as the threat is credible. This threat of sanctions works through three main pathways that are drawn from the literature on the causes of nuclear proliferation: security, domestic politics, and norms. First, the loss of US military aid or troops deployments could imperil a potential proliferator's security. Even though nuclear weapons may be the ultimate guarantor of a state's territorial integrity, it takes many years to achieve a nuclear weapons capability, which would create a window of vulnerability if a proliferator that depends on US security commitments started a nuclear program and lost US support thereafter. Second, the threat of an aid or trade cutoff could threaten the domestic political survival of regimes whose coalitions depend on these resources. Third, and finally, states that depend on the United States are more likely to be sensitive to US-sponsored norms on nonproliferation, particularly when sanctions are in place to act as enforcement mechanisms.

Plan of the Dissertation

The body of the dissertation develops these two theories in more detail and then tests their observable implications using a mix of qualitative and quantitative methods. Chapter 2 reviews the extant literature on the causes of nuclear proliferation and the sources of US nonproliferation policy and then offers new theories on the causes of US policy and how these policies have produced the declining rate of proliferation in recent decades. Chapter 3 examines the evolution of US nonproliferation policy from the early 1950s through 1978, showing that fears of nuclear domino effects triggered by the 1964 Chinese and 1974 Indian nuclear tests

caused the US government to abandon selective nonproliferation policies and develop stronger policies that enforced nonproliferation across the board. Chapter 4 explores motivations for US nonproliferation policy in individual cases, analyzing US efforts toward the universe of nuclear weapons programs amongst allied or unaligned states since 1964—where nuclear domino fears are likely to be most important for explaining US opposition to proliferation. The findings suggest that the United States has consistently opposed proliferation even in allied and unaligned states since 1964, that nuclear domino fears have been an important motivation for these efforts, and that the United States has worked to prevent tests even after a state has crossed the nuclear threshold, at least partially as a means of staving off nuclear domino effects.

Chapters 5 through 7 examine the effects of US nonproliferation policies empirically. Chapter 5 explores the effectiveness of US sanctions policies quantitatively, showing that since the United States instituted these policies in the late 1970s, states dependent on the United States have been significantly less likely to pursue nuclear weapons, and that this largely accounts for the declining rate of proliferation over time. Chapters 6 and Chapter 7 offer in-depth case studies of US nonproliferation efforts vis-à-vis Taiwan and Pakistan, respectively—two countries with ongoing nuclear weapons program when the United States instituted its sanctions policies. In line with theoretical expectations, Taiwan responded to credible US sanctions threats by abandoning its nuclear weapons program due to its high dependence on the United States. Although Pakistan appears to be an outlier in that it succeeded in building a bomb in spite of US sanctions, Chapter 7 shows that the case is in fact consistent with the theoretical logic: Pakistan initially was not dependent on the United States and therefore had little to lose from US sanctions; once Pakistan became dependent due to the Soviet invasion of Afghanistan and increased need for aid, the United States undermined the credibility of its threats by waiving sanctions and continuing to

provide massive amounts of aid despite Pakistan's nuclear advances. Chapter 8 concludes with implications for theory and policy and questions for future research.

Chapter 2: Theorizing the Causes and Consequences of US Nonproliferation Policy

This chapter outlines theories of both the causes and consequences of US nonproliferation policy. I begin by reviewing the extant literature on nuclear proliferation and nonproliferation, a literature that has dramatically expanded in recent years. For organizational purposes, I divide the literature into (1) works that focus on the causes of US nonproliferation policy and (2) the much larger literature on the causes of nuclear proliferation and nuclear reversal. In order to greater motivate the project at hand, I highlight the limitations of extant work for explaining the character of US nonproliferation policy and the recent decline in proliferation activity. Following the critical review of the literature, I propose two new theories that the remainder of the dissertation will test: one on the causes of US nonproliferation policy and another on its consequences in terms of limiting the spread of nuclear weapons.

Causes of US Nonproliferation Policy

There are four main perspectives in the literature on the causes of US nonproliferation policy, each of which prizes a different motivational variable to explain US efforts. These explanations suggest that the US (1) supports nonproliferation in order to preserve its conventional power-projection advantages, (2) to reduce the risk of nuclear war or nuclear accidents, (3) to preserve influence over allies, or (4) enforces nonproliferation selectively to benefit its liberal, Western, or democratic allies while constraining its enemies. This section will discuss each explanation in turn, taking care to point out the shortcomings that motivate a new theory of the causes of US nonproliferation policy.

The first explanation for nonproliferation policy suggests that the United States strictly enforces nonproliferation—both against allies and enemies—in order to maintain the conventional military advantages derived from its unparalleled power projection capabilities. Advanced by Matthew Kroenig, this “power-projection theory” is designed to explain state attitudes toward nonproliferation in general, not just the United States; however, its clear implication is that the United States should be a strong and consistent advocate for nonproliferation given its conventional military supremacy. It is worth quoting the logic of Kroenig’s theory at length:

[T]he spread of nuclear weapons threatens powerful states more than it threatens weak states. Power-projecting states, states with the ability to project conventional military power over a particular target state, have a lot to lose when that target state acquires nuclear weapons. In interactions with a nonnuclear weapon state, power-projecting states can use their conventional military power to their advantage; they can threaten, or promise to protect, that particular state. Once that state acquires nuclear weapons, however, this strategic advantage is certainly placed at risk and may be fully lost. For these reasons, power-projecting states fear nuclear proliferation to both allied and enemy states. While the threat of nuclear proliferation is greatest when nuclear weapons are acquired by enemy states, nuclear proliferation, even to friendly states, can cause many problems for power-projecting states. Leaders in power-projecting states are concerned that nuclear proliferation will deter them from using military force to secure their interests, reduce the effectiveness of their coercive diplomacy, trigger regional instability that could engulf them in conventional conflict, weaken the integrity of their alliance structures, dissipate their strategic attention, and set off further nuclear proliferation within their spheres of influence.¹

This “power projection theory” is deductively compelling and certainly helps to explain why the United States and Soviet Union (the two most powerful states in the nuclear era) were also the two strongest advocates of nuclear nonproliferation: because they had the most to lose from its effects. What it cannot explain, however, is why there has been such temporal change in

¹ Matthew Kroenig, *Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons* (Ithaca, NY: Cornell University Press, 2010): 3. Also see Matthew Kroenig, “Force or Friendship? Explaining Great Power Nonproliferation Policy,” *Security Studies* 23, No. 1 (2014): 1-32.

US nonproliferation policy— why it became so much stronger in the 1964-1968 and 1974-1978 time periods. Nor can it explain why the United States at times perceived strategic *benefits* to proliferation in particular cases, or why it reacted strongly against proliferation even in cases where US officials perceived few strategic drawbacks to a particular country’s nuclearization and expected to incur strong costs from efforts to enforce nonproliferation.

The second explanation in the literature for US nonproliferation policy holds that US policy has been motivated largely by fears of nuclear war, with the envisioned war scenarios changing over time. Henry Sokolski develops this explanation in its most systematic form, examining five specific US nonproliferation efforts: the Baruch Plan, Atoms for Peace, the NPT, export control regimes, and military counterproliferation. According to Sokolski, each of these policies was a response to a feared nuclear war scenario: offensive nuclear wars, a devastating Soviet first strike, an intentional or accidental nuclear attack by a regional power, or the escalation of conventional regional conflicts to the nuclear level.²

Like Kroenig’s “power-projection theory,” Sokolski’s emphasis on American fears of nuclear war contains an important element of truth: it is certainly the case that US officials have worried about proliferation increasing the risk of nuclear conflict, in addition to constraining America’s conventional military power. Also like the “power-projection theory,” however, this explanation cannot explain why American nonproliferation efforts were particularly intense in the 1964-68 and 1974-78 time periods, nor can it explain the fact that the United States at times considered or actually did aid or allow proliferation in particular cases.

A third argument for US nonproliferation policy suggests that the United States became strongly committed to nonproliferation in 1960s because of the realization that the acquisition of

² Henry Sokolski, *Best of Intentions: America’s Campaign Against Strategic Weapons Proliferation* (Westport, CT: Praeger, 2001): 2-7.

nuclear weapons would allow US allies to become more autonomous in their foreign policy. This argument, advanced by Coe and Vaynman, purports to explain not only US but Soviet nonproliferation behavior. As they put it, “the superpowers did not initially see the costs of enforcement as worth paying, because each saw the spread of nuclear weapons to certain of its own clients as a way to strengthen its side against the other’s. In time, experience taught the superpowers that states could substitute nuclear weapons for their patronage, and subsequently gain autonomy. Realizing that nonproliferation was necessary to preserve their influence, the superpowers became willing to pay the costs of its enforcement, and so instituted the regime.”³

Unlike the arguments that focus on US power projection and fears of nuclear war, Coe and Vaynman’s article usefully notes that enforcing nonproliferation has costs, and that the United States did not always strongly support nonproliferation across the board, identifying an important historical turning point in the 1960s—in particular the US experience with a newly-nuclear France—which taught US policymakers that nuclear weapons make allies less pliable. Coe and Vaynman’s argument overlaps with Kroenig’s power-projection theory in that superpowers are particularly interested in nonproliferation as a way of preserving their geopolitical influence. However, it nonetheless represents an improvement in that it is more sensitive to historical changes in US policy. This argument is not without its problems, however. In particular, the historical evidence suggests that it was Chinese (and not French) nuclearization that was the key trigger for strengthened US nonproliferation efforts.⁴ Moreover, this argument cannot explain why the United States tightened its nonproliferation policy further in 1974-1978 period, following the nuclearization of India, also a non-US ally.

³ Andrew Coe and Jane Vaynman, “Superpower Collusion and the Nuclear Nonproliferation Treaty,” working paper, 3.

⁴ See Gavin, “Blasts from the Past.”

The fourth explanation for US nonproliferation policy suggests that the motivation for US efforts is to protect the interests of its liberal, democratic allies while constraining US enemies. Offered by Glenn Chafetz, this perspective holds that psychological in-group biases lead the US government to selectively enforce nonproliferation policies in a way that benefits friends of the United States (what he terms a liberal security community, or LSC). As he puts it:

The United States and its allies, as guardians of international society's norms and rules, associate ingroup members with a high level of compliance with international norms and outgroup members with chronic non-compliance... This ingroup-outgroup dynamic explains a range of behaviors, including why the LSC has consistently ignored evidence of Israeli violations while it imposed an economic boycott, threatened and used military force, and began the most obtrusive weapons inspections in history in response to Iraq's breach of its nonproliferation obligations. It explains why the United States imposed sanctions on China for selling prohibited technology to Pakistan while imposing no sanctions on LSC members whose firms contributed so much to building the Iraqi, Libyan, and Pakistani nuclear programs. It accounts for greater LSC attention and belligerence toward North Korea's circumvention of the regime than to Ukraine's compliance failures.⁵

Maddock offers a similar argument, suggesting that US nonproliferation policy has fostered a situation of "nuclear apartheid," marked by a "global regime of nuclear inequality that benefited the North Atlantic Treaty Organization allies, and later Israel, while perpetuating the relative military disempowerment of Asia, Africa, and Latin America."⁶ This perspective encompasses what Peter Lavoy calls the "political relativism" approach to nuclear proliferation, which holds that proliferation is only dangerous amongst unfriendly or aggressive states; or as he summarizes, "bad states do bad things; bad states armed with nuclear weapons will do dreadful things."⁷ Finally, Hayes makes the case that the United States has viewed the Iranian nuclear

⁵ Glenn Chafetz, "The Political Psychology of the Nuclear Nonproliferation Regime," *Journal of Politics* 57, No. 3 (1995): 745.

⁶ Shane Maddock, *Nuclear Apartheid: The Quest for American Atomic Supremacy from World War II to the Present* (Chapel Hill, NC: University of North Carolina Press, 2010): ix.

⁷ Lavoy, "The Strategic Consequences of Nuclear Proliferation," 700.

program as more threatening than the Indian nuclear program because Iran is nondemocratic whereas India is democratic.⁸

The above works usefully identify a possible correlation between alliance, regime type, and Western identity on the one hand, and US nonproliferation policy toward particular countries on the other. However, the over-aggregation of distinct time periods likely confounds this correlation. For example, the fact that US nonproliferation efforts toward adversary countries like Iraq, Iran, and North Korea are harsher than prior efforts toward Israel, France, and the UK is not solely because the latter countries are US allies, but because they proliferated in different time periods. As this dissertation will highlight, US nonproliferation policy was greatly strengthened in the late 1960s and 1970s. In other words, the fact that US policy toward the French, UK, and Israeli nuclear programs was more lenient reflects the fact that these countries proliferated when US nonproliferation policy was weaker. Indeed, US allies that were engaged in proliferation activities when US policy was tightened experienced quite harsh pressure, as subsequent chapters will document.⁹ Indeed, the fact that harsh US nonproliferation efforts in recent decades have been targeted at US adversaries reflects the fact the threat of sanctions has succeeded in deterring states within the US sphere of influence (those most vulnerable to sanctions) from pursuing nuclear weapons in the first place.

Causes of Nuclear Proliferation

The much larger literature on the causes of proliferation is usefully divided into works that focus on demand-side factors (what motivates states to pursue nuclear weapons) and supply-

⁸ Jarrod Hayes, "Identity and Securitization in the Democratic Peace: The United States and the Divergence of Response to India's and Iran's Nuclear Programs," *International Studies Quarterly* 53, No. 4 (2009): 977-999.

⁹ These countries include South Korea, Taiwan, Iran, and Pakistan. France and Germany were also pressured to give up their sensitive nuclear exports.

side factors (what technically enables states to pursue or acquire nuclear weapons). Within the demand-side literature, Sagan's seminal work identifies three broad classes of motivations for proliferation: security, domestic and bureaucratic politics, and norms.¹⁰

According to the security model of proliferation, states pursue nuclear weapons in order to ensure their survival against nuclear or overwhelming conventional threats, particularly when these states lack allied nuclear umbrellas.¹¹ This notion builds on earlier work by Betts and Harkavy that emphasizes conventional military inferiority and international isolation as key motivators of proliferation.¹² Paul expands upon the security model, arguing that states pursue nuclear weapons for security reasons but that states, "in zones of low and moderate conflict, choose to forgo nuclear weapons to avoid generating negative security externalities and costly arms races."¹³ The quantitative literature on the determinants of proliferation has provided considerable support to elements of the security model. Extant studies consistently find that states in enduring rivalries, those with a recent history of militarized disputes, and those facing major conventional threats are more likely to initiate nuclear weapons programs.¹⁴ Nuclear rivals are associated with the pursuit of nuclear weapons in some studies but only the exploration of nuclear weapons in others.¹⁵ The evidence is similarly mixed with regard to the effect of alliances with nuclear powers.¹⁶

¹⁰ Sagan, "Why Do States Build Nuclear Weapons?"

¹¹ Ibid, 57-62.

¹² Richard K. Betts, "Paranoids, Pygmies, Pariahs, & Nonproliferation," *Foreign Policy* 26 (Spring 1977): 157-183; and Robert E. Harkavy, "Pariah States and Nuclear Proliferation," *International Organization* 35, No. 1 (Winter 1981): 135-163.

¹³ Paul, *Power Versus Prudence*, 33.

¹⁴ See, for example, Fuhrmann, "Spreading Temptation," Kroenig, "Importing the Bomb," Sonali Singh and Christopher Way, "The Correlates of Nuclear Proliferation," *Journal of Conflict Resolution* 48, No. 6 (December 2004): 869-885; and Dong-Joon Jo and Erik Gartzke, "Determinants of Nuclear Weapons Proliferation," *Journal of Conflict Resolution* 51, No. 1 (February 2007): 167-194.

¹⁵ For the former, see Jo and Gartzke, "Determinants of Nuclear Weapons Proliferation." For the latter, see Philipp Bleek, "Why Do States Proliferate? Quantitative Analysis of the Exploration, Pursuit, and

Most recently, Debs and Monteiro offer a strategic theory of nuclear proliferation based on security motivations that takes into account the interests of the potential proliferator, its allies, and its adversaries. The theory contends that a severe security threat is a necessary condition for proliferation, but that whether a state successfully acquires nuclear weapons depends on whether the expected effect of that state's nuclearization on the balance of power outweighs the costs of preventive war against the potential proliferator. States are only likely to acquire nuclear weapons, according to the theory, when the proliferator (1) has high relative power, allowing it to deter a preventive strike, (2) has a great power patron that can deter a preventive strike but is not considered to be an entirely reliable ally, and (3) has a reliable great power patron, has expansive foreign policy interests that are not covered by its alliance, and is allowed to proliferate by the patron because there is a low risk of entrapment.¹⁷

While extant research on the security model surely explains a significant portion of the variance in nuclear proliferation behavior, it also has a critical limitation vis-à-vis the question at hand. Put simply, security factors do not account for the recent decline in proliferation: the probability of nuclear pursuit declines over time even after one controls for rivalries, nuclear threats, and militarized disputes. In other words, even though the incidence of interstate conflict has declined in recent decades,¹⁸ this alone cannot account for the decline in nuclear ambitions.

Acquisition of Nuclear Weapons,” in *Forecasting Nuclear Proliferation in the 21st Century*, eds. William Potter and Gaukhar Mukhatzhanova (Palo Alto, CA: Stanford University Press, 2010), 159-192.

¹⁶ Singh and Way, “The Correlates of Nuclear Proliferation,” and Jo and Gartzke, “Determinants of Nuclear Weapons Proliferation,” find nuclear allies do not significantly reduce the risk of pursuing nuclear weapons; Bleek, “Why Do States Proliferate,” finds the opposite. Most recently, see Philipp Bleek and Eric Lorber, “Security Guarantees and Allied Nuclear Proliferation,” *Journal of Conflict Resolution* 58, No. 3 (2014): 429-454.

¹⁷ Alexandre Debs and Nuno Monteiro, *Nuclear Politics: The Strategic Logic of Nuclear Proliferation*, unpublished manuscript, 2014.

¹⁸ See, for example, Joshua Goldstein, *Winning the War on War: The Decline of Armed Conflict Worldwide* (New York: Penguin, 2011); Steven Pinker, *The Better Angels of Our Nature: Why Violence*

While Debs and Monteiro argue that US predominance post-1989 helps explain why the number of states acquiring nuclear weapons has declined in recent decades—because US allies lack severe threats and the United States can threaten preventive attack against adversaries that lack a great power patron—it cannot explain the continued pursuit of nuclear weapons by US adversaries in this period, namely Libya, Iraq, Iran, Syria, North Korea, and perhaps Burma. Even if the threat of US preventive strikes has prevented acquisition, it apparently has not deterred pursuit by the states that are most vulnerable to those strikes.

Turning to the literature on domestic political causes of proliferation, Etel Solingen advances the most prominent argument. Solingen argues that since the NPT was signed in 1968, inward-looking, nationalist regimes with few ties to the international economy have been more likely to pursue nuclear weapons both because the political and economic costs of nuclearization are lower for these regimes and there are important benefits of nuclearization for these regimes as well—in particular, the strengthening of bureaucratic interest groups, the creation of a largely autonomous organ within the state, and new material for nationalist myths that leaders exploit for domestic purposes.¹⁹ Meanwhile, for regimes that rely on investment and integration with the international economy, the costs of nuclearization are prohibitive because of the potential for international sanctions, the inflationary effect of excessive military spending, and the general air of instability nuclear proliferation causes.²⁰ In sum, according to Solingen, “Inward-looking models approximate necessary if not sufficient conditions for nuclear weapons programs. Internationalizing models are not necessary but likely to be sufficient for denuclearization except under two circumstances: (a) when neighboring inward-looking regimes seek nuclear weapons

Has Declined (New York: Penguin, 2011); and Azar Gat, “Is War Declining—and Why?” *Journal of Peace Research* 50, No. 2 (March 2013): 149-157.

¹⁹ Solingen, *Nuclear Logics*, 42.

²⁰ *Ibid.*, 42-43.

(or other WMD); and (b) when nuclear weapons were acquired prior to the inception of internationalizing models.”²¹

While a major contribution to the literature, Solingen’s domestic model suffers from a few shortcomings. As with measures of the security environment, proliferation is significantly less likely over time even when one controls for measures of integration into the global economy. The trend toward globalization thus does not empirically explain the recent decline in proliferation. Second, the scope conditions and micro-foundations of Solingen’s argument are incomplete. Her argument relies on the notion that proliferation has negative consequences for regimes integrating into the international economy post-1968, but in reality this has only been the case since the United States instituted sanctions policies in the late 1970s, and this has not applied equally to all countries since regimes without major ties to the United States have little to lose from these sanctions, even if they are integrated into the global economy. International integration should only be expected to reduce the probability of nuclear proliferation when and where its continuation is contingent on nuclear forbearance; a condition that I argue only exists for US client states, and only since the mid-1970s. By focusing on the economic dimension of global integration, Solingen also overlooks the important security dimension—pursuing nuclear weapons threatens not only regimes that depend on the global economy, but also that depend on the United States for security purposes.

Finally, the normative model of nuclear proliferation argues that states may pursue nuclear weapons as a way of garnering prestige or of fulfilling particular conceptions of national identity.²² Jacques Hymans offers the most developed work in this tradition, arguing that only

²¹ Ibid, 46.

²² See Sagan 1994-1995, 73; and Itty Abraham, *The Making of the Indian Atomic Bomb: Science, Secrecy and the Postcolonial State* (London: Zed Books, 1998).

leaders with “oppositional nationalist” identity conceptions—those who see the world in “us vs. them” terms and view their nation as better than or equal to their primary reference nations(s)—are likely to undertake pursuit of nuclear weapons.²³ This identity conception facilitates nuclear proliferation, according to Hymans, because it encourages two dangerous emotions: (1) fear, which increases threat perceptions and the urgency to act, reduces the level of cognitive complexity in decisionmaking, and encourages a focus on eliminating the frightened feeling; and (2) pride, which increases a leader’s sense of his nation’s relative power, exaggerates his sense of control over events, makes him desire autonomous action, and encourages behaviors that seek to reinforce or project the feeling of pride.²⁴ With respect to the efficacy of the nonproliferation regime, Hymans argues it is only effective against leaders with “subaltern” identities—those who perceive their nation as lower in status and power than their relevant comparison nations.²⁵

A second strand of the normative literature focuses on the role of anti-nuclear norms, particularly those embedded in the NPT, in reducing the probability that states pursue nuclear weapons.²⁶ According to Rublee, for example:

The international social environment, supported by first an emergent and then a full-fledged nuclear nonproliferation regime, has helped to provide that systemic impetus toward nuclear nonproliferation. The emerging antinuclear norm led to the development of the nuclear nonproliferation regime, which set forth a clear injunctive norm against nuclear proliferation; and then as states acceded to the treaty, the expanding regime established a descriptive norm against nuclear proliferation as well.²⁷

Muller and Schmidt similarly tout the importance of the norms propagated by the NPT. They note that states that achieved independence after 1960 (when they argue the norm against

²³ Hymans, *The Psychology of Nuclear Proliferation*.

²⁴ *Ibid.*, 29-34.

²⁵ *Ibid.*, 38.

²⁶ For a study of the role of norms in preventing nuclear use, see Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945* (New York: Cambridge University Press, 2007).

²⁷ Rublee, *Nonproliferation Norms*, 202.

proliferation was introduced with the Irish resolution in the UN) have been significantly less likely to pursue nuclear weapons, that the rate of nuclear weapons activities has declined sharply since 1985, and argue that nonproliferation norms act most strongly on democratic or democratizing states because “democracies show a relatively higher probability to abide by the rule of law and to take efforts to be good international citizens.”²⁸ In a related vein, Tate argues that the nonproliferation regime established a norm against proliferation and that, “It is reasonable to argue that the general proscriptions against proliferation that are embodied in the IAEA, NPT, and elsewhere account in large part for the failure of the dire predictions about nuclear devolution to materialize.”²⁹

However, there are both theoretical and empirical shortcomings in the normative literature on nuclear proliferation, both with respect to the leader identity argument and the NPT-centered theories. First, the leader-centric approach cannot explain empirical variation in nuclear decision-making within individual leader’s tenures—for example Qaddafi’s decision to pursue and then abandon nuclear weapons efforts or Park Chung-Hee’s similar transformation in South Korea. Second, it is possible that oppositional nationalist leaders may be more likely to emerge in countries that are relatively insulated from the United States, which makes pursuing nuclear weapons less costly from the point of view of retaliatory sanctions. This could create a spurious correlation between leader identity types and nuclear outcomes.

Turning to the literature on NPT norms, too little attention is paid to the role of the United States (and the Soviet Union) in propagating these norms and coercing and inducing resistant client states that were interested in nuclear weapons to sign on to and ratify the NPT—

²⁸ Muller and Schmidt, “The Little Known Story of De-Proliferation,” 146-155.

²⁹ Trevor McMorris Tate, “Regime-Building in the Non-Proliferation System,” *Journal of Peace Research* 27, No. 4 (November 1990): 403.

for example West Germany, Japan, South Korea, Egypt, Argentina, and Brazil, among others. In other words, a global norm against nuclear proliferation did not spontaneously emerge with the introduction of the NPT; many states were quite resistant to the norm for a period of many years and the United States utilized its considerable leverage to gain compliance from states. This in turn suggests that much of the norm may be epiphenomenal to US (and Soviet) hegemonic pressure. For example, despite emphasizing the importance of norms, Tate notes that nonproliferation regime derives much of its power from the linkage between nonproliferation and material benefits including, “foreign investment and aid, security alliance arrangements (including extended nuclear deterrence), and conventional arms transfers. Seen in these terms another reason the non-proliferation regime commands legitimacy is because it carries far-reaching implications for states along a broad spectrum of relations.”³⁰ Indeed, the decision to proliferate and defect from the regime would most likely lead to “serious economic and other sanctions.”³¹ This again suggests that adherence to the norm is largely a function of the threats and inducements offered by more powerful states, not any deep moral principle.

Relatedly, it is puzzling to speak of the power of a norm whose sponsors openly violate it. The fact that the United States and Russia maintain vast nuclear arsenals while insisting others renounce them suggests that it is not a moral norm against proliferation that drives the nonproliferation regime, rather it is a power-driven strategy for maintaining hegemony. In sum, there are strong reasons for believing that adherence to the norm against proliferation—to the extent that the norm exists in more than a descriptive sense—is largely a consequence of hegemonic power, not any moral or ideational aversion to nuclear weapons.

³⁰ Ibid, 410-411.

³¹ Ibid.

Turning to the supply-side literature on the causes of proliferation, there are two main strands: an older body of work that focuses on the role of domestic technical and economic capacity and a newer literature that focuses on the role of foreign technological assistance to nuclear programs. Within the first group, a host of empirical works finds that states with greater economic development, greater industrial capacity, or greater latent nuclear capacity are more likely to pursue and acquire nuclear weapons.³² More recently, Fuhrmann argues that states that receive peaceful nuclear assistance (measured by nuclear cooperation agreements) are more likely to pursue and successfully obtain nuclear weapons, particularly when this coincides with recent militarized disputes,³³ while Kroenig finds that states that receive sensitive nuclear assistance (aid in plutonium reprocessing, uranium enrichment, or bomb design) are more likely to acquire nuclear weapons.³⁴ Hymans provides an exception to this line of argument, arguing via a case study of Yugoslavia that international civil nuclear cooperation may impede a country's proliferation efforts.³⁵ In a related vein, Kemp argues that the effect of foreign assistance on aiding proliferation is overstated, and that the AQ Khan network in particular may have hindered nuclear weapons programs by spreading a suboptimal uranium enrichment method.³⁶

Aside from the conspicuous reverse causality problems with this literature—states will often develop nuclear capacity or seek foreign assistance when they are motivated to pursue nuclear weapons, rather than the other way around—there is another important limitation with this body of work, namely the insufficient attention to the changing volume and quality of

³² See Stephen Meyer, *The Dynamics of Nuclear Proliferation* (Chicago: University of Chicago Press, 1984); Singh and Way 2004; Jo and Gartzke 2007; and Bleek 2010.

³³ Fuhrmann, "Spreading Temptation."

³⁴ Kroenig, "Importing the Bomb."

³⁵ Jacques Hymans, "Proliferation Implications of Civil Nuclear Cooperation: Theory and a Case Study of Tito's Yugoslavia," *Security Studies* 20, No. 1 (2011): 73-104.

³⁶ R. Scott Kemp, "The Nonproliferation Emperor Has No Clothes: Gas Centrifuge, Supply-Side Controls, and the Future of Nuclear Proliferation," *International Security* 38, No. 4 (2014): 39-78.

foreign nuclear assistance over time. Prior to the development of strong US nonproliferation policies in the 1970s, sensitive nuclear assistance in particular was more available, with multiple Western suppliers often competitively bidding for contracts in order to grow their domestic nuclear industries or gain access to natural resources like oil.³⁷ After the strengthening of US policy (including the formation of the Nuclear Suppliers Group) in the late 1970s, however, foreign provision of sensitive nuclear technologies has been much harder to come by, generally provided illicitly, in piecemeal fashion, and often from states and non-state actors outside the US sphere that have more limited technical proficiency (the main perpetrators starting around 1980 have been Western firms working at the margins of the export control regime, AQ Khan, North Korea, and China). All in all, this suggests both that (1) the character of foreign assistance have changed over time, and (2) that these changes are largely an outgrowth of the US-led nonproliferation regime.

Causes of Nuclear Reversal

A second strand in the literature focuses on why states that embark on nuclear weapons programs subsequently do (or do not) give them up. Compared to the literature on the causes of nuclear proliferation, this literature is less developed, less systematic, and more ad hoc in its arguments. To the extent that there is consensus, the predominant view is that nuclear reversal is best brought about by improving a state's security situation and by providing other material

³⁷ France, Germany, and Italy were most notorious for this. See Abraham Ribicoff, "A Market-Sharing Approach to the World Nuclear Sales Problem," *Foreign Affairs* 54, No. 4 (July 1976): 763-787; Paul Joskow, "The International Nuclear Industry Today: The End of the American Monopoly," *Foreign Affairs* 54, No. 4 (July 1976) 788-803; Lewis Dunn, "Nuclear 'Gray Marketeering,'" *International Security* 1, No. 3 (1977): 107-118; and John Kurt Jacobsen and Claus Hofhansel, "Safeguards and Profits: Civilian Nuclear Exports, Neo-Marxism, and the Statist Approach," *International Studies Quarterly* 28, No. 2 (June 1984): 195-218.

inducements. Sanctions and military force, while occasionally useful, are deemed to be generally ineffective on their own.

With respect to improving a proliferating state's security, Sagan argues that for states pursuing nuclear weapons for security reasons, the maintenance of credible US security guarantees (specifically nuclear guarantees) is critical.³⁸ Campbell and Einhorn concur, arguing that expanding security commitments may be impractical in many cases, but that the United States should make a concerted effort to bolster and relieve stresses in pre-existing security relationships with states considering or pursuing nuclear weapons.³⁹ Echoing this security-centered perspective, Paul argues that "The key to non-proliferation lies in resolving regional conflicts, especially protracted ones...economic and technical sanctions can constrain a nuclear aspirant and delay weapons programs, but again they may not resolve the fundamental reasons for nuclearization... any non-proliferation policy that does not acknowledge the underlying conflict dynamics of a region is bound to fail."⁴⁰ Similarly, Joseph Pilat recommends seeking "to improve regional and global stability, to strengthen alliance systems, and to promote the legitimate security interests of states through economic and security assistance"⁴¹ When dealing with adversaries, a security approach suggests the importance of nonaggression pacts and ending policies of regime change.⁴²

³⁸ Sagan, "Why Do States Build Nuclear Weapons," 61.

³⁹ Kurt M. Campbell and Robert J. Einhorn, "Avoiding the Tipping Point: Concluding Observations," in *The Nuclear Tipping Point*, ed. Kurt M. Campbell, Robert J. Einhorn, and Mitchell B. Reiss (Washington: Brookings Institution Press, 2004), 334-335.

⁴⁰ Paul, *Power Versus Prudence*, 152-3.

⁴¹ Joseph F. Pilat, "Responding to Proliferation: a Role for Nonlethal Defense?" in *Nuclear Proliferation After the Cold War*, ed. Mitchell Reiss and Robert S. Litwak (Washington: The Woodrow Wilson Center Press, 1994), 280.

⁴² See Barry Schneider, "Nuclear Proliferation and Counter-Proliferation: Policy Issues and Debates," *Mershon International Studies Review* 38 (1994): 222; and Alexander Montgomery, "Ringing In Proliferation: How to Dismantle an Atomic Bomb Network," *International Security* 30, No. 2 (Fall 2005): 154.

Scholars are generally more pessimistic about the efficacy of sanctions in producing nuclear reversal, instead touting inducements and suggesting that sanctions are unlikely to succeed on their own. For example, according to Campbell and Einhorn, pressure and coercion are necessary components of a nonproliferation strategy but a successful outcome requires “not just the threat of very harmful consequences if they persist but also the prospect of a much brighter future if they reverse course.”⁴³ Braun and Chyba similarly note that economic sanctions can be important component of nonproliferation efforts but that there must be incentives to go along with disincentives.⁴⁴ For Montgomery, “proliferation pragmatism” is the right approach; this means “using a full range of incentives and disincentives” and abandoning the threats of war and regime change.⁴⁵ Montgomery goes so far as to argue, “through the use of targeted incentives...even the most seemingly determined proliferants can be slowed without resorting to extreme measures.”⁴⁶ These incentives include, among other things, economic and other aid, removal of sanctions, and diplomatic agreements.⁴⁷

For states whose proliferation is driven by domestic factors, inducements are again deemed to be critical. Sagan suggests the importance of linking nuclear restraint to US aid or funding of domestic programs and seeking to promote other forms of prestige for the nuclear and military establishments.⁴⁸ In order to reduce the domestic pressures that can encourage proliferation, Solingen recommends “rewarding natural constituencies of internationalizing models...stripping autarkic or inward-looking regimes of their means to concentrate power...crafting packages of sanctions and inducements that are sensitive to differences between

⁴³ Campbell and Einhorn, “Avoiding the Tipping Point,” 332.

⁴⁴ Chaim Braun and Christopher F. Chyba, “Proliferation Rings,” *International Security* 29, No. 2 (Fall 2004): 43-45.

⁴⁵ Montgomery, “Ring in Proliferation,” 154.

⁴⁶ *Ibid*, 156.

⁴⁷ *Ibid*, 181.

⁴⁸ Sagan, “Why Do States Build Nuclear Weapons,” 72.

energy-rich and energy-poor targets...[and] using democracy—where available—as an ally to denuclearization.”⁴⁹

Synthesizing many of these views, Levite argues there is no one explanation for the phenomenon of nuclear reversal. An improved security environment appears to be a necessary but insufficient factor explaining nuclear reversal; nuclear reversal also requires “the sophisticated use of offsets and incentives” that “address the security, prestige, and bureaucratic appeal of a nuclear program.” Possible US strategies include security guarantees, the threat, imposition, or lifting of economic sanctions, and the provision of technological and economic assistance. According to Levite’s analysis, there are three main factors influencing the success of efforts to bring about nuclear reversal: “a change in the domestic perceptions of the nuclear aspirants of the utility of acquiring nuclear weapons; sustained US encouragement of such perceptions, made possible by tracking, understanding, and ultimately addressing the nuclear aspirant’s concerns and requirements; and a conscious US-led effort to complicate the road to nuclear weapons acquisition for those who embark on it.” Thus, while the United States can play an influential role, domestic perceptions in the proliferating state may be outside of US control.⁵⁰

A final element of nonproliferation strategy is the role that military force can play in bringing about nuclear reversal. According to most scholars of nuclear proliferation, military intervention makes sense only in limited cases. As Campbell and Einhorn note, “in the absence of timely and accurate intelligence, proximately deployed military assets, and the support (or at least acquiescence) of key neighboring states, the preemptive use of force will usually be military impractical.”⁵¹ In a similar vein, Pilat emphasizes the high intelligence requirements for

⁴⁹ Solingen, *Nuclear Logics*, 289-299.

⁵⁰ Ariel Levite, “Never Say Never Again: Nuclear Reversal Revisited,” *International Security* 27, No. 3 (Winter 2002/2003): 59-88.

⁵¹ Campbell and Einhorn, “Avoiding the Tipping Point,” 331.

an effective military strike, and also the dangers of collateral damage, environmental disaster, and political backlash.⁵² As Schneider argues, military force must be a last resort; even then, it is only prudent under a very special set of circumstances. For example, there must be “adequate domestic and international political support;” the proliferating state “would have to be approaching the nuclear weapons threshold and be led by a hostile government that appears ready take extreme risks;” and perhaps most importantly, “the developing scenario would have to directly and immediately threaten a vital interest of the country considering the preemptive strike.”⁵³ More recently, Kreps and Fuhrmann analyze the sixteen documented cases of attacks against nuclear facilities, finding that attacks are more likely to succeed in peacetime than in the context of an ongoing war, and that attacks are more successful against relatively undeveloped nuclear programs.⁵⁴

While the literature on nuclear reversal may partially explain why the number of states pursuing nuclear weapons has declined over time (since a state abandoning a nuclear program is one mechanism through which the number of active programs decreases), it does not directly address why states are less likely to *initiate* nuclear weapons programs in recent decades. Indeed, drawing conclusions about the overall efficacy of nonproliferation policy tools like sanctions, military force, or inducements only from cases where they are applied against ongoing proliferators may be dangerously misguided because of the likelihood of selection effects whereby states strategically decide whether to pursue nuclear weapons based on factors that also affect the probability of subsequent nonproliferation tools succeeding.⁵⁵

⁵² Pilat, “Reponding to Proliferation,” 276-284.

⁵³ Schneider, “Nuclear Proliferation and Counter-Proliferation,” 225.

⁵⁴ Kreps and Fuhrmann, “Attacking the Atom.”

⁵⁵ On selection effects as a general problem in strategic situations, see James Fearon, “Selection Effects and Deterrence,” *International Interactions* 28, No. 5 (2002): 5-29.

For example, if states expect that sanctions are likely if they pursue nuclear weapons, those particularly vulnerable to sanctions are likely to abstain, leading only insulated states to become the targets of imposed sanctions (thereby rendering the observed success rate low despite the success of sanctions at deterring many states). Indeed, this is precisely what this dissertation argues occurred with respect to the changing character of nuclear proliferators after the strengthening of US nonproliferation policies in the 1970s. A similar story can potentially be told about military force: it may be that the possibility of military force successfully deters some states from pursuing or acquiring nuclear weapons, at least when the threat is credible.⁵⁶ The most important point is that particular nonproliferation tools may have different effects at the threat vs. imposition stage, and that by studying only the imposition stage we are likely to come to biased conclusions about those tools. In the subsequent sections, I develop new theories of the causes and consequences of US nonproliferation policy that explicitly take into account this type of strategic thinking.

Theorizing the Causes of US Nonproliferation Policy

This dissertation argues that the full character and timing of US nonproliferation efforts are only explicable when fears of nuclear domino effects are placed at the center of the analysis.⁵⁷ In particular, the dramatic tightening of US nonproliferation policy in 1964-68 and 1974-78 can only be explained by fears of nuclear domino effects triggered by the Chinese and

⁵⁶ See Nuno Monteiro and Alexandre Debs, "The Strategic Logic of Nuclear Proliferation," Paper presented at the Nuclear Studies Research Initiative Conference, Cedar Creek, TX, October 17-19, 2013.

⁵⁷ While Kroenig, *Exporting the Bomb*, lists nuclear domino effects as one negative consequence of proliferation for power-projecting states, he does not attach special importance to it; indeed it is subsidiary to his main argument that proliferation limits a country's power-projection capabilities vis-à-vis the proliferating state. In contrast, I argue that the fear of nuclear domino effects is the often the primary motive for opposing proliferation in a particular states, and in certain cases may be the only real motive.

Indian nuclear tests. Although China and India both had troubled relations with the United States when they first tested, the strengthening of US policy was not motivated by fears of China and India themselves but rather that other states would follow them down the nuclear path. Moreover, the fact that the United States ultimately decided to apply its nonproliferation policies strictly even in cases of allies and unaligned states where US officials have perceived few strategic drawbacks to proliferation—and high potential costs for enforcing nonproliferation—only makes sense because US policymakers were convinced that any individual exception could lead additional states to pursue nuclear weapons, including those that would pose strategic risks to the United States. Finally, the fact that the United States has opposed nuclear tests by new nuclear states even after they have developed an acknowledged weapons capability can be largely explained as part of a broader effort to prevent nuclear domino effects.

This argument does not reject the importance of existing motivations for nonproliferation identified in the literature and discussed above. Rather, it argues that these motivations are insufficient: power projection capability, influence over allies, nuclear war risks, and a desire to benefit allies are not equally relevant in all cases of potential proliferation and therefore cannot explain why the United States ultimately adopted an undifferentiated, across-the-board nonproliferation policy. Nor can these slow-moving variables explain the sharp temporal shifts in policy that we observe. The argument therefore is that nuclear domino fears explain the decision to apply nonproliferation policies *universally*, and explain significant temporal changes in US policy, not that nuclear domino fears are the basic driver of US opposition to proliferation.⁵⁸ Indeed, as I will explain below, the argument in this dissertation concurs with existing

⁵⁸ To some extent, this argument would be tautological, in that the US opposes proliferation in order to prevent further proliferation.

explanations in that the ultimate motivation for US policies is maintaining a favorable geopolitical position.

I define a nuclear domino effect as a situation where proliferation in one state (state A) causes a significant increase in the probability of proliferation in a second state (state B). While the theory of nuclear domino effects (hereafter the nuclear domino theory) has historically been associated with a realist, security-centered model of proliferation where states pursue nuclear weapons in response to a rival state's nuclearization, this is only one of several possible mechanisms by which the nuclear domino theory can operate.⁵⁹ A more exhaustive list of mechanisms compatible with the nuclear domino theory is below. These mechanisms are not meant to be mutually exclusive; indeed, several may operate simultaneously mutually reinforce one another:

1. *Security*: State A's proliferation causes its rival, State B, to pursue nuclear weapons to balance against State A's nuclear capabilities.
2. *Prestige*: State B pursues nuclear weapons to emulate the prestige garnered by State A's proliferation.
3. *Domestic*: State A's proliferation strengthens domestic actors in State B that were already pro-nuclear for bureaucratic reasons, tipping the decisionmaking balance in their favor.
4. *Supply-Side*: State A goes nuclear and then provides sensitive nuclear assistance to State B, easing the path to a nuclear arsenal or making proliferation seem more feasible.
5. *Political Viability*: State A's proliferation reduces the perceived political costs of proliferation to State B by showing that nonproliferation barriers are surmountable.

⁵⁹ See Nicholas L. Miller, "Nuclear Dominoes: A Self-Defeating Prophecy?" *Security Studies* 23, No. 1 (2014): 33-73.

6. *Perceived Technical Feasibility*: State A's proliferation demonstrates that countries with a given threshold of economic and technological capacity can successfully acquire nuclear weapons, increasing the probability that states with equal or higher capacity proliferate due to an increased perception of technical feasibility.

Fears of nuclear domino effects are likely to be especially heightened when a state conducts its first nuclear test because this is likely to activate all six mechanisms outlined above. Acquiring a nuclear capability in the absence of testing (1) does not as gravely threaten security since the capabilities are not demonstrated, (2) garners uncertain prestige, (3) is less likely to influence other states' domestic politics because the capability is not on the public agenda, (4) implies a lower capacity on the nuclear state's part to provide sensitive assistance on bomb design, (5) has a less overt effect on the perceived political viability of proliferation, and (6) leaves significant ambiguity about technical feasibility. The Chinese and Indian nuclear tests were likely especially powerful, when compared to the prior tests by the Soviet Union, UK, and France, for two reasons: (1) they occurred in regions that were previously non-nuclear, meaning that many non-nuclear states in the neighborhood would be incentivized to go nuclear themselves for reasons of security, domestic politics, and prestige and (2) as poor countries, China and India dramatically increased the perceived technical feasibility of proliferation. By contrast, when the USSR, UK, and France tested, their main adversaries already had acquired nuclear weapons. Moreover, as great powers with well-established economic and technological capacity, their nuclear tests did not make proliferation appear feasible to the vast majority of weaker, poorer, states.

The nuclear domino effect concept, as utilized here, does not imply a particular speed or magnitude to this reactive proliferation. Unlike terms like “tipping point” or “cascade,” domino effect is meant to connote simply that proliferation in one state increases the probability of proliferation in other states, not that proliferation in one state unleashes an exponential, rapid diffusion of nuclear weapons. The effect of any particular state’s nuclearization is likely to depend on the extent to which the six mechanisms identified above are activated. To continue with the domino metaphor, the idea is not that all states in the international system are not positioned in one long row of dominoes, but rather that a variety of distinct chains exist of varying lengths, with the result being heterogeneous effects of different states’ nuclearization.

It should also be emphasized that the explanatory variable here is the *fear* of nuclear domino effects held by policymakers, not necessarily their objective potency. While I do believe that domino effects are real and more common than recent literature suggests, their empirical prevalence and strength is outside the scope of this dissertation.⁶⁰ Moreover, this is not a psychological or bureaucratic politics argument about explaining across-individual variation in fears of nuclear domino effects (variation which surely does exist), rather it is a rational-updating argument that holds that policymakers revise their views of the likelihood of nuclear domino effects based on new information from the environment, most potently new nuclear states conducting tests. While particular individuals or bureaucratic entities will not respond in identical ways, the argument is that the overall trend toward universalistic nonproliferation policies will be significantly stronger in the wake of these external shocks.

I argue that the extent to which policymakers expect nuclear domino effects is crucial to

⁶⁰ My thoughts on this issue are contained in Miller, “Nuclear Dominoes: A Self-Defeating Prophecy?”

explaining whether they support (a) a selective, tailored nonproliferation policy that opposes proliferation in some cases and allows or even aids it in others, or (b) a strict, across-the-board nonproliferation policy where proliferation is opposed in all cases. Changing evaluations of the likelihood of nuclear domino effects are also necessary to explain why US policymakers have engaged in major campaigns of nonproliferation policy development at some times and not others, and why the United States has opposed nuclear tests even amongst states that have already achieved weapons capabilities.

I start from an assumption that builds on the work of Kroenig, Sokolski, and Coe and Vaynman: namely, that the US commitment to nonproliferation is driven by a desire to protect and strengthen its dominant geopolitical position. I depart by arguing that proliferation (and efforts at nonproliferation) have different potential effects on this goal depending on whether the nuclear aspirant is a friend of the United States (formal or informal ally), an adversary of the United States (a country with whom the prospect of military conflict is deemed real), or unaligned (neither of the above). The type of relationship the potential proliferator has with the United States not only plays a major role in determining the geopolitical consequences of proliferation for the United States, it also affects the geopolitical costs of *enforcing nonproliferation* vis-à-vis that state. A list of states that have had nuclear weapons programs since 1945, as coded by Way (2012), as well as their classifications using this typology, is displayed below in Table 2.1.

Table 2.1: Nuclear Aspirants Since 1945 and their Relation to the United States

Country	Program Years	Relationship to United States
Soviet Union	1945-1949	Adversary
United Kingdom	1947-1952	Friend
France	1954-1960	Friend
China	1955-1964	Adversary
Israel	1958-1969	Friend
Australia	1961-1973	Friend
India	1964-1988 ⁶¹	Unaligned ⁶²
Egypt	1965-1974	Unaligned
Taiwan	1967-1977	Friend
South Korea	1970-1978	Friend
Libya	1970-2003	Adversary
Pakistan	1971-1987	Friend
South Africa	1974-1979	Unaligned
Argentina	1978-1990	Unaligned
Brazil	1978-1990	Unaligned ⁶³
North Korea	1980-2006	Adversary
Iraq	1983-1995	Unaligned (1983-1989)→Adversary (1990-1995)
Iran	1985-	Adversary
Syria	2000-	Adversary

Given the stated assumption that the US aim is to maintain or strengthen its geopolitical position, it is easy to see that an unfriendly state acquiring nuclear weapons is a substantial and unalloyed bad for the United States: it irreversibly limits the ability of the United States to use force against that country, raises the risk of the United States becoming directly involved in a nuclear war, and may embolden the newly nuclear state to act more aggressively. Regime change

⁶¹ Although India tested its first nuclear device in 1974, Way (2012) does not code India as acquiring nuclear weapons until 1988.

⁶² One could make the case that India was an adversary of the United States after the signing of the 1971 Indo-Soviet Treaty of Peace, Friendship and Cooperation. However, there is little indication that the US envisioned military conflict with India and the US still refused to provide Pakistan with a guarantee against Indian aggression.

⁶³ While both Argentina and Brazil were technically allied with the United States as part of the Organization of American States (OAS), their relations were tense in the late 1970s largely to due US efforts to enforce human rights standards in Argentina and Brazil. Moreover, whether they are coded as friends or unaligned leads to the same theoretical expectation.

is likely to be entirely off the table as a policy option for the United States and costly additional commitments to US allies in the adversary's neighborhood are likely to be necessary as well. While efforts to enforce nonproliferation may be costly against adversary states (whether involving sanctions, military strikes, or inducements), these costs are likely to be outweighed by the potential benefits given the grave strategic consequences of proliferation in these cases. Moreover, given that the nuclear aspirant is already an adversary, coercive nonproliferation measures will not change the fundamental geopolitical dynamic (unlike in the case of allied or unaligned states, as discussed below).

However, in contrast to Kroenig and Coe and Vaynman's argument, I argue that it is far less clear whether proliferation by a friendly state is a net negative for the United States geopolitically. While such proliferation may make the allied state more autonomous and could theoretically embroil the United States in an unwanted nuclear conflict, this risk is potentially balanced or outweighed by three factors: (1) strengthened deterrence against a shared adversary, (2) the ability for the United States to free up conventional or nuclear resources that were previously devoted to the ally's defense, which could in fact *reduce* the risk of the United States becoming involved in a conflict, and (3) the fact that the very act of enforcing nonproliferation against an ally is likely to be costly, perhaps significantly damaging the relationship between the United States and the potential proliferator and/or requiring the United States to extend costly new security commitments. The costs of enforcing nonproliferation are less likely to be outweighed by the strategic consequences of proliferation in these cases, given that these consequences are mixed. Thus, even if the United States may prefer to prevent proliferation by an ally in an ideal world, the costs of enforcing nonproliferation may make it not worth it.

It is similarly unclear what the optimal geopolitical response to an unaligned state pursuing nuclear weapons would be for the United States, for four reasons: (1) the state may directly threaten or come into conflict with the United States but is less likely to do so than an adversary, (2) its unaligned status means the United States is giving up little influence over the unaligned state when it acquires a nuclear arsenal, (3) the state may in fact share an adversary with the United States, as with India vis-à-vis China during the early part of the Cold War and in its aftermath, and (4) successful efforts to prevent the state from acquiring nuclear weapons are likely to require substantial US resources (such as security commitments) that may increase the probability of the United States becoming involved in unwanted conflicts. In sum, while it is clear that an adversary's pursuit of nuclear weapons should elicit opposition from the United States, it is far less clear for allies and unaligned states.

When nuclear domino effects are perceived to be weak or nonexistent, this argument would predict a tailored, case-by-case nonproliferation policy. The United States would oppose proliferation in enemy states consistently, but adopt a more varied approach toward allied or unaligned states: opposing in some cases and aiding or allowing in others, depending on the mix of the above factors that weigh for or against nonproliferation. When nuclear domino effects are perceived to be weak, this argument would not expect the United States to expend significant resources establishing international or national policies to restrict proliferation on a global scale because it would prefer flexibility in responding to different countries' nuclear ambitions.

Conversely, when nuclear domino effects are perceived to be strong, this argument would predict that the United States would adopt a strict, across-the-board nonproliferation policy. While proliferation in enemy states would be opposed regardless of expectations of nuclear domino effects, as would proliferation in friendly and unaligned states with a particularly

dangerous balance of the factors identified above, the belief in nuclear domino effects would tip the balance in favor of nonproliferation in all other unaligned and friendly states: the potential benefits of proliferation and costs of nonproliferation efforts in these cases would be outweighed by the fact that allowing this state to acquire nuclear weapons could ultimately lead other states to acquire nuclear weapons that do pose great strategic risks to the United States. When nuclear domino effects are perceived to be strong, this argument predicts substantial US efforts to establish international and national policies that discourage proliferation across the board.

To summarize, while this argument is consistent with those of Kroenig, Sokolski, and Coe and Vaynman in that it holds maintaining or improving its geopolitical position ultimately motivates the United States, it differs by arguing that the belief in nuclear domino effects is essential to explaining (1) why the United States opposes proliferation consistently even in friendly and unaligned states, (2) why the United States has expended considerable resources to establish national and international nonproliferation policies at particular points in its history, and (3) why the United States opposes tests even by states that have already achieved nuclear weapons capabilities.

Observable Implications on the Causes of US Policy

The above argument suggests three observable implications:

Implication 1: US policymakers should emphasize heightened fears of nuclear domino effects in internal deliberations on developing stronger nonproliferation policies in 1964-1968 and 1974-1978.

Implication 2: After 1964, the United States should oppose proliferation even in friendly or unaligned states, largely because of the belief that the spread of nuclear weapons could not be stopped there and would spread to countries that pose greater strategic risks to the United States. Policymakers should consistently cite fears of nuclear domino effects in cases of nonproliferation diplomacy and deliberations vis-à-vis these states.

Implication 3: After 1964, the United States should work to prevent first tests even by states that have already achieved a nuclear weapons capability, largely because of the fear that these tests would spark nuclear domino effects.

Theorizing the Consequences of US Nonproliferation Policy

Turning to the consequences of US nonproliferation policy—in particular, how these policies influence the behavior of individual states deciding whether or not to pursue nuclear weapons—I begin by following Gilpin and assuming that, “The objectives and foreign policies of states are determined primarily by the interests of their dominant members or ruling coalitions,” and that these coalitions simultaneously pursue not just security, but economic and other objectives as well, with the precise amounts sought determined by “income and cost.”⁶⁴ This assumption fits well with the qualitative and quantitative literature on the causes of proliferation, which has identified three sources of *demand* for nuclear weapons—security, domestic politics, and norms/prestige.⁶⁵

⁶⁴ Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1981), 19-21.

⁶⁵ See Meyer, *Dynamics of Nuclear Proliferation*, Sagan, “Why Do States Build Nuclear Weapons,” Singh and Way, “Correlates of Nuclear Proliferation,” Jo and Gartzke, “Determinants of Nuclear Weapons Proliferation,” and Bleek, “Why Do States Proliferate?”

Embracing this multicausal approach to proliferation, this dissertation highlights and theorizes a feature of the international environment that has been understudied in the literature but has the ability to simultaneously affect each of these three motivational pathways. By leveraging its superior economic and military resources and threatening to sanction states engaged in proliferation by withdrawing economic and military support, I argue that the United States has reduced the demand for proliferation by dramatically increasing its security, domestic, and normative costs. More specifically, the argument is that states rationally consider the security, domestic, and normative costs of pursuing nuclear weapons before they do so and that a credible threat of sanctions will often succeed in deterring states from engaging in proliferation behavior if they are highly dependent on the United States. As Goodcliffe and Hawkins note, “Research suggests that actors care about maintaining relations with those on whom they are dependent, and they not surprisingly prefer positive rather than negative responses from them...Dependence, then, increases the extent to which actors consider the likely reactions of their exchange partners, and in turn engage in behavior that is pleasing to those partners.”⁶⁶

This rationalist framework implies that the threat or imposition of sanctions will succeed in halting *ongoing* nuclear weapons programs only when the proliferating state underestimated the probability and/or cost of sanctions when they initiated the activity. States that have made the decision to proliferate have already taken into account the expected costs and therefore will only change their behavior if these costs were miscalculated. The remainder of this section elucidates

⁶⁶ Jay Goodcliffe and Darren Hawkins, “A Funny Thing Happened on the Way to Rome: Explaining International Criminal Court Negotiations,” *Journal of Politics* 71, No. 3 (2009): 982. Also see Jay Goodcliffe, Darren Hawkins, Christine Horne, and Daniel Nielson, “Dependence Networks and the International Criminal Court,” *International Studies Quarterly* 56, No. 1 (2012): 131-147. In contrast to the argument in this dissertation, Goodcliffe and Hawkins argue that sanctions do not have to be explicitly threatened in order to cause dependent actors to behave in the desired fashion.

the three mechanisms through which the threat of sanctions can deter proliferation by states dependent on the United States—security, domestic politics, and norms.

Security

First, in terms of security, states dependent on US troops or military aid are likely to think twice about proliferating if it threatens to jeopardize these important relations with the United States. Thus, while states may desire nuclear weapons in order to ensure their security against nuclear or conventional threats, they may be unwilling to accept the window of vulnerability that would occur if they started a nuclear weapons program and lost American troop commitments and military aid shortly thereafter—after all the average time to completing a nuclear weapons program (among those who succeeded in building the bomb) is not short: about 10 years.⁶⁷

There are good reasons for states to worry about the loss of US troops and military aid: theory and evidence suggests that alliances (for which troops and military aid are often the material trappings) serve as signals that effectively deter aggression. As Morrow explains, “Alliances signal to parties outside the alliance the willingness of the allies to come to one another’s aid if threatened by other nations. Such signals could enhance the deterrence of threats by convincing threatening nations that intervention against them was likely. Increasing the chance of intervention would also make each ally more likely to resist threats, further reducing the chance of a threat.”⁶⁸ The signals sent by alliances can work either by communicating to potential aggressors that the alliance partners share intrinsic interests,⁶⁹ or by tying a state’s hand and “engaging a state’s domestic or international reputation for observing its commitments,”

⁶⁷ Data for this calculation are from Christopher Way, “Nuclear Proliferation Dates,” 2011.

⁶⁸ James Morrow, “Alliances, Credibility, and Peacetime Costs,” *Journal of Conflict Resolution* 38, No. 2 (1994): 272.

⁶⁹ *Ibid.*, 270.

even in absence of shared interests on a particular issue.⁷⁰

Troop commitments play a particularly important role in signaling commitment and, by extension, deterring aggression. As Schelling famously put it in the Cold War context:

To have told the Soviets in the late 1940s that, if they attacked, we were obliged to defend Europe might not have been wholly convincing. When the Administration asked Congress for authority to station Army divisions in Europe in peacetime, the argument was explicitly made that these troops were there not to defend against a superior Soviet army but to leave the Soviet Union in no doubt that the United States would be automatically involved in the event of any attack on Europe...The reasoning was probably that, whether we wished to be or not, we could not fail to be involved if we had more troops being run over by the Soviet Army than we could afford to see defeated... What can 7,000 American troops do, or 12,000 Allied troops? Bluntly, they can die. They can die heroically, dramatically, and in a manner that guarantees that the action cannot stop there.⁷¹

There are thus strong reasons for states to value American troop commitments for security purposes; in some cases, they serve as the ultimate guarantor of a country's survival. As a result, while a nuclear arsenal could potentially do the same, these bombs cannot be built overnight, which makes the threatened withdrawal of troops a potent source of leverage.

Although perhaps less so than troop commitments, military aid can be similarly valuable to states for security reasons. Indeed, while Walt is generally skeptical of the ability of military aid to provide leverage for dominant partners in an alliance, he does note that "providing aid — especially military aid—usually commits the donor's prestige to the fate of the recipient," that military aid "strengthens the recipient's position," and it "can make an existing alignment more effective."⁷² In other words, military aid both serves as a signal of commitment and also directly strengthens deterrence by improving the junior partner's defense. There is empirical evidence

⁷⁰ James Fearon, "Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs," *Journal of Conflict Resolution* 41, No. 1 (1997): 70.

⁷¹ Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), 47.

⁷² Stephen Walt, *The Origins of Alliances* (Ithaca, NY: Cornell University Press, 1987), 238-242.

that in some circumstances military aid can serve to dampen regional conflict,⁷³ and that dependence on foreign arms transfers can restrain a state's behavior.⁷⁴ While Walt generally disputes this latter notion, he makes an important caveat: "This analysis neglects the possibility that clients will anticipate their patron's wishes in advance and adapt their behavior accordingly. Thus the only disputes identified here are those where the issue was so important to the client that it was forced to defy its patron. To the extent that clients do alter their conduct on other issues without being asked (a tendency that cannot be easily measured), this analysis may understate the overall impact of aid on the behavior of recipients."⁷⁵ Indeed, to the extent that state leaders are rational, depend on military aid, and face a credible threat of an aid cutoff, exactly what we would expect is for them to alter their behavior in advance, and to be deterred from taking the particular action opposed by the senior alliance partner.

More broadly, the international relations literature on alliance management suggests that allies often fear abandonment, particularly when they are relatively more dependent on their partner, and that they will make strenuous efforts to avoid this outcome.⁷⁶ Walt concurs about the importance of relative dependence, arguing that, "aid is most likely to create reliable proxies when the recipients are so vulnerable and dependent that they are forced to follow the patron's wishes even when those wishes conflict with their own."⁷⁷ In a similar vein, Pressman notes that the stronger state in an alliance has a bargaining advantage when seeking to restrain an ally's behavior, but that in order to succeed, it must use pressure and/or inducements that "*mobilize its*

⁷³ David Kinsella and Herbert Tillema, "Arms and Aggression in the Middle East: Overt Military Interventions, 1948-1991," *Journal of Conflict Resolution* 39, No. 2 (1995): 306-329.

⁷⁴ David Kinsella, "Arms Transfer Dependence and Foreign Policy Conflict," *Journal of Peace Research* 35, No. 1 (1998): 7-23.

⁷⁵ Walt, *Origins of Alliances*, 241.

⁷⁶ See Glenn Snyder, "The Security Dilemma in Alliance Politics," *World Politics* 36, No. 4 (1984): 461-495.

⁷⁷ Walt, *Origins of Alliances*, 43-5.

power resources and not...rely solely on rhetoric and persuasion to restrain its allies.”⁷⁸

In sum, there are strong theoretical reasons for believing that credibly threatening to withdraw troops and military aid would be a powerful deterrent for states considering initiating a nuclear weapons program. Even if a state desires a nuclear deterrent for long-term reasons of security, its security may be irreparably harmed in the short-term by transgressing US nonproliferation policies and triggering sanctions. This is particularly the case because the US geopolitical position ensures that relative dependence is generally in the United States’ favor.

Domestic Politics

Second, in terms of domestic politics, recent work by Solingen has highlighted how regimes whose political coalitions depend on the international economy are less likely to pursue nuclear weapons since it poses risks to their internationalist agenda.⁷⁹ The threat of sanctions is clearly relevant here: ruling coalitions that rely on trade or foreign aid from the United States are likely to oppose a nuclear program in order to avoid costly trade embargos or aid cutoffs that may threaten their political survival. Alternately, domestic nuclear scientists and bureaucrats whose work is advanced through international nuclear cooperation may oppose the initiation of a nuclear weapons program since it jeopardizes international assistance.⁸⁰ More generally, as Dai observes, “Within a country, some actors gain while others may lose if the government does not comply with an international agreement. When those who are victimized by noncompliance have crucial leverage over the government, compliance can be rational even if the country as a whole

⁷⁸ Jeremy Pressman, *Warring Friends: Alliance Restraint in International Politics* (Ithaca, NY: Cornell University Press, 2008), 2-3.

⁷⁹ Solingen, *Nuclear Logics*.

⁸⁰ Hymans, “Proliferation Implications of Civil Nuclear Cooperation.” It should be noted that other scholars, for example Fuhrmann, “Spreading Temptation,” argue that international nuclear cooperation may spur nuclear weapons programs.

pays for it more than benefits from it.”⁸¹

This mechanism builds on the growing body of theory and evidence in the last few decades that suggests leaders’ foreign policy behavior is often driven by the desire to maintain domestic power, even in the realm of security. When deciding whether to initiate or join a war, leaders consider not just geopolitics but the likely effects of the war on their prospects for domestic political survival.⁸² Similarly, the audience cost mechanism proposed by Fearon is largely based on the notion that democratic leaders will be wary of backing down in crises due to the fear of losing power domestically.⁸³ Building on Fearon’s work, Smith more explicitly models the domestic reelection process in democracies, arguing the reelection motive helps to shape the propensity for and outcomes of foreign policy crises.⁸⁴ Schultz expands on this line of research by incorporating the role of opposition parties in democracies.⁸⁵ Research suggests that the desire to maintain domestic power shapes the foreign policy of behavior of nondemocratic leaders as well. In order to avoid losing power and suffering additional punishment thereafter, leaders in mixed regimes may ‘gamble for resurrection’ and extend losing wars longer than would otherwise be rational.⁸⁶ Even leaders in many types of autocratic systems are vulnerable to

⁸¹ Xinyuan Dai, “Why Comply? The Domestic Constituency Mechanism,” *International Organization* 59, No. 2 (2005): 363-398.

⁸² Bruce Bueno de Mesquita and David Lalman, *War and Reason: Domestic and International Imperatives* (New Haven, CT: Yale University Press, 1992).

⁸³ James Fearon, “Domestic Political Audiences and the Escalation of International Disputes,” *American Political Science Review* 88, No. 3 (1994): 581. For recent critiques of the audience cost concept, see Jack Snyder and Erica Borghard, “The Cost of Empty Threats: A Penny, Not a Pound,” *American Political Science Review* 105, No. 3 (2011): 437-456; and Marc Trachtenberg, “Audience Costs: A Historical Analysis,” *Security Studies* 21, No. 1 (2012): 3-42.

⁸⁴ Alastair Smith, “Diversionary Foreign Policy in Democratic Systems,” *International Studies Quarterly* 40, No. 1 (1996): 133-154; and Alastair Smith, “International Crises and Domestic Politics,” *American Political Science Review* 92, No. 3 (1998): 623-638.

⁸⁵ Kenneth Schultz, “Domestic Opposition and Signaling in International Crises,” *American Political Science Review* 92, No. 4 (1998): 829-844.

⁸⁶ H.E. Goemans, “Fighting for Survival: The Fate of Leaders and the Duration of War,” *Journal of Conflict Resolution* 44, No. 5 (2000): 555-579.

audience costs and domestic punishment as a consequence of backing down in crises.⁸⁷ Indeed, recent evidence suggests that autocratic leaders are *more* likely to lose office after defeat in war when compared to democratic leaders.⁸⁸

There is thus strong reason to believe that leaders condition their foreign policy behavior—even in the gravest decisions involving crisis or war—on their desire to maintain domestic power. This suggests that in the realm of nuclear proliferation—clearly a foreign policy decision of the highest order—a threat of sanctions that could endanger the political survival of ruling groups would help to deter proliferation.

Norms

Finally, in terms of norms, US sanctions ought to be equally critical. While much of the international relations literature has focused on the moral, ideational, and sociological sources of norms,⁸⁹ there is an extensive literature in international relations and other disciplines that argues norms derive much of their power from sanctions that serve as enforcement mechanisms,⁹⁰ and that powerful actors are often able to use their coercive and persuasive capabilities to propagate

⁸⁷ Jessica Weeks, "Autocratic Audience Costs: Regime Type and Signaling Resolve," *International Organization* 62, No. 1 (2008): 35-64.

⁸⁸ Giacomo Chiozza and H.E. Goemans, "International Conflict and the Tenure of Leaders: Is War Still Ex Post Inefficient?" *American Journal of Political Science* 48, No. 3 (2004): 604-619; and Alexandre Debs and H.E. Goemans, "Regime Type, the Fate of Leaders, and War," *American Political Science Review* 104, No. 3 (2010): 430-445.

⁸⁹ See Martha Finnemore, *National Interests in International Society* (Ithaca, NY: Cornell University Press, 1996); Ethan Nadelmann, "Global Prohibition Regimes: The Evolution of Norms in International Society," *International Organization* 44, No. 4 (1990): 479-526; Michael Barnett and Martha Finnemore, "The Politics, Power, and Pathologies of International Organizations," *International Organization* 53, No. 4 (1999): 699-732; and Nina Tannenwald, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," *International Security* 29, No. 4 (2005): 4-59.

⁹⁰ See Robert Axelrod, "An Evolutionary Approach to Norms," *American Political Science Review* 80, No. 4 (1986): 1095-1111; Douglas Heckathorn, "Collective Sanctions and the Creation of Prisoner's Dilemma Norms," *American Journal of Sociology* 94, No. 3 (1988): 535-562; Gary Goertz and Paul Diehl, "Toward a Theory of International Norms: Some Conceptual and Measurement Issues," *Journal of Conflict Resolution* 36, No. 4 (1992): 634-644; and Ernst Fehr and Urs Fischbacher, "Social Norms and Human Cooperation," *Trends in Cognitive Science* 8, No. 4 (2004): 185-190.

norms that reflect their material interests.

First, with respect to the importance of sanctions for norm development, Finnemore and Sikkink note that socialization is the primary mechanism of a norm cascade, and that “in the context of international politics, socialization involves diplomatic praise or censure, either bilateral or multilateral, which is reinforced by material sanctions and incentives.”⁹¹ Goertz and Diehl observe that even if norms become internalized, the fact remains that “in virtually all cases of functioning norms, there seem to be some sanctions.”⁹² Based on computer simulations, Axelrod found that the level at which a norm is violated is inversely related to the probability of punishment.⁹³ Drawing on this research, we should expect that the credibility of and vulnerability to sanctions should strengthen norms against proliferation, helping to deter nuclear pursuit.

Second, theory and evidence suggests that norms are often the product of efforts by powerful actors to spread and enforce patterns of behavior that reflect their interests, even if the norms ultimately become internalized. Laitin describes how in Nigeria, the British colonial authorities successfully worked to “shape and manipulate social myths so that the social order they created would seem legitimate.”⁹⁴ In the international relations setting, Ikenberry and Kupchan describe how there exists, “a more subtle component of hegemonic power, one that works at the level of substantive beliefs rather than material payoffs...Elites in secondary states buy into and internalize norms that are articulated by the hegemon and therefore pursue policies consistent with the hegemon's notion of international order.”⁹⁵ Importantly, this process of “socialization is distinct from, but does not occur independently of, power manifest as the

⁹¹ Martha Finnemore and Kathryn Sikkink, “International Norm Dynamics and Political Change,” *International Organization* 52, No. 4 (1998): 902.

⁹² Goertz and Diehl, “Toward a Theory of International Norms,” 638.

⁹³ Axelrod, “An Evolutionary Approach to Norms,” 1109.

⁹⁴ David Laitin, *Hegemony and Culture* (Chicago: University of Chicago Press, 1986): 150.

⁹⁵ G. John Ikenberry and Charles Kupchan, “Socialization and Hegemonic Power,” *International Organization* 44, No. 3 (1990): 283.

manipulation of material incentives.”⁹⁶ In a similar vein, Gilpin notes how, “To some extent the lesser states in an international system follow the leadership of more powerful states, in part because they accept the legitimacy and utility of the existing order...Empires and dominant states supply public goods (security, economic order, etc) that give other states an interest in following their lead.”⁹⁷ In his recent work on international hierarchy, Lake likewise describes how, “In equilibrium, both dominant and subordinate states honor the social contract, with the former providing the order demanded by the latter and the latter complying with the rules of that order,” and how dominant states use sanctions to discipline subordinate states that violate the rules and deter others from following suit.⁹⁸

One example of this process of hegemonic norm development is the international norm against assassination. Thomas finds that, “although the norm is grounded in fundamental moral principles, its development was decisively influenced by the structure of the international system...by limiting legitimate modes of violence between states to war or large-scale intervention, the prohibition on assassination reinforces the position of great powers relative to other states and nonstate actors. This helps to explain the relative strength and durability of the norm despite its occasionally anomalous moral implications.”⁹⁹ The norm against proliferation is arguably analogous in the sense that major powers—with the United States leading the charge—worked to delegitimize the development of military technology whose proliferation could help equalize the power imbalance vis-à-vis weaker states.

These norms, once created or sponsored by the hegemon, are more likely to spread to and be accepted by countries that have important ties with the hegemon (i.e. states in their sphere of

⁹⁶ Ibid, 284.

⁹⁷ Gilpin, *War and Change in World Politics*, 30-31.

⁹⁸ David Lake, *Hierarchy in International Relations* (Ithaca, NY: Cornell University Press, 2009): 13.

⁹⁹ Ward Thomas, “Norms and Security: The Case of International Assassination,” *International Security* 25, No. 1 (2000): 107.

influence). Focusing on nonproliferation norms in particular and drawing on insights from social psychology, Rublee argues that, “When a norm transmitter is similar to us, or is someone with whom we desire a good relationship, we are more open to normative influence from that source....When actors want to establish or maintain a relationship, they are more likely to defer to requests and accept influence from one another.”¹⁰⁰ Taken together, the literature on norms and their relationship to material power provides a strong basis for believing that a hegemonic state has the ability to transmit norms—often self-serving—and that these norms should have the most constraining influence on states that rely on the hegemon for material benefits.

Observable Implications on the Consequences of US Policy

The theoretical argument outlined above suggests three observable implications:

Implication 1: States dependent on the United States economically and militarily should be less likely to initiate nuclear weapons programs, but only when the threat of sanctions is credible.

Implication 2: Due to selection effects caused by effective deterrence once a credible threat of sanctions is in place, imposed unilateral US sanctions should be largely ineffective at halting nuclear weapons programs.

Implication 3: States should only be likely to abandon ongoing nuclear weapons programs due to US sanctions if they underestimated the probability of being targeted when they initiated their

¹⁰⁰ Rublee, *Nonproliferation Norms*, 49-50.

nuclear weapons program, are highly dependent on the United States, and subsequently face a credible threat of sanctions.

Conclusion

The remainder of this dissertation empirically tests the observable implications on the causes and consequences of US policy. Chapter 3 assesses the first observable implication on the causes of US policy, exploring the motivations behind major US policy advances in the 1964-68 and 1974-78 time periods. Chapter 4 tests the second implication on the causes of US policy, examining US behavior toward individual nuclear weapons programs and the motivations for this behavior, as well as whether the United States has worked to prevent tests after states have achieved nuclear weapons capabilities. Chapter 5 evaluates the first and second implications on the consequences of US policy, showing that states dependent on the United States have been less likely to pursue nuclear weapons since the development of US sanctions policies in the 1970s, that this largely accounts for the declining rate of proliferation over time, and that due to selection effects imposed US sanctions have usually failed. Chapters 6 and 7 explore the third implication on the consequences of US policy with longitudinal case studies of the Taiwanese and Pakistani nuclear weapons programs. The Taiwanese case is “on the line” in that its outcome appears to match the theoretical prediction while the Pakistani case is “off the line” in that its outcome seems divergent with the theoretical expectation. Chapter 8 concludes with implications for theory and policy and directions for future research.

Chapter 3: Nuclear Domino Fears and the Sources of US Nonproliferation Policy

What explains why US nonproliferation policy tightened so dramatically from 1964-68 and 1974-78? In this chapter, I argue that these changes in US policy were largely motivated by fears of nuclear domino effects spurred by the Chinese and Indian nuclear tests. Specifically, the evidence suggests that nuclear domino fears were crucial in causing the US government to abandon selective proliferation schemes in the 1960s—which in turn paved the way for the NPT and the enforcement of nonproliferation across the board—and in explaining why the United States responded strongly to an Indian nuclear capability in the 1970s that policymakers assessed posed virtually no direct threat. As suggested in the theory chapter, existing explanations help explain why the United States opposes proliferation in a general sense—to preserve its dominant geopolitical position and reduce the risks of nuclear war—but nuclear domino fears are crucial to understanding why policymakers decided to enforce nonproliferation universally, even in cases where these risks were low and enforcing nonproliferation would be costly for the United States.

The chapter begins with an exploration of US nonproliferation policy from 1953-1968, establishing the baseline prior to the Chinese nuclear test and then exploring how the test shaped subsequent US policy. After evaluating the role of nuclear domino fears vs. existing explanations, the chapter performs a similar analysis on the 1969-1978 period, exploring US policy in the lead-up to the Indian test and how US policy responded to this shock. The chapter concludes with a summary of the findings and sets the stage for the following chapter.

1953-1963

While official US policy has opposed horizontal nuclear proliferation since the immediate post-WWII era,¹ nonproliferation only started to command “sustained attention from US security planners in the early 1960s.”² President Eisenhower felt that US allies in Europe should acquire their own nuclear weapons, which would ultimately facilitate US forces withdrawing from Europe.³ In 1954, the US government amended the Atomic Energy Act in order to make it possible to cooperate in the nuclear field with Britain.⁴ Soon thereafter, Britain was given access to American nuclear weapons.⁵ This trend was broadened with the 1957 NATO stockpile plan, under which “NATO allies were given effective control over American nuclear weapons” in Europe.⁶ Eisenhower also supported the provision of ballistic missile designs to NATO allies, which could serve as delivery vehicles for nuclear weapons.⁷ US policymakers under Eisenhower were even comfortable with providing West Germany with effective control over American nuclear weapons.⁸ In 1958, the legal restrictions on sharing nuclear technology in the Atomic Energy Act were further weakened in order to allow greater cooperation with the British nuclear program. The President was now given the authority to aid other countries’ nuclear weapons programs “provided that such nation has made substantial progress in the

¹ Early US efforts included the 1946 Baruch Plan to ban nuclear weapons via an international agreement and the McMahon Act of the same year, which forbade the US from sharing sensitive information on nuclear weapons development with other states. On the Baruch Plan, see Sokolski, 14-24. On the McMahon Act and its effect on relations with Britain, see S.J. Ball, “Military Nuclear Relations between the United States and Great Britain under the Terms of the McMahon Act, 1946-1958,” *Historical Journal* 38, No. 2 (1995): 439-454.

² Hal Brands, “Non-Proliferation and the Dynamics of the Middle Cold War: The Superpowers, the MLF, and the NPT,” *Cold War History* 7, No. 3 (2007): 391.

³ See Marc Trachtenberg, *Constructed Peace: The Making of the European Settlement, 1945-1963* (Princeton: Princeton University Press, 1999): 146-200.

⁴ Ball, “Military Nuclear Relations,” 449.

⁵ *Ibid.*, 453.

⁶ Trachtenberg, *Constructed Peace*, 194.

⁷ *Ibid.*, 207.

⁸ *Ibid.*, 209-210.

development of atomic weapons.”⁹ As Wohlstetter observed three years later, this amendment perversely “seem[ed] to offer incentives to our other allies to demonstrate a nuclear capability of their own, and so to become eligible for help.”¹⁰

The Eisenhower administration also oversaw the initiation of the Atoms for Peace program. While in some sense this laid the foundation for the nonproliferation regime in that it offered nuclear technology contingent on the acceptance of safeguards (an idea that later undergirded the NPT), it was primarily motivated by a desire to restrain the Soviet nuclear buildup by diverting fissionable material to peaceful purposes rather than to prevent new states from acquiring nuclear weapons.¹¹ Indeed, by spreading nuclear technology, as Sokolski notes, this program “made the acquisition of such [nuclear] capabilities *more* likely.”¹² In the closing days of his presidency, Eisenhower unveiled a plan for a sea-based Multilateral Force (MLF) for NATO whereby European allies would have joint control over nuclear weapons. From Eisenhower’s perspective, this was meant to pave the way for “an independent and ultimately purely European nuclear force, whose use would not be subject to an American veto.”¹³

Intelligence estimates produced during the Eisenhower administration reflected these relatively optimistic views of proliferation, in which domino effects were not perceived to be strong and the geopolitical effects of nuclear weapons expected to be modest. A 1957 National Intelligence Estimate concluded that only France, Sweden, and Canada had the capability to build nuclear weapons in the near future, that “no individual fourth country will be able within the next 10 years to develop more than a limited nuclear capability,” and that “fourth power

⁹ An Act to Amend the Atomic Energy Act of 1954, as amended, Public Law # 85-479, 85th Congress, 2nd Session (2 July 1958), <http://www.gpo.gov/fdsys/pkg/STATUTE-72/pdf/STATUTE-72-Pg276-2.pdf>

¹⁰ Wohlstetter, “Nuclear Sharing,” 356.

¹¹ Sokolski, *The Best of Intentions*, 25-29.

¹² *Ibid.*, 33.

¹³ Trachtenberg, *Constructed Peace*, 215.

production of nuclear weapons over the next 10 years is not likely to reduce their dependence on military alliances, or materially increase the likelihood of general war.” Moreover, “the chances of these countries precipitating local conflicts would probably not increase materially, and there will be substantial political and psychological barriers to the use of nuclear weapons in local situations.” With respect to domino effects, the estimate judged that a nuclear France would cause West Germany to be interested in nuclear weapons as well, but that the Germans would find a NATO nuclear force preferable to an independent nuclear capability. Moreover, China and Japan would probably consider nuclear weapons ultimately regardless of developments in Europe. Likewise, a nuclear Sweden “would not necessarily spark immediate nuclear weapons production efforts in other Western European states.” Even if West Germany did decide to develop its own nuclear weapons, this “would not of itself lead the USSR to attack.”¹⁴

After an intelligence estimate the following year came to similar conclusions,¹⁵ a September 1960 estimate coming on the heels of France’s first nuclear test likewise concluded that future proliferation would be limited. Noting that only France and China appeared to have ongoing nuclear weapons programs, the estimate judged that, “West Germany, Sweden, Japan, and India could initiate such programs but are unlikely to do so in the next several years unless there is a dramatic shift in the international situation.” Even with a nuclear France now an established international fact, West Germany would be reluctant to pursue an independent nuclear capability, preferring a joint approach with the US or NATO. While further proliferation “could raise the chances that nuclear weapons would be used” and increase the risk of

¹⁴ National Intelligence Estimate 100-6-57, “Nuclear Weapons Production in Fourth Countries – Likelihood and Consequences,” doc. 2, 18 June 1957, in William Burr, “National Intelligence Estimates of the Nuclear Proliferation Problem,” *NSA, EBB no. 155*.

¹⁵ National Intelligence Estimate 100-2-58, “Nuclear Weapons Production in Fourth Countries – Likelihood and Consequences,” doc. 3A, 1 July 1958, in “National Intelligence Estimates of the Nuclear Proliferation Problem,” *NSA, EBB no. 155*.

miscalculation, it could also “engender greater restraint,” potentially reducing the likelihood of conflict. Acquiring a nuclear arsenal nevertheless was expected to improve a state’s relative power within an alliance and cause them to act more independently.¹⁶

Why did France’s first nuclear test not spur strong fears of nuclear domino effects, in contrast to the later tests by China and India? As discussed in the theory chapter, this likely reflects the fact that France’s main adversary (the USSR) was already nuclear-capable at the time, and that France’s status as wealthy, great power meant that its nuclearization would not meaningfully increase the perceived feasibility of proliferation for the majority of states.

When John F. Kennedy entered the White House in January 1961, he brought with him a different view on the importance of nonproliferation. According to the former head of the US Atomic Energy Commission, Glenn Seaborg, nuclear proliferation was President Kennedy’s “private nightmare.”¹⁷ Kennedy understood that the increasing availability of nuclear technology made the problem of nonproliferation more urgent,¹⁸ was concerned about the potential effects of a looming Chinese nuclear capability,¹⁹ and was also convinced that West Germany should not have nuclear weapons because of the potential for increased instability on the front lines of the Cold War.²⁰ In 1963, Kennedy famously warned that without preventive action, the United States would soon face a world with up to twenty-five nuclear powers.²¹

¹⁶ NIE 100-4-60, “Likelihood and Consequences of the Development of Nuclear Capabilities by Additional Countries” doc. 5, 9 September 1960, in “National Intelligence Estimates of the Nuclear Proliferation Problem,” *NSA, EBB no. 155*.

¹⁷ Quoted in Avner Cohen, “Israel and the Evolution of US Nonproliferation Policy: The Critical Decade (1958-1968),” *Nonproliferation Review* 5, No. 2 (1998): 5.

¹⁸ *Ibid.*

¹⁹ Rachel Whitlark, “All Options on the Table? Nuclear Proliferation, Preventive War, and a Leader’s Decision to Intervene,” Paper presented at the Nuclear Studies Research Initiative Conference, Cedar Creek, TX, October 17-19, 2013.

²⁰ Trachtenberg, *Constructed Peace*, 284.

²¹ William Potter, “Divining Nuclear Intentions,” 160.

This high-level commitment was translated into several important policy shifts in favor of nonproliferation. In April 1961, Kennedy approved recommendations from Dean Acheson that called for a major break from Eisenhower's selective proliferation policies. Under the new policy, "National nuclear forces were to be avoided and control was to be concentrated in American hands," even to the point of opposing independent British and French arsenals.²² Kennedy sought to rein in the Eisenhower policies that had given Europeans effective control over American nuclear weapons, ordering that permissive action links (PALs) be installed on all US nuclear weapons deployed in Europe.²³ Moreover, the MLF plan was transformed: rather than serving as a precursor to an independent European nuclear force, as Eisenhower intended, the MLF would now have a firm American veto and would be aimed at preventing national proliferation, particularly in West Germany.²⁴ In September 1961, the Arms Control and Disarmament Agency (ACDA), the first government agency solely devoted to arms control, was established via congressional legislation.

Kennedy's most notable nonproliferation accomplishment occurred in late 1963 when the US and USSR concluded and ratified the Limited Test Ban Treaty, which prohibited all nuclear tests except for those underground. The treaty was at least partially meant to prevent additional states from acquiring nuclear weapons. As Kennedy put it during negotiations with Khrushchev in June 1961, "If no agreement is reached, then in a few years there might be ten or even fifteen nuclear powers."²⁵ Nevertheless, as Trachtenberg notes, Kennedy's nonproliferation policy was

²² Trachtenberg, *Constructed Peace*, 305.

²³ *Ibid.*, 299; 309. The PAL decision was formalized in National Security Action Memorandum 160, 6 June 1962, <https://www.fas.org/irp/offdocs/nsam-jfk/nsam160.htm>.

²⁴ Trachtenberg, *Constructed Peace*, 312-314.

²⁵ Memorandum of Conversation, 4 June 1961, Kennedy Administration, *FRUS*, vol. vii, doc. 31.

not “applied to all prospective nuclear powers in a more or less undifferentiated way,” but was focused on preventing China and West Germany from going nuclear.²⁶

Moreover, these accomplishments notwithstanding, the price the Kennedy administration was willing to pay for a broader nonproliferation agreement was limited. While the administration did commence negotiations with the Soviets on what would eventually become the NPT,²⁷ American officials from 1961-1963 refused to give up plans for the MLF, which the Soviets repeatedly made clear was the critical obstacle preventing them from agreeing to a treaty. The Soviets were particularly concerned that the MLF would give West Germany control over nuclear weapons, even though that was not Kennedy’s intent. As Soviet Ambassador Anatoliy Dobrynin told Secretary of State Dean Rusk in August 1962, “Germany is the number one problem” for the USSR with respect to the MLF and a nonproliferation treaty.²⁸ Even more pointedly, in February 1963 Dobrynin informed Rusk:

[T]he transfer of nuclear weapons to the West German armed forces irrespective of the manner in which this is carried out would greatly complicate and aggravate the situation in Europe....It is quite obvious that all these plans and actions of the US and other nuclear powers—whether it is creation of multilateral nuclear forces of NATO or bilateral agreements on nuclear armaments—lead in the long run to one end—to proliferation of nuclear weapons which not only does not facilitate but, on the contrary, hampers, if not makes altogether impossible, reaching an agreement on nonproliferation of nuclear weapons... The Soviet Government deems it necessary to state that if the US Government actually proceeds with proliferating nuclear weapons to other states participating in NATO and the number of states possessing nuclear weapons is increased the Government of the Soviet Union will be compelled to draw from this necessary conclusions and will respond in kind, that is, will see to it that appropriate countries friendly towards the USSR will receive nuclear weapons.²⁹

²⁶ Trachtenberg, *Constructed Peace*, 384.

²⁷ Brands, “Non-Proliferation and the Dynamics of the Middle Cold War,” 391.

²⁸ Memorandum of Conversation, 8 August 1962, Kennedy Administration, *FRUS*, vol. vii, doc. 216.

²⁹ Memorandum of Conversation, 7 February 1963, Kennedy Administration, *FRUS*, vol. vii, doc. 261.

Despite these strong protestations and the impossibility of reaching a non-proliferation agreement while the MLF plan persisted, the American position from 1961-63 did not budge. In November 1961, the State Department recommended voting against a non-proliferation resolution introduced by the Swedes at the UN because it would undermine the US ability to share nuclear weapons with its allies.³⁰ In April 1962, Kennedy approved National Security Action Memorandum (NSAM) 147, which authorized US officials to communicate “willingness” to establish an MLF. With respect to control of these nuclear forces, the NSAM directed officials to “make plain that transfer of nuclear warheads or procedures for using the force without United States concurrence would require amending existing United States law” but to nonetheless communicate that the United States “is willing to consider any proposal [for control] which is put to us by a clear majority of the alliance.”³¹ In November 1962, Rusk recommended to Kennedy that the United States make another approach to the Soviets but should “reserve the right” to establish the MLF.³²

By May of 1963, Rusk sought to convince Dobrynin that, “the Soviet Union ought not to let the MLF discussion in NATO get in the way” of a nonproliferation treaty.³³ That same month, NSAM 240 ordered that MLF negotiations with Britain be commenced and directed the State Department to “prepare the political case for the MLF.”³⁴ As the Under Secretary of State for Political Affairs, W. Averell Harriman, prepared to leave for negotiations in Moscow in July

³⁰ Telegram From the Department of State to the Mission to the North Atlantic Treaty Organization and European Regional Organizations, 21 November 1961, Kennedy Administration, *FRUS*, vol. vii, doc. 97.

³¹ National Security Action Memorandum No. 147, 18 April 1962, Kennedy Administration, *FRUS*, vol. xiii, doc. 135.

³² Memorandum From Secretary of State Rusk to President Kennedy, 27 November 1962, Kennedy Administration, *FRUS*, vol. vii, doc. 247.

³³ Memorandum of Conversation Between Secretary of State Rusk and the Soviet Ambassador (Dobrynin), 18 May 1963, Kennedy Administration, *FRUS*, vol. vii, doc. 287.

³⁴ National Security Action Memorandum 240, 7 May 1963, <https://www.fas.org/irp/offdocs/nsam-jfk/nsam240.jpg>

1963, Rusk emphasized that support for the MLF must be maintained because “If we did not maintain this position, we would cause great confusion among our allies and wreck NATO.” At the same time, President Kennedy told Harriman he “wished to avoid any clause which would prohibit us from giving weapons to France if we so desired.”³⁵ Even though Kennedy believed that the MLF was “a façade” and of little military value, he deemed it crucial for maintaining Germany’s non-nuclear status.³⁶

Even outside Europe and the MLF, a variety of US policymakers in the Kennedy administration saw benefits in selective proliferation, as Eisenhower had previously. A February 1961 Air Force study on US strategy toward a future nuclear-armed China suggested US nuclear sharing in Asia to contain the Chinese threat. Once China had achieved the capability to directly threaten the United States, the study recommended efforts “to persuade selected Asian nations, particularly Japan and India, to consider equipping themselves with defensive nuclear weapons... Negotiations should be commenced to indicate US willingness to provide Australia with an offensive nuclear capability.”³⁷ The following month, the Joint Chiefs of Staff (JCS) recommended to Secretary of Defense Robert McNamara that the United States should abstain from supporting the “Irish Resolution” in the United Nations General Assembly, which later laid the groundwork for the NPT, on the grounds that it would impede nuclear sharing.³⁸ In September 1961, George McGhee, then Director of Policy Planning for the State Department,

³⁵ Summary Record of the 515th Meeting of the National Security Council, 9 July 1963, Kennedy Administration, *FRUS*, vol. vii, doc. 318.

³⁶ Trachtenberg, *Constructed Peace*, 314. On the MLF being partially conceived as a nonproliferation measure, see Itsuki Kurashina, “‘Let the MLF Sink Out of Sight’: The Cold War and the Atlantic Alliance during the Johnson Administration,” *Japanese Journal of American Studies* No. 24 (2013): 165-183.

³⁷ Long-Range Threat of Communist China, 8 February 1961, *DNSA*, CH00003.

³⁸ Memorandum From the Joint Chiefs of Staff to Secretary of Defense McNamara, 23 March 1961, Kennedy Administration, *FRUS*, vol. vii, doc. 9. The US ultimately voted in favor of the resolution, in spite of the JCS objections.

recommended to Rusk that the United States help India develop its own nuclear weapons since “it would be desirable if a friendly Asian power beat Communist China to the punch.”³⁹ A year later, the JCS opposed a non-proliferation agreement that forbade the transfer of nuclear weapons to non-nuclear states partially because “the measure prohibits transfers which the US itself may wish to make.”⁴⁰

By the end of 1962, Kennedy himself had overturned a key element of Acheson’s nonproliferation’s recommendations, deciding that the United States should help Britain and France develop their nuclear capabilities.⁴¹ This was facilitated by his belief that nuclear domino effects could be contained in this particular case, and that French and British nuclear forces would not inevitably lead West Germany to follow.⁴² In other words, in line with this dissertation’s theory, reduced fears of nuclear domino effects facilitated the adoption of selective rather than across-the-board nonproliferation policies, in spite of Kennedy’s personal inclinations in favor of nonproliferation. Specifically, as part of the Nassau Agreement of December 1962, Kennedy offered to provide Britain with Polaris missiles that would become the basis of the British nuclear deterrent. Kennedy then authorized US officials to make the same offer to France, overturning years of American refusal to aid the French program. In January 1963, Secretary Rusk instructed the US ambassador to France to “impress on the French that the decision to offer them the Nassau proposals represents a major turning point in United States policy. It implies a willingness to recognize France as a nuclear power and to bring substantially to an end the

³⁹ George Perkovich, *India’s Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California Press, 1999), 52-53.

⁴⁰ Memorandum From Secretary of State Rusk to President Kennedy, 21 September 1962, Kennedy Administration, *FRUS*, vol. vii, doc. 230.

⁴¹ Trachtenberg, *Constructed Peace*, 356-366.

⁴² *Ibid*, 356.

exclusive quality of the US-UK relationship.”⁴³ This offer, which was conditioned on France committing these missiles to a future MLF, was rejected by De Gaulle, even after he was assured that “for the future there could be absolutely no certainty that it had to be an American commander” in control of the MLF.⁴⁴

Meanwhile, like under Eisenhower, intelligence officials during the Kennedy administration were relatively sanguine about the likely extent and dangers of proliferation. For example, in 1962 the CIA notified the director of the Arms Control and Disarmament Agency (ACDA), William Foster, that existing government reports, “exaggerated both the imminence and the probable scale of nuclear diffusion.”⁴⁵ In June 1963, a National Intelligence Estimate came to similarly optimistic conclusions about proliferation. The report identified eight countries with the technical means to build nuclear weapons but noted that only China seemed to be working to do so. Moreover, China’s acquisition of a nuclear capability would likely have quite limited effects: “We do not believe that the explosion of a first device, or even the acquisition of a limited nuclear weapons capability, would produce major changes in Communist China’s foreign policy in the sense that the Chinese would adopt a general policy of open military aggression, or even become willing to take significantly greater military risks,” although it would “reinforce their efforts to achieve Asian hegemony through political pressures and the indirect support of local ‘wars of liberation.’” Regardless of whether China detonated a nuclear device, the report concluded that proliferation would remain rare: “India probably would not embark on a nuclear weapons program on the basis of a Chinese detonation of a nuclear device... Japan also

⁴³ Telegram From the Department of State to the Embassy in France, 1 January 1963, Kennedy Administration, *FRUS*, vol. xiii, doc. 262.

⁴⁴ Telegram From the Embassy in France to the Department of State, 4 January 1963, Kennedy Administration, *FRUS*, vol. xiii, doc. 263.

⁴⁵ Letter From the Deputy Director for Intelligence, Central Intelligence Agency (Cline) to the Director of the Arms Control and Disarmament Agency (Foster), 1 October 1962, Kennedy Administration, *FRUS*, vol. vii, doc. 234.

would feel an increased sense of pressure, but would be more reluctant than most other countries to develop a weapons capability.” Likewise, Germany was expected to remain non-nuclear.⁴⁶

The geopolitical effects of further proliferation were also judged to be quite limited: “In strictly military terms, the nuclear proliferation likely to occur over the next 10 years will almost certainly not upset global power relations nor do we believe it will produce major realignments in the relations of states.” While the report acknowledged “political and psychological effects” of proliferation and the possibility that a new nuclear state could spark “a local crisis,” this was balanced out by the fact that nuclear weapons “will almost certainly introduce a strong element of prudence into the calculations of regional enemies.” Likewise, while the risk of accidental nuclear use would increase with additional proliferation, “the major nuclear powers would react cautiously to such an accident.”⁴⁷ In sum, the estimate suggested that proliferation was likely to be limited, domino effects weak, and the geopolitical effects of proliferation highly restricted. These relatively optimistic views of proliferation would soon be altered as a nuclear-capable Communist China became more imminent.

1964-1968

As 1964 began, US policy under the newly inaugurated Johnson administration remained much the same as it had been under Kennedy. In fact, Johnson was more committed to the MLF than Kennedy, which put a major roadblock in the way of a nonproliferation treaty.⁴⁸ Illustrating the continued ambivalence toward nonproliferation at the outset of the Johnson administration, in June 1964 Rusk inquired in a meeting of top defense and foreign policy officials, “whether the

⁴⁶ National Intelligence Estimate, 28 June 1963, Kennedy Administration, *FRUS*, vol. vii, doc. 301.

⁴⁷ *Ibid.*

⁴⁸ Brands, “Non-Proliferation and the Dynamics of the Middle Cold War,” 399.

Government has seriously looked at the problem of giving India nuclear weapons in the event that China had such a weapon...He pointed out that no Government position exists as to whether we would oppose other nations having nuclear weapons once China obtains them.”⁴⁹ However, partly in anticipation of China’s first nuclear test, and particularly in its aftermath, US policymakers began advocating much more serious steps in favor of nonproliferation, a shift that was largely based on the fears of nuclear domino effects that the Chinese test stimulated.

In April 1964, Johnson overturned Kennedy’s policy on aiding France’s nuclear program, ordering in NSAM 294 that “effective controls be established immediately” to ensure that the United States not “contribute to or assist in the development of a French nuclear warhead capability or a French national strategic nuclear delivery capacity.”⁵⁰ By August, the ACDA completed a position paper that argued an imminent Chinese nuclear test demanded a stronger nonproliferation policy. In contrast to the 1963 National Intelligence Estimate, this paper took a gloomy view and explicitly focused on the likelihood of domino effects:

There are today at least three or four states in addition to the nuclear powers which could make a national decision to produce nuclear weapons with assurance that they have the national capability to support this decision...The detonation of a nuclear device by the Chinese Communists will place great pressure on these countries to make a national decision to develop nuclear weapons in some cases for reasons of security, and in other cases for reasons of prestige. Because of regional rivalries a national decision by any of these countries may force other countries perhaps technically less qualified to make a similar national decision to engage in an all-out effort to acquire nuclear weapons either by development or by other means. Once this process starts it may be impossible to halt...If we do not solve this problem—either because of mistake or because of delay—we will soon be faced with a world in which there are ten and then possibly twenty states having national nuclear capabilities. This would be a world of the greatest danger and insecurity.⁵¹

⁴⁹ Memorandum of Conversation, 16 June 1964, Johnson Administration, *FRUS*, vol. xi, doc. 36.

⁵⁰ National Security Action Memorandum No. 294, 20 April 1964, Johnson Administration, *FRUS*, vol. xii, doc. 30.

⁵¹ Draft Position Paper, 14 August 1964, Johnson Administration, *FRUS*, vol. xi, doc. 44.

In view of these dangers, the paper recommended that the United States strengthen its efforts to prevent further proliferation. In terms of specific actions, the report suggested (1) bilateral efforts to dissuade states from pursuing nuclear weapons, (2) restrictions on the export of sensitive nuclear technology, (3) concluding a nonproliferation treaty with the USSR, and (4) seeking to gain widespread political support for such an agreement so that states would be deterred from pursuing nuclear weapons even before a treaty was concluded. With respect to the MLF, the paper recommended providing the Soviets with a letter assuring that the MLF would not result in additional states having independent control of nuclear weapons and that the United States would work to obtain commitments from NATO allies that they would acquire their own nuclear capabilities.⁵² Even though China had not yet gone nuclear, it was the *anticipation* that this would soon occur and would cause domino effects that drove the policy recommendations.

In late August, Rusk established a committee headed by Llewellyn Thompson to produce a plan for “further action that should be taken by the US to prevent the further proliferation of national nuclear weapons capabilities” in anticipation of an imminent Chinese nuclear test.⁵³ The day after the committee was commissioned, Thompson sent a memo to Rusk noting his disagreement with key portions of the ACDA paper. While admitting that, “The ACDA draft position paper marks a substantial step forward,” he raised three problems, most notably, the “decision now to place sharp constraints and conditions on the MLF, and so to inform the Soviet leaders.”⁵⁴ In other words, there remained disagreement on whether aspects of the MLF should be sacrificed in favor of a broad nonproliferation agreement.

⁵² Ibid.

⁵³ Editorial Note, Johnson Administration, *FRUS*, vol. xi, doc. 45.

⁵⁴ Memorandum From the Acting Deputy Under Secretary of State for Political Affairs (Thompson) to Secretary of State Rusk, 25 August 1964, Johnson Administration, *FRUS*, vol. xi, doc. 46.

The first Chinese nuclear test of October 16, 1964 greatly increased the perceived urgency of nonproliferation, particularly for President Johnson, who suggested to National Security Advisor McGeorge Bundy, “we should get a higher-level, harder look at the problem of nuclear spread.” The result was the creation of the Task Force on Nuclear Proliferation, headed by former Deputy Secretary of Defense Roswell Gilpatric, which became better known as the Gilpatric Committee.⁵⁵ Two days before the Committee was officially appointed, Secretary of State Rusk again noted that the United States should favor nonproliferation but that, “He could conceive of situations where the Japanese or Indians might desirably have their own nuclear weapons” and stated that “he had asked a committee to investigate inter-Asian security problems, giving consideration to a US-supplied Far Eastern nuclear stockpile.”⁵⁶ On November 25, the White House issued NSAM 320, which announced the creation of the Gilpatric Committee, to whose work, “The President assigns great importance.”⁵⁷

Three days later, Thompson reiterated his opposition to the ACDA position on the MLF in a memo to the ACDA director, citing Rusk’s idea of providing nuclear weapons to Asian states as partial justification: “I do not think that such an assurance would change the attitude of the Soviets at this time and it would block any possibility of an Asiatic MLF before such an institution has been seriously examined.”⁵⁸ Indeed, in the opening meeting of the Gilpatric Committee, Gilpatric noted, “The question has been raised within the Government whether nuclear proliferation may not be inevitable and in some cases even desirable.”⁵⁹

⁵⁵ Editorial Note, Johnson Administration, *FRUS*, vol. xi, doc. 49.

⁵⁶ Memorandum of Conversation, 23 November 1964, Johnson Administration, vol. xi, doc. 50.

⁵⁷ National Security Action Memorandum No. 320, 25 November 1964, Johnson Administration, *FRUS*, vol. xi, doc. 51.

⁵⁸ Memorandum From the Ambassador at Large (Thompson) to the Acting Director of the Arms Control and Disarmament Agency (Fisher), 28 November 1964, Johnson Administration, *FRUS*, vol. xi, doc. 52.

⁵⁹ Committee on Nuclear Proliferation, Minutes of Discussion, First Meeting, 1 December 1964, DNSA, NP1064.

As Gavin has documented, the Gilpatric Committee considered four broad options for US nonproliferation policy: (1) “permissive or selective proliferation,” which assumed further nuclear capabilities were either impossible to halt or beneficial in certain cases; (2) the currently existing “prudent” policy which opposed proliferation when it was relatively cheap to do so; (3) an enhanced nonproliferation policy that involved accepting “substantial costs and risks” for the sake of preventing proliferation; and (4) a radical shift that would make nonproliferation the highest priority of US foreign policy, including efforts to roll back existing arsenals.⁶⁰

Three days later, Gilpatric sent a memo to several members of the committee describing his initial thoughts on the topic. The memo made a forceful argument against the United States aiding or allowing proliferation in any country because of the likelihood of nuclear domino effects, with Gilpatric contending, “To make exceptions in special cases would frustrate the entire objective of such a policy.” Gilpatric warned that that allowing India to proliferate could cause Pakistan to do the same, which in turn could spur Egyptian and then Israeli proliferation. Permitting a Japanese arsenal, meanwhile, could cause Germany and Italy to go nuclear. On the problem of the MLF, Gilpatric noted that, “to make any headway against the further spread of nuclear arms, the MLF must either become a *fait accompli*, be abandoned or be shelved indefinitely.” Gauging the possible reaction to abandoning the MLF, Gilpatric argued that extreme German dependence on the United States would allow US policymakers to deter a West German nuclear weapons program.⁶¹

Soon thereafter, a State Department position paper directly challenged the argument that proliferation was inevitable and highlighted the probability of domino effects. The paper contended, “proliferation may not now be inevitable but soon will be if we do not act promptly,”

⁶⁰ Gavin, “Blasts from the Past,” 109.

⁶¹ Tentative Thoughts on Certain Proliferation Problems, 4 December 1964, *DNSA*, NP01058.

that “even a small chance of halting proliferation may be worth a dozen MLFs,” and that, “a nuclear decision taken somewhere is necessarily felt everywhere.” Echoing Gilpatric, the paper predicted that an Indian bomb would cause a Pakistani nuclear program, while Indian and Japanese arsenals would lead to Indonesian and Australian bomb programs. These decisions would then reverberate and cause proliferation in the Middle East and Europe.⁶² In December, President Johnson expressed his newfound commitment to nonproliferation to the Soviet Foreign Minister, Andrei Gromyko, remarking, “we were anxious to avoid a situation where others might follow in the footsteps of the Chinese. We were doing all we could to discourage others from embarking upon a nuclear weapons program.”⁶³

In contrast to this position, Under Secretary of State George Ball backed the ideas of Secretary Rusk when he met with Gilpatric on December 14, strongly supporting the MLF and suggesting a similar arrangement for Asia. Ball was skeptical of the overall value of a nonproliferation treaty, did not believe the MLF would threaten nonproliferation, and raised the possibility of a “pool of nuclear weapons which could be drawn upon by India or Japan for use by their dual purpose delivery vehicles.” In supporting the importance of the MLF, Ball argued, “We cannot make the Germans into second-class citizens. We cannot subject them to a discriminatory state of original sin.”⁶⁴ While less enthusiastic about the MLF, Secretary McNamara also expressed support to Gilpatric for an Asian multilateral nuclear force.⁶⁵ John McCloy, a member of the Committee and chairman of the Council on Foreign Relations, likewise warned that abandoning the MLF could cause the West Germans, “to look East and deal with the Soviets on their own,” and argued that the MLF was necessary for the strength of

⁶² Problems of Nuclear Proliferation Outside Europe, 7 December 1964, *DNSA*, NP01063.

⁶³ Memorandum of Conversation, 9 December 1964, Johnson Administration, *FRUS*, vol. xi, doc. 54.

⁶⁴ Quoted in Gavin, “Blasts from the Past,” 113.

⁶⁵ *Ibid.*, 114.

NATO and to prevent national proliferation.⁶⁶ Walt Rostow, the director of the State Department's Policy Planning staff, joined the pro-MLF chorus, advocating to the Gilpatric Committee, "a country-by-country approach to nonproliferation, including a renewed push for the MLF, an increased commitment to the defense of Southeast Asia, and possibly even an Asian MLF designed to satisfy nuclear ambitions among US allies in the Pacific."⁶⁷

By mid-December, Johnson had begun to move toward the position of the nonproliferation advocates with respect to the MLF, directing in NSAM 322 that, "I do not wish any American official...to press for a binding agreement at this time," that "Any agreement we support must be a reinforcement to our basic policy of non-dissemination of nuclear weapons" and that any MLF arrangement "must provide for United States' consent to the firing of the nuclear weapons." Ideally, the MLF would be designed in order to "lead the U.K. out of the field of strategic deterrence...greatly reduce the danger of any separate nuclear adventure by the Germans; and...advance the principle and practice of collective strategic defense, as against the proliferation of separate nuclear deterrents."⁶⁸

In early January, a Gilpatric Committee internal paper outlined a "philosophical framework" for the third policy option: the significantly enhanced nonproliferation policy that the Committee would ultimately recommend. The paper warned that, "a multipolar nuclear-armed world will be both more complex and less stable politically and militarily, fragmenting the massive US-Soviet confrontation that has hitherto inhibited violent and revolutionary change. Ambitious and insecure nations will be tempted to play off each other and the major powers, in the hope of expanding their influence while escaping retaliation." Highlighting the risk of

⁶⁶ Hal Brands, "Rethinking Nonproliferation: LBJ, the Gilpatric Committee, US National Security Policy," *Journal of Cold War Studies* 8, No. 2 (2006): 94-95.

⁶⁷ *Ibid*, 95.

⁶⁸ National Security Action Memorandum No. 322, 17 December 1964, Johnson Library. <http://www.lbjlib.utexas.edu/johnson/archives.hom/NSAMs/nsam322.asp>.

nuclear dominoes, the paper continued, “When Nation A (India) gets nuclear weapons, its neighbor (Pakistan), will feel it must get them; Nation C (Germany) will be unable to exist without them. As political restraints on acquisition evaporate, the ability of the US to provide security for nations now under its umbrella will decline, aggressive new nationalisms will assert themselves, and we will live in a volatile, unrestrained world, ripe to indulge its hostilities against the US and its allies and ultimately capable of doing so.” Noting that the United States and USSR both have “much to lose” from further proliferation, the paper proposed a “Twentieth Century version of the ‘The Concert of Europe’...in which the US, Europe, and the USSR reach agreement on a limited objective—their common interest in preventing the turmoil of the non-European world from threatening their security.” The Soviets, according to the paper, had a strong interest in avoiding “simultaneous encirclement” by a nuclear-armed China and West Germany, while the United States “needs a way to strengthen its deterrent of China and maintain European stability.”⁶⁹

A few days later, Secretary Rusk and several other high-ranking officials met with the Gilpatric Committee to discuss policy options. Rusk held firm to his position that nonproliferation was best served by providing other countries with access to US nuclear weapons. As he put it, “it is easy for the US to speak out against proliferation, but the Prime Minister of India or Japan must look on the question quite differently. The problem of alternatives to national nuclear proliferation arises...An Asian nuclear defense community, perhaps with a US nuclear stockpile available for it to draw upon, may be one solution.” In response to a question from Gilpatric, Rusk—backed by George Ball—argued that in the absence of the MLF, Germany would likely seek its own nuclear arsenal, or a joint Franco-German

⁶⁹ A Philosophical Framework for Course III, 4 January 1965, *DNSA*, NP01091.

nuclear force. Making his point more forcefully later in the meeting, Rusk stated that, “Non-proliferation is not the overriding element in US relations with the rest of the world. In individual cases—e.g., the UAR/Israel—it could become dominant.” Raising the problem of nuclear domino effects, Gilpatric responded by questioning, “how we can approach the problem on a case-by-case basis when each case has so much impact on others.”⁷⁰

Breaking ranks with Rusk, Ball, and his own previous position, Secretary of Defense Robert McNamara gave a briefing on the same day that strongly endorsed Gilpatric’s strict nonproliferation stance, calling for “a broad nonproliferation agreement, a comprehensive nuclear test ban, possible reductions or freezes in the size of the US strategic arsenal, and security guarantees to potential proliferators.”⁷¹ Like Gilpatric, McNamara’s position was largely based on fears of nuclear domino effects: he had determined “that ‘selective proliferation,’ as he characterized the MLF, would prove impossible to control,” as “others would follow the example” of a German nuclear capability, multinational or otherwise.⁷² The following day, Gilpatric reiterated his “preference for a world with a limited number of nuclear powers, finding it implausible that additional proliferation could be compartmentalized, quarantined, or regionalized and comparing the consequences for the world of the Sarajevo incident.” Gilpatric worried that proliferation in Asia could ultimately lead the US to become involved in nuclear war involving China, Japan, or India.⁷³

The following day, John McCloy sent a letter to Gilpatric expressing his support for the positions of Rusk and Ball. He argued that the United States would have to pay a stiff price if it abandoned the MLF and that “the risks we run on that score, at least equal, if they do not exceed,

⁷⁰ Memorandum of Conversation, 7 January 1965, Johnson Administration, *FRUS*, vol. xi, doc. 59.

⁷¹ Brands, “Rethinking Nonproliferation,” 98.

⁷² *Ibid.*

⁷³ Minutes of Discussion, 7-8 January 1965, Johnson Administration, *FRUS*, vol. xi, doc. 60.

those that we risk with the proliferation of nuclear weapons.” Asserting that the US government, “has lost sight of the deep significance of the [NATO] Alliance and of the concept of collective security for the Atlantic World,” McCloy argued that the increasingly lukewarm US attitude toward the MLF had reinforced De Gaulle’s independent stance, undermined German resolve, increased the risks of a German nuclear arsenal, with the ultimate result that, “The possibility of confronting the Soviets and the Chinese with a convincingly solid Western front...is diminishing with every day that goes by.” Echoing Ball, McCloy warned, “The Germans must be given a position of equality with the other Western powers if they are not, in due course, to go off on another nationalist adventure.” The letter concluded that the United States should finalize the MLF or else it risked “losing both the essence of the Alliance and non-proliferation.”⁷⁴

On January 21, 1965 the Gilpatric Committee completed its report and presented its findings to President Johnson and his close advisers. In contrast to the positions of Rusk, Ball, and McCloy, the report strongly endorsed a strict US nonproliferation policy. As Bundy wrote to President Johnson, “The committee comes down hard on one side of this tough question, and at least one of your advisers—Dean Rusk—has real doubts about its recommendations.”⁷⁵ According to Brands, the late briefing by McNamara proved decisive in convincing the committee to adopt this position.⁷⁶ The core thrust of the Committee’s findings, stated in the report’s second paragraph, was as follows:

As a result of our study...the Committee is now unanimous in its view that preventing the further spread of nuclear weapons is clearly in the national interest despite the difficult decisions that will be required. We have concluded, therefore, that the United States must, as a matter of great urgency, substantially increase the scope and intensity of our efforts if we are to have any hope of success. Necessarily, these efforts must be of three kinds: (a) negotiation of formal

⁷⁴ Memorandum for the Chairman, 8 January 1965, *DNSA*, NP01094.

⁷⁵ Editorial Note, Johnson Administration, *FRUS*, vol. xi, doc. 63.

⁷⁶ Brands, “Rethinking Nonproliferation,” 98.

multilateral agreements; (b) the application of influence on individual nations considering nuclear weapons acquisition, by ourselves and in conjunction with others; and (c) example by our own policies and actions.⁷⁷

The specific policies the Gilpatric Committee recommended included a nonproliferation treaty negotiated with the Soviets, a comprehensive test ban treaty, regional nuclear-free zones, efforts to limit the spread of sensitive nuclear technologies, and the use of security guarantees and sanctions to influence the calculus of states considering nuclear weapons development. Perhaps more controversially, the committee recommended that the United States oppose the independent French arsenal, limit the MLF plan to ensure a US veto over any firing of nuclear weapons, emphasize to the Soviets that the MLF would preclude proliferation amongst NATO members and may result in the UK giving up its independent deterrent, and communicate to West Germany that a decision to go nuclear would lead the United States to withdraw its troop commitments. The committee also recommended that the United States downgrade the role of nuclear weapons in its own defense posture—in stark contradiction to Rusk's preferences—on the grounds that this would decrease the perceived importance of nuclear weapons and thereby reduce the incentives for additional countries to acquire them.⁷⁸

The rationale for the Gilpatric Committee's strong stance on nonproliferation was threefold: (1) nuclear proliferation threatened the United States geopolitically, (2) the increased likelihood of nuclear domino effects emanating from the Chinese nuclear test made it essential to act quickly and apply nonproliferation policies evenly to all countries, and (3) a strong US effort was necessary to limit proliferation and had a good chance of succeeding, particularly with the cooperation of the Soviet Union and other countries.

⁷⁷ Report by the Committee on Nuclear Proliferation, 21 January 1965, Johnson Administration, *FRUS*, vol. xi, doc. 64.

⁷⁸ *Ibid.*

On the first count, the committee judged that, "New nuclear capabilities, however primitive and regardless of whether they are held by nations currently friendly to the United States, will add complexity and instability to the deterrent balance between the United States and the Soviet Union, aggravate suspicions and hostility among states neighboring new nuclear powers, place a wasteful economic burden on the aspirations of developing nations, impede the vital task of controlling and reducing weapons around the world, and eventually constitute direct military threats to the United States." It was expected that, "As additional nations obtained nuclear weapons, our diplomatic and military influence would wane, and strong pressures would arise to retreat to isolation to avoid the risk of involvement in nuclear war."

Second, and perhaps most importantly, the committee determined that the risk of nuclear domino effects following the Chinese test made it essential act quickly and prevent proliferation even in countries that were allies or shared enemies with the United States. In discussing these dangers, the report identified multiple mechanisms by which these domino effects could occur:

The world is fast approaching a point of no return in the prospects of controlling the spread of nuclear weapons... The recent Chinese Communist nuclear explosion has reinforced the belief, increasingly prevalent throughout the world, that nuclear weapons are a distinguishing mark of a world leader, are essential to national security, and are feasible even with modest industrial resources. The Chinese Communist nuclear weapons program has brought particular pressure on India and Japan, which may both be approaching decisions to undertake nuclear weapons programs. Although one might be tempted to accept Indian or Japanese nuclear weapons to counterbalance those of China, we do not believe the spread of nuclear weapons would or could be stopped there. An Indian or Japanese decision to build nuclear weapons would probably produce a chain reaction of similar decisions by other countries, such as Pakistan, Israel and the UAR. In these circumstances, it is unrealistic to hope that Germany and other European countries would not decide to develop their own nuclear weapons. We are convinced, therefore, that energetic and comprehensive steps must be taken in the near future to discourage further acquisition of nuclear weapons capabilities or an

accelerating increase in the number of nations engaged in nuclear weapons programs will occur—possibly beginning within a matter of months.⁷⁹

Finally, the committee determined that strong US efforts stood a good chance of success, in no small part because the Soviet Union and other states similarly were threatened by proliferation. This justified a major US effort since, “The rewards of long-term success would be enormous; and even partial success would be worth the costs we can expect to incur.”⁸⁰

Although there has been debate among historians about whether President Johnson accepted the conclusions of the Gilpatric Committee,⁸¹ recent research suggests he did, in deeds if not in words. After some initial delay, in June 1965 Johnson approved NSAM 335, which ordered the ACDA to develop a “program for preventing the further spread of nuclear weapons.”⁸² The NSAM was significant not only because it explicitly asked for a plan to prevent proliferation, but also because it put the ACDA in charge of nonproliferation, an agency known to favor the conclusions of the Gilpatric Committee; indeed, Bundy and Johnson went to the effort of revising the original NSAM draft to give the ACDA a stronger role.⁸³

By 1966, the US government had down-weighted the MLF plan, convinced West Germany to accept an increased role in nuclear planning in lieu of multilateral control of nuclear weapons, and made clear to the Soviet Union that it was willing to compromise in order to conclude a nonproliferation treaty—shifts that were largely spurred by the fact that it “appeared that the ‘chain reaction’ predicted by Gilpatric had begun. India seemed headed toward a nuclear capability, stoking fears that Pakistan, Israel... and eventually West Germany would follow.”⁸⁴

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ See Gavin, “Blasts from the Past,” 130.

⁸² National Security Action Memorandum No. 335, 28 June 1965, Johnson Administration, *FRUS*, vol. xi, doc. 84.

⁸³ Brands, “Rethinking Nonproliferation,” 106.

⁸⁴ Brands, “Non-Proliferation and the Dynamics of the Middle Cold War,” 404-408.

For example, in discussions over a nonproliferation treaty in August 1965, the Deputy Director of ACDA, Adrian Fisher, observed, “our most immediate problem was with India,” an opinion that McGeorge Bundy echoed.⁸⁵ In October 1965, during negotiations with Soviet Foreign Minister Gromyko, Rusk suggested coordinating policies with the USSR to prevent Egyptian and Israeli proliferation and expressed concern over India’s response to the Chinese nuclear test, as well as the possibility that China would deliberately encourage other states to go nuclear, perhaps by providing technical support to countries like Indonesia.⁸⁶ By November, with the FRG leadership sensing that the MLF was going nowhere, McGeorge Bundy wrote to President Johnson identifying “an opportunity for a real Johnson break-through here...the way might be open toward a non-proliferation treaty and toward a new collective arrangement for command control and consultation in NATO.”⁸⁷

A January 1966 National Intelligence Estimate concluded that India was the only state likely to pursue nuclear weapons in the near future but noted that Israel and Sweden were possible contenders as well. Explicitly discussing the probability of domino effects, the report judged that, “In the longer run...Indian or Israeli possession of nuclear weapons would cause Pakistan and the UAR to seek them. It would also increase doubts in other nations about the feasibility of non-proliferation or comprehensive test ban treaties. This in turn would tend to weaken some of the restraints presently operating in other countries such as Sweden.”⁸⁸

⁸⁵ Minutes of Meeting of the Committee of Principals, 25 August 1965, Johnson Administration, *FRUS*, vol. xi, doc 93.

⁸⁶ Memorandum of Conversation, 1 October 1965, Johnson Administration, *FRUS*, vol. xi, doc. 97.

⁸⁷ Memorandum From the President’s Special Assistant for National Security Affairs (Bundy) to President Johnson, 25 November 1965, Johnson Administration, *FRUS*, vol. xi, doc. 102.

⁸⁸ National Intelligence Estimate, “The Likelihood of Further Nuclear Proliferation,” NIE 4-66, doc. 1, 20 January 1966, in William Burr, “China May Have Helped Pakistan Nuclear Weapons Design, Newly Declassified Intelligence Indicates,” *NSA, EBB no. 423*.

By the middle of 1966, growing evidence that India was going nuclear—a direct domino effect spurred by the Chinese test—convinced high level policymakers to make a final push to conclude a nonproliferation treaty. In June, Secretary McNamara wrote to Rusk, “the growing pressures for proliferation in India indicates that we should reconsider our position on the nonproliferation treaty. I suggest that we consider language in our draft treaty which would make clear that the United States and other nuclear powers would each maintain a veto over its weapons.”⁸⁹ Two days later, at a National Security Council Meeting, President Johnson opened the discussion by echoing McNamara’s opinion and emphasizing “the urgency of some action in connection with the possibility of India making a decision to go nuclear... this had great significance for the United States and the world and might, if India made such a decision, promote great instability in view of the fact that others would undoubtedly follow.”⁹⁰ In September 1966, Rusk argued to Gromyko that, “The longer we delayed the more difficult it would become to get other countries to join in the [nonproliferation] treaty. The Secretary was not thinking so much of the FRG in this respect as of other non-nuclear-weapon states such as Japan, India, Israel and others. It was important and urgent to act now, before the horse escaped the stable; then it would be too late to close the door.”⁹¹ Contrary to the arguments of Trachtenberg that US nonproliferation policy was entirely focused on China and West Germany then, there is ample evidence that the United States was worried about a wide variety of other states going nuclear as well, and that this was likely to occur in a series of domino effects.

As a replacement for the MLF, the United States spearheaded the creation of the Nuclear Planning Group (NPG) in NATO, which McNamara approvingly noted in December 1966 “will

⁸⁹ Letter From Secretary of Defense McNamara to Secretary of State Rusk, 7 June 1966, Johnson Administration, *FRUS*, vol. xi, doc. 135.

⁹⁰ Memorandum for the Files, 9 June 1966, Johnson Administration, *FRUS*, vol. xi, doc. 136.

⁹¹ Memorandum of Conversation, 24 September 1966, Johnson Administration, *FRUS*, vol. xi, doc. 153.

end talk of the Multilateral Force.”⁹² Formally established in 1967, the NPG “marked an important turning point in the politics of alliance nuclear policy-making,” as a “system of allied ownership and control of nuclear weapons was effectively abandoned in favour of a consultative approach to allied nuclear policy.”⁹³ In April 1967, Secretary McNamara assured Soviet Ambassador Anatoly Dobrynin that the NPG would preclude NATO allies from having independent control over nuclear weapons and also “emphasized the steps we had taken to prevent...unauthorized use of such weapons.”⁹⁴

As Brands summarizes, “In intellectual terms, nonproliferation policy from June 1965 through the end of Johnson’s presidency bore a close resemblance to the basic tenets of the Gilpatric Report. Operating on the premise that the spread of nuclear weapons was uncontrollable once started, the administration took an aggressive position on the issue.”⁹⁵ By the end of 1966, a tentative agreement on the NPT was reached with the Soviets,⁹⁶ and by 1968 the treaty was opened for signature, laying the groundwork for the nonproliferation regime.

The Role of Nuclear Domino Fears vs. Existing Explanations

The evidence presented above strongly suggests that nuclear domino fears inspired by the Chinese nuclear capability were crucial to the shift in US policy from 1964-1968, specifically in that it convinced the US government to adopt an across-the-board nonproliferation policy rather than the previous selective approach. The bureaucratic actors that most strongly supported the

⁹² Summary Notes of the 566th Meeting of the National Security Council, 13 December 1966, Johnson Administration, *FRUS*, vol. xiii, doc. 226.

⁹³ Paul Buteux, *The Politics of Nuclear Consultation in NATO, 1965-1980* (Cambridge: Cambridge University Press, 1983), 60.

⁹⁴ Telegram from the President’s Special Assistant (Rostow) to President Johnson, in Texas, 15 April 1967, Johnson Administration, *FRUS*, vol. xi, doc. 195.

⁹⁵ Brands, “Rethinking Nonproliferation,” 107-108.

⁹⁶ Brands, “Non-Proliferation and the Dynamics of the Middle Cold War,” 408.

tightened US policy—the Gilpatric Committee, the ACDA, and Secretary of Defense McNamara—were all clearly motivated by these fears, each making explicit statements to the effect that domino effects made a selective approach untenable. Moreover, evidence that the domino effect was beginning in India reinforced the American commitment to concluding the NPT. As noted in Chapter 2, this dissertation is not incompatible with existing approaches that emphasize US power projection, fears of nuclear war, and influence over allies, although it does directly contradict the selective enforcement argument. Indeed, there is evidence suggesting that the former explanations played a role in US policymakers’ motivations—they simply do not explain the decision to adopt an across-the-board policy and/or the timing of policy changes.

First, in line with the power projection argument, the Gilpatric Committee report concluded that, “New nuclear capabilities, however primitive and regardless of whether they are held by nations currently friendly to the United States, will...aggravate suspicions and hostility among states neighboring new nuclear powers,” and that, “As additional nations obtained nuclear weapons, our diplomatic and military influence would wane.” These fears of conventional military instability and reduced US strategic influence are clearly consistent with Kroenig’s power-projection argument. So too is the Gilpatric Committee paper that warned the US has “much to lose from the increasing military capabilities of lesser powers,” and that nuclear proliferation would reduce, “the ability of the US to provide security for nations now under its umbrella” and allow, “ambitious and insecure nations...to play off each other and the major powers, in the hope of expanding their influence while escaping retaliation.” In contrast to prior intelligence estimates, US officials following China’s nuclear test were worried that a nuclear

capability would cause China to become more aggressive and thereby increase the dangers to US forces in Asia.⁹⁷

Second, there is evidence that fears of nuclear war motivated US nonproliferation policy. For example, the Gilpatric Committee report explicitly states that new nuclear arsenals would “add complexity and instability to the deterrent balance between the United States and the Soviet Union...eventually constitute direct military threats to the United States,” and that, “as additional nations obtained nuclear weapons...strong pressures would arise to retreat to isolation to avoid the risk of involvement in nuclear war.” Interestingly, however, while US officials were worried that China could become emboldened with its conventional and irregular forces, they did not believe that China’s nuclear capabilities would significantly increase the risk of nuclear war; as a 1964 Policy Planning Council report put it, “Their [nuclear] capability will be more important for its political-psychological than for its direct military effects—primarily because of the great disparity between US and Chinese nuclear capabilities and vulnerabilities. The Chinese could eventually do significant, but not crippling, damage to US forces in Asia, while the US will have the ability to destroy Communist China. This makes Chinese first-use of nuclear weapons unlikely—unless the regime were already threatened with destruction—and greatly reduces the credibility of its nuclear capability as a deterrent. A limited ChiCom [Chinese Communist] intercontinental capability would not eliminate this basic disparity.”⁹⁸

Third, there is some evidence to support the idea that US nonproliferation efforts were meant to prevent its allies from gaining autonomy. As noted above, the Gilpatric Committee warned that new nuclear capabilities would cause US diplomatic influence to decline and make

⁹⁷ See Gavin, “Blasts from the Past,” 104.

⁹⁸ Paper Prepared in the Policy Planning Council, undated, Johnson Administration, *FRUS*, vol. xxx, doc. 30.

maintaining the delicate balance between the Soviets and the United States more difficult. The Committee deliberations and final report also made clear that both French and British nuclear arsenals were viewed by some as undesirable impediments to firm US control in NATO. These worries about increased allied autonomy, however, existed before the Chinese nuclear test and had little relevance to China given its adversarial relations with the United States.

However, there is virtually no evidence to support the fourth alternative explanation—that US policy was motivated by a desire to weaken its enemies while strengthening its friends. While policymakers like Rusk, Ball, and McCloy saw significant benefits to arming friendly states with nuclear weapons as this argument would predict, this position clearly lost out. The Gilpatric Committee report and subsequent policy initiatives were clearly targeted at allied, enemy, and unaligned states; indeed, the United States deliberately down-weighted the MLF and even talked of pressing France and the UK to give up their independent nuclear arsenals.

The critical importance of nuclear domino fears is visible in the fact these fears played a crucial role in resolving the core disagreement within the US government that was holding up nonproliferation efforts: whether to support nonproliferation across the board or to support forms of selective proliferation (either in the MLF, in Asia, or elsewhere). While officials like Rusk, Ball, and McCloy felt that the MLF and other forms of selective proliferation were crucial to strengthening US alliances and could be contained, the argument that ultimately won the day—made most forcefully by Gilpatric himself, as well as McNamara—held that selective proliferation could not be contained precisely because of the likelihood of domino effects. As described above, Gilpatric argued, “to make exceptions in special cases would frustrate the entire objective of such a policy,” and found it “implausible that additional proliferation could be compartmentalized, quarantined, or regionalized.” Indeed, the Gilpatric Committee’s final report

explicitly stated that, “Although one might be tempted to accept Indian or Japanese nuclear weapons to counterbalance those of China, we do not believe the spread of nuclear weapons would or could be stopped there.” This conclusion is consistent with McNamara’s eventual belief that selective proliferation could not be controlled, which helped sway the Committee as a whole. The key role of nuclear domino fears is also evidenced by the fact that India’s nascent nuclear weapons program—which showed that the nuclear domino effect had begun—helped accelerate US nonproliferation efforts in 1965-66.

In sum, while maintaining US power-projection capability, fears of nuclear war, and the desire to limit allied autonomy all served as motivations for nonproliferation, nuclear domino fears were the crucial factor that changed in 1964, and that caused the US government to finally give up the selective proliferation schemes that had stood in the way of a comprehensive nonproliferation policy, most notably by scrapping of the MLF and finalizing the NPT.

1969-1973

When President Nixon entered the White House in 1969, he brought with him a different view on the dangers of proliferation and the value of the NPT when compared to his predecessor. In discussing the treaty at a National Security Council meeting soon after taking office in January 1969, Nixon observed that if “a country wanted to make their own weapons, then they could obviously abrogate the treaty without sanctions... Basically, I view the value of the treaty as its psychological impact.”⁹⁹ When National Security Advisor Henry Kissinger asked, “how much pushing would we do on others, especially the FRG,” to sign the NPT, Nixon replied that “he wanted it understood that there was to be no arm twisting of other states on the NPT issue,

⁹⁹ Minutes of National Security Council Meeting, 29 January 1969, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 5.

that it is completely up to them as to whether or not they follow US lead.” After the Secretary of State, William Rogers, cautioned, “we must be careful not to give the impression that we don't care whether they follow suit,” Nixon retorted, “this may be so but we will just state that we are hopeful that they will follow suit, without adopting heavy-handed tactics.”¹⁰⁰ It is not entirely clear what logic undergirded Nixon's ambivalent position on nonproliferation, although it was likely linked to his belief in the inevitability of further proliferation, as well as a desire to strengthen allies' self-defense capabilities, which was later expressed in the Guam Doctrine.¹⁰¹

Although Nixon made the decision to go forward with ratification of the NPT in February 1969,¹⁰² the White House insisted in a National Security Decision Memorandum (NSDM) that, “There should be no efforts by the US Government to pressure other nations, in particular the Federal Republic of Germany, to follow suit. The Government in its public posture should reflect a tone of optimism that other countries will sign or ratify, while clearly dissociating itself from any plan to bring pressure on these countries to sign or ratify.”¹⁰³ Soon thereafter, Nixon reached a secret deal with Israeli Prime Minister Golda Meir whereby the United States would cease pressuring Israel over its nuclear program in exchange for Israel agreeing to keep its nuclear capabilities secret and untested.¹⁰⁴ While in some sense this represented a slackening of nonproliferation policy, it was partially motivated by the recognition that Israel had already come too far in its nuclear activities and that keeping the capability secret would help to prevent

¹⁰⁰ Ibid.

¹⁰¹ See Francis Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca, NY: Cornell University Press, 2012), 117-118. For Nixon's remarks that introduced the Guam Doctrine, see <http://www.presidency.ucsb.edu/ws/?pid=2140>.

¹⁰² Ratification ultimately took place in March 1970, contemporaneously with the USSR.

¹⁰³ National Security Decision Memorandum 6, 5 February 1969, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 8.

¹⁰⁴ Avner Cohen, *The Worst-Kept Secret: Israel's Bargain with the Bomb* (New York: Columbia University Press, 2010): 25-27.

domino effects.¹⁰⁵ Perhaps as a result of this policy decision, Israel did not test despite developing nuclear weapons, which meant Nixon did not have to confront increased fears of domino effects until India's 1974 test. In March 1971, the Nixon White House issued NSDM 103, which directed that the government modify existing regulations in order to allow for the export of "advanced computers" for use in France's nuclear weapons program and authorized the provision of limited assistance to France's missile program.¹⁰⁶ In July of the same year, NSDM 124 authorized US aid to the British Super Antelope missile program.¹⁰⁷

In spite of Nixon's lukewarm attitude towards the NPT, important elements of the government bureaucracy remained committed and sought to convince important non-adherents to join the treaty. In May 1969, for example, the NSC Under Secretaries Committee recommended using inducements and persuasion to achieve Japanese, Argentine, Indian, Pakistani, and Australian signatures and ratification.¹⁰⁸ Moreover, the Nixon administration made significant efforts to convince West Germany to sign the NPT, itself critical to the Soviet interest in the treaty. This did not take the form of pressure but rather inducements and efforts to assuage a variety of German concerns about security commitments and commercial uses of atomic energy.¹⁰⁹ In the wake of West Germany's signature in November, the State Department continued its effort to expand NPT adherence, sending a telegram to all diplomatic posts emphasizing that, "US govt wishes to have NPT enter into force as soon as possible and to

¹⁰⁵ Ori Rabinowitz, "Washington's Deals on Nuclear Ambiguity; Not an Israeli Exception After All," Paper presented at the Nuclear Studies Research Initiative Conference, Cedar Creek, TX, October 17-19, 2013.

¹⁰⁶ National Security Decision Memorandum 103, 29 March 1971, Nixon-Ford Administrations, *FRUS*, vol. xli, doc. 153.

¹⁰⁷ National Security Decision Memorandum 124, 29 July 1971, Nixon-Ford Administrations, *FRUS*, vol. xli, doc. 345.

¹⁰⁸ National Security Council Under Secretaries Committee Decision Memorandum 7, 2 May 1969, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 22.

¹⁰⁹ See *FRUS*, Nixon-Ford Administration, vol. E-2, docs. 24, 26, 28, 30-34, 36-39.

encourage states which have not done so to ratify the treaty as soon as political or constitutional considerations permit them to take this decision.”¹¹⁰

Both the State Department and ACDA attempted to convince the White House to put pressure on Japan to ratify the NPT. As Kissinger prepared to visit Japan in the summer of 1972, the Acting Director of ACDA, Philip Farley, urged Kissinger, “to reaffirm US support for the Nuclear Non-Proliferation Treaty and our interest in Japanese adherence thereto.” In support of this position, Farley cited the general US interest in nonproliferation, the political importance of the treaty’s success, the necessity to maintain US-Soviet cooperation on arms control, and “persistent reports from diplomatic sources that the Japanese are under the impression that the US is no longer particularly interested in their adherence to the NPT.”¹¹¹ In June, the Under Secretary of State for Political Affairs, U. Alexis Johnson, made a similar case to Kissinger, noting that Japanese adherence could “have highly beneficial effects on progress toward wider acceptance of the NPT by other ‘threshold’ countries.”¹¹²

When Nixon and Kissinger met a week later, Nixon made it clear that he considered the NPT an unwelcome product of the Johnson Administration, asserting, “I supported nonproliferation because we had to.” After Kissinger raised the fact that State Department was “bugging the daylight out of me” to “squeeze the Japanese government” on the NPT, Nixon replied, “I hope you didn’t,” to which Kissinger responded, “I didn’t... I told Sato and Fukuda privately that what you said in San Clemente is our policy.” In San Clemente in January 1972, Japanese Prime Minister Sato asked Nixon whether Japan should quickly ratify the NPT and

¹¹⁰ Telegram 200453 from the Department of State to All Diplomatic Posts, 2 December 1969, 2013Z, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 42.

¹¹¹ Memorandum From the Acting Director of the Arms Control and Disarmament Agency (Farley) to the President’s Assistant for National Security Affairs (Kissinger), 10 April 1972, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 55.

¹¹² Letter From the Under Secretary of State for Political Affairs (Johnson) to the President’s Assistant for National Security Affairs (Kissinger), 7 June 1972, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 57.

Nixon had responded, "It is not a matter for us to decide and we respect the right of each nation to decide for itself in the light of its own desires. The United States...is not exerting pressure. In fact...Japan might take its time and thus keep any potential enemy concerned." Nixon told Kissinger that, "the Nonproliferation Treaty has nothing to do with the security of the United States of America," which Kissinger observed was "made at the expense of other countries."¹¹³ White House views on this issue were well known and resented in the State Department. As Under Secretary of State for Political Affairs, Joseph Sisco, observed in a meeting two years later, "we used to take the lead in trying to get adherence to the NPT. I think we have relaxed on this in a fashion which frankly I have not liked. I think we should have been proceeding more vigorously in this regard."¹¹⁴

In July 1972, responding to intelligence reports that India was moving towards testing a nuclear device, the White House issued National Security Study Memorandum (NSSM) 156, which ordered the government to conduct a study on the consequences of Indian proliferation and possible US policy responses.¹¹⁵ When State Department officials met in early August to discuss these issues, they concluded that the US interest in nonproliferation in this case was "important but not overriding, especially as our influence was limited." The officials agreed that the United States should work to delegitimize the concept of peaceful nuclear explosions (PNEs) and impress on India the high costs of building a nuclear arsenal. While the officials felt that an Indian nuclear test could stimulate further proliferation, it was the consensus that "the idea of 'sanctions' was too strong" as a response to an Indian nuclear test. According to Joseph Sisco, at

¹¹³ Conversation Between President Nixon and his Assistant for National Security Affairs (Kissinger), 13 June 1972, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 58.

¹¹⁴ Transcript, Under Secretary Sisco's Principals' and Regionals' Staff Meeting, doc. 3, 21 June 1974, in William Burr, "Declassified Documents Show Henry Kissinger's Major Role in the 1974 Initiative That Created the Nuclear Suppliers Group," *NSA, EBB no. 467*.

¹¹⁵ National Security Study Memorandum 156, 5 July 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 275.

that time the Assistant Secretary of State for Near East and South Asian Affairs, “We need to weigh very carefully the impact of what we do on US-Indian relations.”¹¹⁶

A National Intelligence Estimate released a few days later concluded that the United States had little leverage over India on the nuclear issue and that an Indian test would have limited domino effects: “given present Indian resentment of US policies, unilateral pressures by the US would probably prove counterproductive.” In contrast to the State Department officials, the estimate expressed “doubt” that an Indian test “would have a determining effect on whether any other non-nuclear power... goes nuclear or not.”¹¹⁷ This conclusion stood in contrast to the opinion of the Assistant Secretary of Defense for International Security Affairs, Warren Nutter, who had warned in February that an Indian test “would set off a chain reaction,” possibly leading Pakistan, Iran, and Arab states to go nuclear, and Israel to openly declare its capabilities.¹¹⁸

In September 1972, the official response to NSSM 156 came to an optimistic conclusion, predicting that an Indian test on its own, “would not prompt other near-nuclear powers to follow suit.” Acknowledging that the general US interest in nonproliferation, the report noted, “Additional interests are our desire for a stable South Asia, and our wish to develop mutually satisfactory relations with India. Since an Indian nuclear decision would probably conflict with all three interests, our objective should be to do what we can to avert or delay an Indian test and, if these efforts fail, to limit the harmful repercussions.” Echoing the National Intelligence Estimate, the report concluded that the United States had little leverage with which to shape

¹¹⁶ Memorandum for the Record, 1 August 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 296.

¹¹⁷ Special National Intelligence Estimate 31'72, 3 August 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 298.

¹¹⁸ Memorandum From the Assistant Secretary of Defense for International Security Affairs (Nutter) to Secretary of Defense Laird, 4 February 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 222.

Indian behavior, although it conceded that, “apparent US acquiescence” to an Indian nuclear capability could lead other states to infer that they would face no penalties for going nuclear.¹¹⁹

Given the Nixon Administration’s conflicting desires to maintain positive relations with India while supporting nonproliferation, as well as the belief of limited US leverage, US policy under Nixon was effectively contained to suggesting to India that developing nuclear weapons was prohibitively expensive, reminding India that a nuclear test using plutonium from the Canadian-built CIRUS reactor (which operated with US-supplied heavy water) would be considered a breach of the nuclear cooperation agreement between the two countries, and encouraging Canada to similarly warn India about an end to nuclear cooperation.¹²⁰ This concern about the spread of sensitive fissionable material was underlined in NSDM 235, issued in October 1973, which concluded that future transfers of highly-enriched uranium should require more stringent conditions and that adherence to the NPT should play a role in determining a country’s eligibility.¹²¹ In March 1974, two months before the Indian test, the State Department completed an “Action Plan” for implementing the decisions in NSDM 235, which foreshadowed the Nuclear Suppliers Group and recommended international negotiations on restricting the spread of highly enriched uranium and plutonium.¹²²

¹¹⁹ Response to National Security Study Memorandum 156, 1 September 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 300.

¹²⁰ Perkovich, *India’s Nuclear Bomb*, 159.

¹²¹ National Security Decision Memorandum 235, 4 October 1973, *Nixon Library*, <http://www.nixonlibrary.gov/virtuallibrary/documents/nationalsecuritydecisionmemoranda.php>.

¹²² Report, National Security Council Under Secretaries’ Committee, “Action Plan for Implementing NSDM 235,” doc. 1A, 25 March 1974, in “Declassified Documents Show Henry Kissinger’s Major Role,” *NSA, EBB no. 467*.

1974-1978

India's first nuclear test on May 18, 1974 forced the Nixon Administration to reassess its ambivalent nonproliferation policy. On the day of the test itself, Kissinger directed the State Department to "not issue a strong statement on the Indian nuclear test."¹²³ Five days later, the White House issued NSSM 202, directing that the government, "review present US policy concerning non-proliferation and the NPT in light of changed conditions...in particular, in light of India's announcement of its underground nuclear test."¹²⁴ Several days later, the New York Times reported that the US government feared that the Indian test, "may impel other countries to pursue a nuclear weapons ability and make their own tests."¹²⁵

Less than two weeks later, the Nixon administration tightened its policy on sensitive nuclear exports with the issuance of NSDM 255, which followed up on the March "Action Plan" and approved discussions with other nuclear supplier nations with the aim of restricting and placing more stringent conditions on the export of sensitive nuclear technology.¹²⁶ This coincided with an American offer to provide Egypt and Israel with nuclear power reactors contingent upon the two countries agreeing to a stringent set of safeguards that went beyond IAEA regulations, including a US veto over the disposition of plutonium produced by the reactors.¹²⁷

¹²³ Telegram TOSEC 794/104621 From the Department of State to the Mission to the International Atomic Energy Agency, 18 May 1974, 2238Z, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 162.

¹²⁴ National Security Study Memorandum 202, 23 May 1974, *Nixon Library*, <http://www.nixonlibrary.gov/virtuallibrary/documents/nationalsecuritydecisionmemoranda.php>.

¹²⁵ Edward Cowan, "Blast by India Prompts High-Level US Review of Aid," 28 May 1974, *New York Times*, 2.

¹²⁶ National Security Decision Memorandum 255, 3 June 1974, *Nixon Library*, <http://www.nixonlibrary.gov/virtuallibrary/documents/nationalsecuritydecisionmemoranda.php>.

¹²⁷ John Finney, "US Will Rely on Controls on Military Nuclear Uses," *New York Times*, June 15, 1974, 12. These deals ultimately broke down after Israel would not agree to safeguard its plutonium-producing reactor at Dimona. See Memorandum from David Elliott of the National Security Council Staff to the President's Deputy Assistant for National Security Affairs (Scowcroft), Washington, 12 March 1975, Nixon-Ford Administrations, *FRUS*, vol. xxvii, doc. 112.

In July, in a discussion with British officials, Kissinger raised questions about the existing NPT and IAEA safeguards system, inquiring, “what you do to countries who go ahead with safeguards and then, when they have the technology, break loose. What penalties are there [?]”¹²⁸ Several days later, the State Department Policy Planning Staff completed a “Discussion Paper on US Non-Proliferation Policy” as part of the response to NSSM 202. The paper opened by observing that, “The non-proliferation problem is at a crucial stage. The Indian test, and the generally mild and unconcerted initial reactions to it by the world community, could lead others to acquire independent nuclear explosives capabilities in a ‘chain reaction’ effect.” The paper later elaborated that the Indian test could impact the NPT in three ways: (1) by strengthening the position of domestic actors who already opposed ratification, (2) improving the perceived viability of the PNE strategy, particularly given the lack of sanctions against India, and (3) increasing the perception that additional proliferation is probable.¹²⁹ Two weeks later, Kissinger testified in Congress that, “we are now at a rather crucial point with respect to the non proliferation treaty...the US Government on an interdepartmental basis has made this one of our highest priority objectives because if this further spread of nuclear weapons is not arrested within the next, say, two years...Then one would have to say that somewhere down the road any nation that is capable of producing a nuclear explosive will do so one way or the other.”¹³⁰

In early August, Kissinger met with Indian officials to discuss the state of Indian-American relations. Marking a subtle shift in US policy, Kissinger made clear that the United

¹²⁸ Memorandum of Conversation, “Energy; North Sea Oil; Foreign Assistance; Nuclear Non-Proliferation; CSCE; Trade Bill,” doc. 4, 7 July 1974, in “Declassified Documents Show Henry Kissinger’s Major Role,” *NSA, EBB no. 467*.

¹²⁹ Executive Secretary George S. Springsteen to Secretary of State Kissinger, “Analytical Staff Meeting,” doc. 5, 11 July 1974, in “Declassified Documents Show Henry Kissinger’s Major Role,” *NSA, EBB no. 467*.

¹³⁰ Memorandum to the Secretary of State from ACDA Director Fred Ikle and Policy Planning Staff Director Winston Lord, “Analytical Staff Meeting on Non-Proliferation Strategy,” doc. 6, 31 July 1974, in “Declassified Documents Show Henry Kissinger’s Major Role,” *NSA, EBB no. 467*.

States accepted the Indian nuclear capability, but that it sought cooperation in preventing further nuclear dominos from falling. As Kissinger put it to the Indian Minister for External Affairs, Kewal Singh: “Do you think it would be useful to have a very private discussion on means of preventing further spread of nuclear technology beyond India? Whatever happened is past, but it is clearly in our mutual interest to do this. India clearly is militarily predominant now. But there is a curious thing about nuclear weapons. It is easy to equalize the situation if the other side develops nuclear weapons.”¹³¹ In a meeting with the Australian ambassador a few weeks later, Kissinger made a clear departure from the Nixon administration’s lukewarm commitment to nonproliferation, stating, “We are for the NPT. We want to strengthen it and extend it,” and that, “We would support any non-proliferation effort that makes sense and some that do not.”¹³²

By the end of the month, as part of the NSSM 202 review, the State Department had settled on a proposed strategy based of multilateral consultations with major nuclear suppliers, as well as (1) stronger safeguards and restrictions on nuclear exports, (2) efforts to dampen the effect of the Indian test, and (3) working to expand adherence to the NPT among important countries.¹³³ In early September, Kissinger approved a plan for a meeting of nuclear suppliers restricted to “the most advanced nuclear industrial states,” namely the United States, France, the USSR, Japan, West Germany, the UK, and Canada.¹³⁴ In late October, by which time President Ford had succeeded Nixon, Kissinger met with Prime Minister Gandhi in India and reiterated the US position on India’s nuclear program, namely that “we were not interested in recriminations

¹³¹ Memorandum of Conversation, 2 August 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 171.

¹³² US-Australian Relations, Memorandum of Conversation, 21 August 1974, *DNSA*, KT01302

¹³³ Memorandum to the Secretary of State from Fred Ikle and Winston Lord, "US Policy on Nuclear Proliferation," doc. 8, 26 August 1974, in “Declassified Documents Show Henry Kissinger’s Major Role,” *NSA, EBB no. 467*.

¹³⁴ *Ibid.*

but in how to prevent further proliferation.” Kissinger also secured an Indian commitment not to develop nuclear weapons.¹³⁵

Two months later, the NSC Under Secretaries Committee completed its report in response to NSSM 202. The report recommended “an intensified program to inhibit the further spread of independent nuclear explosives capabilities.” While acknowledging that such an effort may only be partially successful, the report argued, “It would be desirable to defer the disadvantages associated with an expanded number of nuclear powers as long as possible, while seeking to create conditions which might ultimately check such expansion.” In many ways a follow-up to the Gilpatric Committee’s report in response to the Chinese test a decade prior, the study judged that the world was on the brink of a tipping point with respect to proliferation:

The problem of preventing the spread of nuclear weapons and independent nuclear explosives capabilities is now at a crucial stage. Commercial nuclear power generation is coming into wider use throughout the world; as a result of the Indian nuclear test, other non-nuclear weapons states may rethink their decisions regarding the acquisition of nuclear explosives. We are in general entering a period when political barriers to proliferation appear to be weakening, given movements toward a multipolar world and decreasing credibility with respect to security guarantees. These trends could adversely affect the future of the Non-Proliferation Treaty (NPT), through setbacks in the ratification process in Japan and the European Community countries, by reducing the longer-term efficacy of the treaty as a non-proliferation instrument.

The motivation for strong US nonproliferation policies, according to the report, was “the assessment that the danger of nuclear war as well as world instability would significantly increase with an unrestrained spread of nuclear weapons. Acquisition of nuclear weapons would also give nations a sense of greater independence, thus complicating international diplomacy, diminishing American influence, and possibly eventually requiring extensive and costly restructuring of our defense posture.”

¹³⁵ Memorandum From the President’s Deputy Assistant for National Security Affairs (Scowcroft) to President Ford, 28 October 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 179.

The report recommended a number of concrete steps to slow proliferation, including international negotiations with suppliers to restrict and attach more stringent conditions to the spread of sensitive nuclear technology. The report also recommended pushing states to ratify the NPT that had not yet done so (specifically Italy and Japan) and efforts to “ensure that the Indian nuclear explosion does not hasten further proliferation in Pakistan and elsewhere.” Finally, the report recommended studying the possibility of, “sanctions as a deterrent to proliferation,” as well as improving safeguards and preventing the spread of advanced delivery vehicles.¹³⁶

In 1975, the Ford Administration made significant progress toward strengthening US nonproliferation policy along the lines of the report. Early in the year, as recommended in the NSC study, the United States brought together nuclear suppliers in London in an effort to restrict and control the spread of sensitive nuclear technologies.¹³⁷ By September, the London Suppliers Group (later known as the Nuclear Suppliers Group or NSG) produced a preliminary set of guidelines for nuclear exports, which among other things called for “restraint in exporting sensitive facilities.”¹³⁸ By early 1976 the group had agreed that importing states would need to adopt IAEA safeguards and promise not to utilize imported materials for nuclear explosives, among other conditions.¹³⁹ As a result, even though European suppliers—particularly France and West Germany—would not agree to the US desire for a complete ban on the export of enrichment and reprocessing technology, the guidelines nonetheless represented an important

¹³⁶ NSC Under Secretaries Committee to Deputy Secretary of Defense et al, “US Nuclear Non-Proliferation Policy,” doc. 3, 4 December 1974, in William Burr, “The Iranian Nuclear Program, 1974-1978,” *NSA, EBB no. 268*.

¹³⁷ J. Samuel Walker, “Nuclear Power and Nonproliferation: The Controversy over Nuclear Exports,” *Diplomatic History* 25, No. 2 (2001): 225

¹³⁸ Pierre Lellouche, “Breaking the Rules without Quite Stopping the Bomb: European Views,” *International Organization* 35, No. 1 (1981): 47.

¹³⁹ Walker, “Nuclear Power and Nonproliferation,” 225-6.

step forward in terms of supplier controls.¹⁴⁰

Meanwhile, as will be discussed in greater detail in the following chapter, beginning in 1975 the United States mounted a persistent campaign to halt nuclear programs in friendly states such as Brazil, Pakistan, South Korea, and Taiwan—oftentimes this manifested in US efforts to prevent the export of enrichment and reprocessing technologies from European suppliers. Indeed, despite its earlier opposition to US policies, France established an official government body to deal with issues of nonproliferation in September 1976, and by December they announced a moratorium on future exports of reprocessing technology.¹⁴¹ This policy shift was made clear in an October 1976 meeting in Washington, when the French Foreign Minister informed Kissinger that France would refrain from providing Iran with the reprocessing facilities the latter desired, and that France had decided to comply with US guidelines: “We have established an export policy council to review and control this. I would like to make one point. We would like it to appear that our policy in this area is independent even though it is coordinated with you. It would be impossible for President Giscard to accept a line already set out by the United States.”¹⁴² During this time period, the Ford Administration also successfully pressed key countries to sign or ratify the NPT, including West Germany, Japan, Italy, Belgium, and the Netherlands.¹⁴³

While the Ford Administration was moving steadily forward on nonproliferation, political pressures from Congress and the presidential campaign pushed Ford toward an even stricter stance in 1976. Partially due to the Ford Administration’s decision to provide nuclear fuel to an Indian reactor even after the 1974 nuclear test, members of Congress began proposing bills

¹⁴⁰ Ibid.

¹⁴¹ Lellouche, “Breaking the Rules without Quite Stopping the Bomb,” 47.

¹⁴² Memorandum of Conversation, 1 October 1976, *Ford Library*, http://www.fordlibrarymuseum.gov/library/guides/findingaid/Memoranda_of_Conversations.asp#Box21.

¹⁴³ Walker, “Nuclear Power and Nonproliferation,” 235

to tighten US export control policy even further.¹⁴⁴ Just as Senator Symington (D-MO) proposed an amendment to the Foreign Assistance Act to cut off economic and military aid to countries exporting or importing sensitive nuclear technology, an amendment which was passed in June 1976, Democratic presidential hopeful Jimmy Carter was making nonproliferation a central plank of his platform. Even before he had won the nomination, Carter called for an international “moratorium” on the export of enrichment and reprocessing facilities.¹⁴⁵ The Ford Administration soon realized that nonproliferation required even greater attention, both “for policy and political reasons,” leading to a major government review of nuclear policies.¹⁴⁶

As part of this review, the ACDA proposed what it called “Alternative X,” whereby the US government would defer pursuing reprocessing for commercial purposes (in particular for fast breeder reactors or plutonium recycling) and work to develop new technologies for the utilization of uranium without producing bomb-usable fissile material. The purpose of this, according to the proposal, was “the pre-eminence of national security interests.” The report judged that even if plutonium reprocessing was commercially viable, it would pose, “substantial dangers in the field of nonproliferation” by encouraging other states to acquire reprocessing facilities that could be used for military purposes.¹⁴⁷

The results of the Ford administration policy review were spelled out in a detailed presidential statement issued on October 28, 1976. The core objective of US policy, according to the statement, was, “developing the enormous benefits of nuclear energy while simultaneously

¹⁴⁴ Ibid, 233-4.

¹⁴⁵ Kathleen Teltsch, “Carter Proposes a Nuclear Limit,” *New York Times*, 14 May 1976, 47. Also see Walker, “Nuclear Power and Nonproliferation,” and J. Michael Martinez, “The Carter Administration and the Evolution of American Nuclear Nonproliferation Policy, 1977-1981,” *Journal of Policy History* 14, No. 3 (2002): 261-292.

¹⁴⁶ Walker, “Nuclear Power and Nonproliferation,” 235

¹⁴⁷ Transmission of ACDA’s “Alternative X” on Non-Proliferation, 7 August 1976, DNSA, NP01480.

developing the means to prevent proliferation.” Noting the insufficiency of current US policies in a world of nuclear domino effects, the document declared:

The standards we apply in judging most domestic and international activities are not sufficiently rigorous to deal with this extraordinarily complex problem. Our answers cannot be partially successful. They will either work, in which case we will stop proliferation; *or they will fail and nuclear proliferation will accelerate as nations initially having no intention of acquiring nuclear weapons conclude that they are forced to do so by the actions of others.* Should this happen, we would face a world in which the security of all is critically imperiled. Maintaining international stability in such an environment would be incalculably difficult and dangerous. In times of regional or global crisis, risks of nuclear devastation would be immeasurably increased—if not through direct attack, then through a process of ever expanding escalation.¹⁴⁸

In terms of policies moving forward, the White House statement called for eight policy steps: (1) domestic suspension of commercial reprocessing; (2) an international agreement by suppliers to not export enrichment or reprocessing technology; (3) efforts to ensure that countries would have a reliable nuclear fuel supply conditional on meeting nonproliferation criteria including no enrichment or reprocessing; (4) US commitment to remaining a reliable supplier of reactors and nuclear fuel devoted to peaceful goals; (5) a redoubled international effort to build safeguards against proliferation; (6) tightened US export policies; (7) more definitive study of the future and implications of reprocessing, and (8) efforts domestically and internationally to store or eliminate nuclear waste material.

Special attention in the statement was devoted to developing effective sanctions to deter and punish proliferation. After all, “Even when complete...no system of controls is likely to be effective if a potential violator judges that his acquisition of a nuclear explosive will be received with indifference by the international community.” Therefore, the White House declared that:

¹⁴⁸ Statement by the President on Nuclear Policy, 28 October 1976, DNSA, NP01519. Emphasis added.

Any material violation of nuclear safeguards agreement—especially the diversion of nuclear material for use in making explosives—must be universally judged to be an extremely serious affront to the world community, calling for the immediate imposition of drastic sanctions. I serve notice today that the United States will, at a minimum, respond to violations by any nation of any safeguards agreement to which we are a party with an immediate cutoff of our supply of nuclear fuel and cooperation to that nation. We would consider further steps, not necessarily confined to the area of nuclear cooperation, against the violator nation. Nor will our actions be limited to violations of agreements in which we are directly involved. In the event of material violation of any safeguards agreement, particularly agreements with the IAEA, we will initiate immediate consultations with all interested nations to determine appropriate action. Universal recognition of the total unacceptability of the abrogation or violation of any nonproliferation agreements is one of the most important steps which can be taken to prevent further proliferation.¹⁴⁹

After Jimmy Carter assumed the presidency in January 1977, one of his administration's earliest actions was to order a reevaluation of US nonproliferation policy, including a directive to study the steps necessary to put into practice Ford's policy decisions. The directive also called for assessments of US export control policy, the role of the London Suppliers group vs. bilateral and IAEA approaches, possibilities for utilizing sanctions and inducements to encourage nonproliferation, and ways to coordinate with congressional nonproliferation initiatives.¹⁵⁰

Two months later, Carter issued Presidential Directive/NSC-8, which declared, "It shall be a principal US security objective to prevent the spread of nuclear explosive—or near explosive—capabilities to countries which do not now possess them," by minimizing the spread of plutonium and highly enriched uranium. The directive confirmed Ford's decision to forego domestic reprocessing in the United States and proposed an international fuel cycle re-evaluation program (IFCEP, later called INFCE) that would aim to develop methods for managing the nuclear fuel cycle without producing large amounts of weapons-usable material. Moreover, the

¹⁴⁹ Ibid.

¹⁵⁰ Presidential Review Memorandum/NSC 15, 21 January 1977, *Carter Library*, http://www.jimmycarterlibrary.gov/documents/prmemorandums/pres_memorandums.phtml.

White House pledged to bolster the nonproliferation regime “by encouraging the widest possible adherence to the Non-Proliferation Treaty, and to comprehensive international safeguards; by strengthening and improving the IAEA; and by providing stronger sanctions against the violation of nuclear agreements. Therefore the US will announce its intention to terminate nuclear cooperation with any non-nuclear weapons state that hereafter...detonates or demonstrably acquires a nuclear explosive device; or...terminates or materially violated international safeguards or any guarantees it has given to the United States.”¹⁵¹

The next month, in April 1977, Carter proposed legislation on US nuclear export policy—partially based on legislation already under consideration by Congress—that would dramatically tighten US nuclear cooperation guidelines. The bill, which ultimately was signed into law in March 1978 as the Nuclear Non-Proliferation Act, required compliance with a set of strict conditions as prerequisites for receiving US nuclear exports. These conditions included the acceptance of IAEA safeguards on all nuclear facilities, not just those provided by the US, and obtaining US consent to reprocess US-origin fuel or to export it to other countries. Particularly because the bill required the renegotiation of existing nuclear cooperation agreements to meet the new criteria, the bill was met with virulent denunciation abroad.¹⁵²

In sum, the Indian nuclear test spurred a number of major advances in US nonproliferation policy in the 1974-1978 time period: the Nuclear Suppliers Group established guidelines to reduce sensitive nuclear exports, the Symington Amendment threatened to cut off US foreign aid to countries exporting or importing sensitive technology, the Nuclear Non-Proliferation Act made peaceful nuclear cooperation with the US contingent on meeting a series

¹⁵¹ Presidential Directive/NSC-8, March 24, 1977, *Carter Library*, http://www.jimmycarterlibrary.gov/documents/prmemorandums/pres_memorandums.phtml

¹⁵² Walker, “Nuclear Power and Nonproliferation,” 238-242.

of stringent nonproliferation criteria, and the US changed its own domestic nuclear policy to reduce incentives for reprocessing.

The Role of Nuclear Domino Fears vs. Existing Explanations

Like the 1964 Chinese nuclear test, the 1974 Indian test helped spur strengthened US nonproliferation policies by raising fears of nuclear domino effects. The NSC report determined that the nuclear proliferation problem was at a “crucial stage” and that “as a result of the Indian nuclear test, other non-nuclear weapons states may rethink their decisions regarding the acquisition of nuclear explosives.” As President Ford put it in his October 1976 statement, “Our answers cannot be partially successful. They will either work, in which case we will stop proliferation; or they will fail and nuclear proliferation will accelerate as nations initially having no intention of acquiring nuclear weapons conclude that they are forced to do so by the actions of others.”

As in the 1964-68 period, there is also evidence in favor of existing explanations for US nonproliferation motives. The NSC report made clear that US nonproliferation policy was partly motivated by fears of nuclear war, reduced power projection capability, and increased allied autonomy. The report explicitly concluded, “the danger of nuclear war as well as world instability would significantly increase with an unrestrained spread of nuclear weapons. Acquisition of nuclear weapons would also give nations a sense of greater independence, thus complicating international diplomacy, diminishing American influence, and possibly eventually requiring extensive and costly restructuring of our defense posture.”

However, unlike fears of nuclear domino effects, these motivations do not appear to have been significantly strengthened by the Indian nuclear test; rather, they were preexisting and

generic in nature. As an unaligned state, India's nuclearization did not threaten to reduce US influence over its allies. Moreover, US government analyses in the aftermath of India's nuclear test suggest that policymakers were not particularly concerned about India increasing the risk of nuclear war or undermining US power projection capability. Indeed, as noted above, Kissinger made quite clear to Indian leaders that the United States accepted India's nuclear capability and that its interest was rather in preventing *other* states from following suit.

Classified US government analyses support this conclusion. On the day of India's test, a memo by Deputy Secretary of State Kenneth Rush noted, "in real terms, the Indian test is irrelevant to the South Asian arms balance," and that the biggest US concerns would be limiting the effect of the test on Pakistan and the broader nonproliferation regime, or as Rush put it, "stabilizing a new nuclear 'power' within the international framework and trying to dissuade others from following suit."¹⁵³ The following month, a CIA report on India's future concluded that even after the nuclear test, "there are distinct limits to India's international importance...It, and its South Asian neighbors, live in an area considerably isolated in a strategic sense from the US, Western Europe, and Japan. In the Indian Ocean area, New Delhi's military/strategic power will remain limited."¹⁵⁴ Kissinger himself informed Canadian officials the same month that, "politically and strategically, nuclear weapons do them less good than the tanks they are making themselves."¹⁵⁵

As with the aftermath of the Chinese test, there is little evidence that US nonproliferation policies from 1974-78 were intended to benefit friendly states and constrain enemies. The

¹⁵³ Telegram TOSEC 794/10621 From the Department of State to the Mission to the International Atomic Energy Agency, 18 May 1974, 2238Z, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 162.

¹⁵⁴ Research Study OPR-5 Prepared by the Central Intelligence Agency, Washington, June 1974, Nixon-Ford Administration, *FRUS*, vol. E-8, doc. 165.

¹⁵⁵ Memorandum of conversation, "Indian Nuclear Explosion; World Food Conference; Pacific Coast Tankers; NATO Declaration; Middle East; Trade Bill," doc. 2, 18 June 1974, in "Declassified Documents Show Henry Kissinger's Major Role," *NSA, EBB no. 467*.

strengthened US policies, which threatened to cut off foreign aid and nuclear cooperation to proliferating states, if anything were especially targeted at US friends since adversaries would not be receiving these benefits in the first place.

In sum, while US officials continued to worry about reduced power projection capability, increased allied autonomy, and risks of nuclear war, these worries were generic and not significantly increased by India's nuclearization. The desire to benefit friendly states did not shape US nonproliferation efforts in the aftermath of the 1974 Indian test, while the fears of nuclear domino effects triggered by India were critical to subsequent US policies.

Conclusion and Way Forward

The evidence in this chapter suggests that nuclear domino fears played a crucial role in the strengthening of US nonproliferation policy from 1964-68 and 1974-78. While fears of nuclear war, threats to US power projection capability, and maintaining influence over allies help explain US interest in nonproliferation in a general sense, they do not explain the specific motivations for the shifts in US policy—in particular, why the United States finally abandoned selective proliferation schemes in the 1960s and embraced nonproliferation across the board and why the United States responded so vigorously to an Indian test that admittedly posed little direct threat to the United States.

The following chapter further probes this finding by testing the second observable implication of the theoretical argument on the sources of US policy: namely, that the United States should oppose proliferation in all cases post-1964, that policymakers should cite nuclear domino fears as a motivation for doing so, particularly in cases of allied or unaligned states, and that the US should work to prevent tests by states even after they have acquired a basic nuclear weapons capability.

Chapter 4: US Nonproliferation in Action, 1964-Present

If the theoretical argument of this dissertation is correct, the United States should oppose all nuclear weapons programs post-1964 and the fear of nuclear domino effects should be a significant motivation for this opposition, particularly in non-adversary states. Moreover, if the United States fails in its efforts and a state achieves a nuclear weapons capability, the United States should work to prevent tests to minimize the risk of nuclear domino effects. To test this expectation, I explore US policy towards the universe of allied or unaligned states with nuclear weapons programs from 1964 onwards.¹ This includes Australia, India, Israel, Taiwan, South Korea, Pakistan, South Africa, Argentina, and Brazil. I only explore allies or unaligned states because all extant theories would predict opposition to adversaries' nuclear programs for the same reasons (directly threatening US power and security), whereas the competing explanations either have different logics for why the United States opposes allied programs (decreased intra-alliance power or reduced power projection capability) or would predict no opposition to programs by allies if the selective enforcement argument is correct. In each case, I first examine US policy to assess whether the United States opposed the particular nuclear program and identify the motivations behind US efforts. I conclude each case with an assessment of the relative roles of nuclear domino fears, fears of nuclear war, threatened power-projection capability, the desire to benefit allies, or to limit allied autonomy.

¹ Codings of nuclear weapons programs are from Way, "Nuclear Proliferation Dates," 2012. I only examine countries that were pursuing (rather than exploring) nuclear weapons. To be coded as pursuing, "states have to do more than simply explore the possibility of a weapons program. They have to take additional further steps aimed at acquiring nuclear weapons, such as a political decision by cabinet-level officials, movement toward weaponization, or development of single-use, dedicated technology" (Singh and Way, "The Correlates of Nuclear Proliferation," 866).

Australia (1961-1973)

As noted in the previous chapter, prior to the Chinese nuclear test of 1964, a 1961 US Air Force study recommended providing Australia with nuclear weapons as a desirable means of countering a looming Chinese nuclear capability. In the wake of the Chinese test, however, US views of an Australian nuclear arsenal shifted, in lock step with the broader US policy shift in favor of nonproliferation. Documentary evidence from 1968-1971 — when Australia was moving forward in the nuclear realm—shows US concern over Australia going nuclear and that the fear of nuclear domino effects was a prime motivation for US nonproliferation advances.

The United States was not aware of Australian interest in nuclear weapons until 1967, despite past Australian consideration and efforts to acquire weapons directly from Britain starting in the late 1950s.² While Walsh argues that the United States put no pressure on Australia over its nuclear weapons program even once it became aware,³ this is not completely accurate. Walsh cites a March 1968 meeting of high-level Australian officials where it was noted that that United States had put no pressure on Australia to sign the NPT.⁴ However, one month later, this situation was redressed. In a memo sent to President Johnson, Secretary of State Rusk describes a meeting with Australian Prime Minister Gorton in April 1968, in which Rusk:

ran into strong reservations about the non-proliferation treaty ranging from basic misgivings about giving up the nuclear option to worries about the fear of limitations on development of nuclear energy for peaceful purposes. The general line of questioning was very similar to that we have heard from the Germans. I am taking up with the State Department the possibility of sending an expert technical man out to talk with their Atomic Energy Commission people on a good many points on which we ought to be able to satisfy them. I threw the book at them on the prospects in the event [of] proliferation and pointed out that if Australia ever

² James Walsh, “Bombs Unbuilt: Power, Ideas, and Institutions in International Politics” (Ph.D. dissertation, Massachusetts Institute of Technology, 2001): 97-98.

³ *Ibid.*, 98.

⁴ *Ibid.* 101-102.

had to live next door to a nuclear armed Indonesia they would curse the day they refused to give up the nuclear option.⁵

Over the next few weeks, the United States worked to persuade Australia to sign the NPT, sending a high-level team to Canberra and clarifying key portions of the treaty to address Australia's concerns.⁶ While these actions did not immediately satisfy Australia, who did not sign the NPT until February 1970, they are nonetheless indicative of US interest in securing Australian adherence.

Even under the Nixon administration, which as described in the previous chapter held an ambivalent attitude toward nonproliferation and the NPT, US officials continued efforts to secure Australian adherence. At a National Security Council Subcommittee meeting in early May of 1969, Glenn Seaborg (the Chairman of the US Atomic Energy Commission) identified Australia as "an important country in regard to the NPT" and recommended that the President discuss the topic with Gorton on his upcoming visit.⁷ The following day, this was ratified in a decision memorandum, which advocated that Nixon, "initiate discussion of the NPT with Gorton rather than waiting for the Australian argument to be presented."⁸ It appears, however, that Nixon ignored this recommendation and did not raise the issue with Gorton, reflecting his own ambivalent views on nonproliferation.⁹ In February 1970, as the NPT neared entry into force, the ACDA director recommended another approach to key countries that had not signed the treaty, including Australia, partially based on the argument that after the NPT came into force, the

⁵ Telegram From Secretary of State Rusk to the Department of State, 6 April 1968, Johnson Administration, *FRUS*, vol. xxvii, doc. 36.

⁶ Christopher Hubbard, "From Ambivalence to Influence: Australia and the Negotiation of the 1968 Nuclear Non-Proliferation Treaty," *Australian Journal of Politics and History* 50, No. 4 (2004): 541-543.

⁷ Journal Entry by the Chairman of the Atomic Energy Commission (Seaborg), 1 May 1969, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 21.

⁸ National Security Council Under Secretaries Committee Decision Memorandum 7, 2 May 1969, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 22.

⁹ Walsh, "Bombs Unbuilt," 103.

ability to sign without ratifying the treaty would be unavailable.¹⁰ Eight days later, Australia signed the NPT, citing the example of recent Japanese and West German signatures that included reservations and making clear that ratification was a different matter.¹¹

In August 1971, US policymakers continued to view a non-nuclear Australia as a foreign policy objective. As part of a study on US policies toward Australia and New Zealand commissioned by the White House, a National Security Council report listed as a general US interest in the region, “to discourage the proliferation of nuclear weapons,” while specific US interests included, “to avoid actions which might induce Australia to seek to develop its own nuclear weapons capability.”¹² The report included a lengthy discussion of Australia’s failure to ratify the NPT and the possible effects of an Australian arsenal, including potential setbacks to nonproliferation elsewhere:

The non-proliferation of nuclear weapons is a major interest of the United States, and obtaining Australian ratification to the NPT has long been a clear US objective. As one of the world’s major sources of high grade uranium ore, Australia, if it chose not to ratify the NPT, would be in a good position to provide unsafeguarded refined uranium to other countries or eventually to develop an independent nuclear capability, though development of effective delivery systems would remain a large problem for them. The acquisition of an independent nuclear weapons capability by Australia would not significantly strengthen the free world’s deterrence in Southeast Asia or diminish the need for a US nuclear umbrella under the ANZUS treaty. It would also encourage other important countries, notably Japan, not to ratify the NPT.¹³

In 1973, Australia ratified the NPT, and by 1974, the Australian position had changed to the point that the Australian Ambassador to the US, Patrick Shaw, informed Secretary Kissinger that, “We [Australia] think we can do something in the area of nuclear proliferation. This has been made more urgent by the Indian explosion. We would like to talk to your people about how

¹⁰ Memorandum From the Director of the Arms Control and Disarmament Agency (Smith) to Acting Secretary of State Richardson, 11 February 1970, Nixon-Ford Administrations, *FRUS*, vol. E-2, doc. 44.

¹¹ “Australia, After Delay, Says She Will Sign Nuclear Pact,” *New York Times*, 19 February 1970, 8.

¹² NSSM 127 Study: Australian and New Zealand, 24 August 1971, *DNSA*, PR00728.

¹³ *Ibid.*

to put the genie back in the bottle,” and later noted, “If there is a role for a small power, we would like to take it on.”¹⁴

The Role of Nuclear Domino Fears vs. Existing Explanations

While the evidence on US policy toward Australia’s nuclear program is relatively thin, there is telling evidence that American policymakers worried of nuclear domino effects, with Secretary Rusk explicitly warning Prime Minister Gorton in 1968 about the possibility of Indonesian proliferation if Australia went down the nuclear path and a 1971 study concluding that a pro-nuclear Australia could aid other countries’ nuclear weapons programs and reduce the odds of countries like Japan ratifying the NPT.

In contrast, there is virtually no evidence that the United States worried about reduced power projection vis-à-vis- Australia, increased risks of nuclear war, increased Australian autonomy, or that the United States looked the other way regarding Australian nuclear activities because of their alliance and shared Western identity. The United States repeatedly sought to secure Australian NPT adherence, and the relative lack of US pressure on Australia compared to other cases is perhaps explained by the fact that US policymakers never believed Australia was actively pursuing nuclear weapons, despite what subsequent evidence has revealed.

India (1964-1974)

As documented in the previous chapter, prior to the Chinese nuclear test, US officials seriously entertained the idea that an Indian nuclear arsenal may be beneficial for US interests since it would help contain China and obviate the necessity of new US commitments. Following the Gilpatric Committee’s report and the shift toward a firmer nonproliferation policy, however,

¹⁴ US-Australian Relations, Memorandum of Conversation, 21 August 1974, *DNSA*, KT01302

the US position definitively shifted and policymakers made repeated efforts to convince India to halt its nuclear weapons program. Even after US officials judged that India possessed a nuclear capability, they worked to prevent a nuclear test; after India tested, they worked to prevent further tests and the development of a nuclear arsenal. Fears of nuclear domino effects were important motivations for all of these efforts.

Immediately following the Chinese test, President Johnson made a vague public pledge to support any nation threatened by Chinese aggression.¹⁵ US policymakers entertained the idea of offering a specific guarantee to India against nuclear attack but rejected it due to conflicting geopolitical goals—as acting Joint Chiefs of Staff chair Curtis LeMay put it in an October 1964 memo supporting the vaguer pledge, “the Joint Chiefs of Staff consider that it is most important that no actions be taken which could alienate US allies, especially Pakistan. The assurances proposed are general in nature and do not commit the United States to any specific military course of action. This will permit flexibility of response consistent with US interests and other strategic commitments.”¹⁶ US officials recognized that the Chinese test would prompt India to consider developing nuclear weapons, resulting in a State Department memo in November 1964 that proposed increased peaceful nuclear cooperation with India as an inducement that could provide prestige and help offset the desire for nuclear weapons.¹⁷

Much like after the Chinese test, US policymakers were worried that an Indian bomb could lead to a series of falling nuclear dominoes. As Henry Rowen, a Defense Department International Security Affairs official warned in a December 1964 memo, an Indian bomb could

¹⁵ A. G. Noorani, “India’s Quest for a Nuclear Guarantee,” *Asian Survey* 7, no. 7 (July 1967): 490.

¹⁶ Memorandum for the Secretary of Defense, “The Indian Nuclear Problem: Proposed Course of Action,” doc. 2, 23 October 1964, in Joyce Battle, “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB no. 6*.

¹⁷ Letter from John G. Palfrey, Atomic Energy Commission, to Ambassador Llewellyn E. Thompson, “Discussion Paper on Prospects for Intensifying Peaceful Atomic Cooperation with India,” doc. 3, 23 November 1964, in “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB no. 6*.

cause a number of negative consequences for the United States: “One consequence of an Indian program is that one more national state, India, could some day be able to attack the United States with nuclear weapons...Secondly, one more national state would have the capacity for starting nuclear actions with a fair chance of spreading and involving the United States...Thirdly, it follows from the above that there would be a reduction in our power to influence events in South Asia and to some extent throughout the world...Fourthly, India’s economic development would suffer.” Perhaps most concerning, however:

pressures for further proliferation in Asia would grow. Most notably in Pakistan... a succession of Chinese tests followed by an Indian decision to ‘go nuclear’ may rapidly change Japanese attitudes. Indonesia, despite its low level of technical competency, has ambitions and would be spurred on by the Chinese and Indian examples. And evidence of serious Indonesian intent would undoubtedly lead the Australians to try to get nuclear help in some form from the UK and the US...the effects would be felt more widely. Israel, Sweden, Germany, and other potential nuclear countries far from China and India would be affected by proliferation in Asia. A nuclear decision by India, following soon after China, would undoubtedly help to remove inhibitions to the development of these weapons—especially if it appeared that the United States and Soviet Union were unwilling or unable to prevent the spread.¹⁸

In late February 1965, Secretary Rusk sent a memo to Ambassador at Large W. Averell Harriman, setting out a list of points that he should raise with Prime Minister Shastri in an attempt to convince him that India did not need nuclear weapons. In order to reassure India vis-à-vis China, he instructed Harriman to assure Shastri that after the next Chinese test the United States would publicly declare its intention to protect any country from Chinese aggression and that China’s nuclear arsenal would not dissuade the United States doing so. Moreover, Harriman was instructed to make clear that the United States has politically supported India in the past against China (both in 1959 and 1962), would continue to provide military aid, and that the

¹⁸ Henry S. Rowen, Department of Defense, “The Indian Nuclear Problem,” doc. 7, 24 December 1964, in Jeffrey Richelson, “US Intelligence and the Indian Bomb,” *NSA, EBB no. 187*.

United States has the capability to respond to Chinese aggression promptly both with nuclear and conventional forces. As Rusk noted though, “we do not plan at this time to make any public statement of assurance specifically singling out India . . . We must . . . avoid, by showing too much concern, placing Indians in position to seek too high a price for their refraining from taking the nuclear route.”¹⁹

In June 1966, Undersecretary of State George Ball sent a memorandum to President Johnson outlining the possible courses of action for dissuading India from developing nuclear weapons. The memo warned, “Unless there is some new development, India almost certainly will go nuclear. Such a decision could start a nuclear proliferation chain reaction. This would be contrary to basic US national interest. It is therefore imperative that we take all possible promising actions to prevent it.” The results of a full-fledged Indian nuclear weapons program would include “great damage to Indian development prospects,” Pakistani alarm that would likely lead them to “turn to the US, Communist China, or the Soviet Union either for assistance in acquiring nuclear weapons or for support in deterring India,” an increase in the probability of proliferation in states like Israel, Japan, and Germany, and in general less Indian reliance on the United States and the USSR for support against China.²⁰

In terms of security assurances, Ball voiced his support for pursuing a joint US-USSR nuclear guarantee for all nonnuclear states, noting that it would “probably defer an Indian decision to acquire its own nuclear weapons,” but that the Soviet Union did not seem interested in such a guarantee at present. While a formal US-India alliance would have the most powerful effect, Ball argued “there are strong reasons against our undertaking a formal alliance

¹⁹ State Department Telegram for Governor Harriman from the Secretary, doc. 7, 27 February 1965, in “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB no. 6*.

²⁰ State Department Memorandum for the President, “NSC Meeting, June 9, 1966,” doc. 10, 7 June 1966, in “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB no. 6*.

commitment...If such a US-Indian alliance were concluded, it might result in a complete US break with Pakistan and in a Pakistan-Chinese Communist alliance.” The memo concluded by recommending that the United States study in greater depth the use of economic leverage over India, the likely effects of arms control agreements, the lengths to which the United States could go in terms of security assurances, and what other options might be available.²¹

As the NPT began to take shape in early 1967, India intensified its search for a nuclear guarantee. Indian External Affairs Minister M.C. Chagla announced that India no longer sought a guarantee under UN auspices but rather a joint guarantee from the United States and USSR. As A. G. Noorani describes, this guarantee would need to “stand up ahead of time to ‘deter’ China” and “[commit] the guarantors to immediate reprisal in case China was not deterred.”²² In order to discuss such a guarantee, in late April 1967 Indian prime minister Indira Gandhi sent L.K. Jha as an envoy to Washington to meet with American officials. On 25 April, Jha, along with Indian Ambassador to the United States B.K. Nehru and Atomic Energy Commission (AEC) head Vikram Sarabhai, met with Secretary of Defense Robert McNamara in order to test American willingness to enter such an agreement. McNamara opened the meeting by “expressing the US awareness of the need for assurances against nuclear threats,” noting the US belief that “parallel declarations were the best approach” and that the United States “welcomed such declarations by the USSR, UK, and France, supplemented by a UN endorsement.” McNamara acknowledged the psychological impact of the Chinese nuclear program but warned India against developing nuclear weapons. As he put it, “To put the matter candidly, the danger is that India will overreact to the Chinese threat. India’s military forces are already too large, and India must take special care not to waste its resources.” Jha responded that “the psychological effects of the Chinese

²¹ Ibid.

²² Noorani, “India’s Quest for a Nuclear Guarantee,” 497–498.

nuclear program make the credibility of assurances essential, to deter both Indian expenditure and Chinese attack,” to which McNamara replied “the President’s statement of 1964 was a very strong one and constitutes a real deterrent . . . This is not to say that the 1964 statement should not be altered and improved. We would welcome a parallel statement by the USSR.” Later in the meeting, the topic of conversation shifted to the NPT, with Jha noting multiple Indian motives for opposing the treaty: “There are two major obstacles to Indian acceptance: One is the security problem vis-à-vis China; the other is the fact that India has developed nuclear technology which contributes to Indian confidence and prestige, but which appears threatened by serious curtailment if India adheres to the NPT.” McNamara promised to discuss the matter of parallel declarations with the USSR, stating that “China would be ‘immensely impressed’ by parallel US and USSR declarations; together they would represent ‘a very credible deterrent.’”²³

In June, Secretary Rusk met with Soviet Foreign Minister Andrei Gromyko to discuss the possibility of assurances for India, which Rusk stated was one of three main obstacles in the way of formalizing the NPT.²⁴ Rusk pointed out the problem of Senate approval for any treaty that provided specific nuclear assurances for India, and thus proposed something through the UN Security Council, with which Gromyko agreed. Furthermore, Rusk noted that “If the Indians asked for assurances, the other non-nuclear powers might ask for them,” to which Gromyko responded “the statement made would not be adapted specifically to India but to non-nuclear powers in general.”²⁵ These two issues—the US desire to avoid a formal treaty and the Soviet

²³ Memorandum of Conversation from the Office of the Assistant Secretary of Defense, “Meeting between the Secretary of Defense and Mr. L. K. Jha,” doc. 15, 25 April 1967, in “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB no. 6*.

²⁴ Memorandum of Conversation from the State Department, “Non-Proliferation Treaty; Assurances to Non Nuclear Powers; Latin American Nuclear Free Zone,” doc. 16, 23 June 1967, in “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB no. 6*.

²⁵ *Ibid.*

desire to avoid any assurances specifically for India—proved to be deal breakers for the Indians, as “the qualified guarantees that both sides offered failed to satisfy India’s requirements.”²⁶

As described in the previous chapter, the Nixon administration made limited efforts to restrain the Indian nuclear program, reminding India of the high fiscal costs of a nuclear arsenal and warning India that a nuclear test could lead to a cutoff of US nuclear cooperation. In line with theoretical expectations, these efforts occurred despite the US intelligence community’s judgment that India already possessed the capability to construct a nuclear device. As early as January 1972, the US embassy in India judged that India “already has sufficient know-how, and through previous and present foreign collaboration...has or will have enough nuclear material to give GOI [Government of India] latitude of decision” on whether to test.²⁷ The following month, an intelligence report concluded that India “may well have fabricated one or more nuclear devices,”²⁸ and by August 1972 State Department officials were convinced that India had the ability to detonate a nuclear device.²⁹ Even after India tested its first device in May 1974, US policymakers worried about further proliferation stemming from India’s behavior, as described in the previous chapter, and worked to convince India to foreswear additional tests and promise not to develop a nuclear arsenal.

The Role of Nuclear Domino Fears vs. Existing Explanations

At least under the Johnson administration, when the most serious US attempt was made to head off an Indian nuclear capability, fears of nuclear domino effects were consistently

²⁶ Sumit Ganguly, “India’s Path to Pokhran II: The Prospects and Sources of New Delhi’s Nuclear Weapons Program,” *International Security* 23, No. 4 (1999): 157.

²⁷ Airgram A-20 From the Embassy in India to the Department of State, 21 January 1972, Nixon-Ford Administration, *FRUS*, vol. E-7, doc. 211.

²⁸ Memorandum From the Director of the Bureau of Intelligence and Research (Cline) to Director of Central Intelligence Helms, 23 February 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 228.

²⁹ Memorandum for the Record, 1 August 1972, Nixon-Ford Administrations, *FRUS*, vol. E-7, doc. 296.

referenced, whether by Henry Rowen, George Ball, or in the Gilpatric Committee deliberations and final report discussed in the previous chapter. Indeed, the Gilpatric Committee report explicitly noted that, “Although one might be tempted to accept Indian or Japanese nuclear weapons to counterbalance those of China, we do not believe the spread of nuclear weapons would or could be stopped there. An Indian or Japanese decision to build nuclear weapons would probably produce a chain reaction of similar decisions by other countries, such as Pakistan, Israel and the UAR.”³⁰ While Nixon administration officials were somewhat less fearful of domino effects emanating from India, as explored in the prior chapter, this concern of course came back in full force after India actually tested in May 1974, spurring an important set of policy changes that were aimed to ensure that no additional countries followed India’s example.

There is also some evidence in favor of the power projection, nuclear war risks, and allied autonomy explanations. Rowen warned that an Indian nuclear capability would result in “a reduction in our power to influence events in South Asia and to some extent throughout the world,” while Ball predicted, “in general less Indian reliance on the United States and the USSR for support against China,” even though India was a formal ally of neither the United States or USSR. With respect to nuclear war risks, Rowen observed that India could represent another state that would “some day be able to attack the United States with nuclear weapons” and that “one more national state would have the capacity for starting nuclear actions with a fair chance of spreading and involving the United States.” There is no compelling evidence that the United States looked the other way with respect to India’s nuclear weapons program in this time period because it was a democratic state, as the selective enforcement argument might expect.

³⁰ Report by the Committee on Nuclear Proliferation, 21 January 1965, Johnson Administration, *FRUS*, vol. xi, doc. 64.

Israel (1958-1968)

While the US government was at best ambivalent toward Indian and Australian nuclear developments prior to the 1964 Chinese test, they did oppose the Israeli nuclear weapons program from the moment it was detected in 1960. Nonetheless, the Chinese test did lead the United States to adopt a significantly firmer policy toward Israel. After US efforts failed and Israel achieved a nuclear capability in the late 1960s, the United States brokered a deal whereby Israel promised not to test and to keep its arsenal covert. As in the cases above, fears of nuclear domino effects figured prominently—although by no means exclusively—in US motivations.

Soon after the United States discovered that Israel was building a nuclear reactor at Dimona in December 1960, officials questioned Israeli leaders on the topic. According to a State Department memo, Israeli Prime Minister David Ben-Gurion responded by giving the United States “categorical assurances...to the effect that Israel does not have plans for developing nuclear weaponry.” The memo, forwarded from Secretary Rusk to President Kennedy, noted that the United States was worried about an Israeli bomb for two reasons: “a) pursuant to Congressional legislation and firm executive branch policy the United States is opposed to the proliferation of nuclear weapons capabilities; and b) Israel's acquisition of nuclear weapons would have grave repercussions in the Middle East, not the least of which might be the probable stationing of Soviet nuclear weapons on the soil of Israel's embittered Arab neighbors.”³¹ Attuned to the possibility of nuclear domino effects, in a meeting the following week Kennedy “expressed his concern that the Israeli reactor might stimulate Egypt to press the Soviet Union for aid in nuclear

³¹ Memorandum From Secretary of State Rusk to President Kennedy, 30 January 1961, Kennedy Administration, *FRUS*, vol. xvii, doc. 5.

weapons development.”³² When Kennedy met with Ben-Gurion face to face in May 1961, he warned “the UAR would not permit Israel to go ahead in this field without getting into it itself.”³³

That summer, the Joint Chiefs of Staff prepared a study on the strategic consequences of an Israeli nuclear bomb. The report concluded, “The acquisition of a nuclear capability by Israel would not present a direct military threat against the United States or any US alliance. This acquisition would, however, have a definite and serious impact on US policies toward the Middle East,” namely by increasing the risk of Arab-Israeli conflict and reducing the possibility of a peaceful settlement. While the study judged that it was unlikely that nuclear weapons would cause Israel to start a war, “It may be expected...that Israel will use a nuclear capability as a powerful psychological weapon in an attempt to solve her basic problems with the Arab world. Israel may be expected to press its interests more vigorously and be less inclined to give concessions.” With respect to nuclear domino effects, the report doubted that the Soviets would help the UAR acquire nuclear weapons, but did judge that “if Israel develops a demonstrable nuclear weapons capability, certain inhibitions against such development might disappear from small countries whose advanced industrial capacity could support such a development. Sweden, Switzerland and possibly Japan are examples.”³⁴

The following December, President Kennedy again expressed his concerns in person, this time to Israeli Foreign Minister Golda Meir, declaring that, “He would hope...that Israel would give consideration to our problems on this atomic reactor. We are opposed to nuclear

³² Memorandum of Conversation, 3 February 1961, Kennedy Administration, *FRUS*, vol. xvii, doc. 7.

³³ Memorandum of Conversation, 30 May 1961, Kennedy Administration, *FRUS*, vol. xvii, doc. 57.

³⁴ Paper Prepared by the Joint Chiefs of Staff, undated, Kennedy Administration, *FRUS*, vol. xvii, doc. 95. According to a *FRUS* note, “The source text is undated, but a covering memorandum on the copy in Department of Defense files indicates that Lemnitzer sent the paper to McNamara on August 8 [1961] with a recommendation that it be sent to the Department of State for comment.”

proliferation.”³⁵ In March 1963, a CIA estimate on the consequences of an Israeli nuclear capability came to similar conclusions as the August 1961 study, concluding that, “The most general consequence would be substantial damage to the US and Western position in the Arab world. However much the US expressed disapproval of Israel's achievement, it would be difficult to avoid an increased tendency for the political confrontation in the Middle East to take the form of the Bloc and the Arabs against Israel and its friends in the West.” While Israeli acquisition could lead Egypt to pursue its own nuclear weapons, “this would at best be a lengthy and expensive enterprise, highly provocative to Israel.”³⁶ Later that month, the White House issued NSAM 231, which directed the Secretary of State, Chairman of the Atomic Energy Commission, and Director of Central Intelligence, to ramp up US intelligence gathering vis-à-vis Israeli and UAR nuclear and weapons programs. Moreover, because of Kennedy’s “great concern over the destabilizing impact of any Israeli or UAR program looking toward the development of nuclear weapons, the President also wishes the Department of State to develop proposals for forestalling such programs.”³⁷

After more than a year of relying on periodic, restricted visits of US scientists to Dimona as an imperfect means of verifying Israel’s claim that it was not developing nuclear weapons, in May 1963 the Kennedy administration shifted tacks and began pursuing an arms control plan whereby Israel and the UAR would jointly agree to verifiably refrain from developing nuclear weapons and advanced missiles; Israel would be offered some of US security guarantee as

³⁵ Memorandum of Conversation, 27 December 1962, Kennedy Administration, *FRUS*, vol. xvii, doc. 121.

³⁶ Memorandum From the Board of National Estimates, Central Intelligence Agency, to Director of Central Intelligence McCone, 6 March 1963, Kennedy Administration, *FRUS*, vol. xviii, doc. 179.

³⁷ National Security Action Memorandum No. 231, 26 March 1963, Kennedy Administration, *FRUS*, vol. xviii, doc. 199.

compensation.³⁸ Further emphasizing the US commitment to nonproliferation, on May 18 Kennedy sent a letter to Ben-Gurion warning that the United States “supports Israel in a wide variety of other ways which are well known to both of us...this commitment and this support would be seriously jeopardized in the public opinion in this country and in the West, if it should be thought that this government was unable to obtain reliable information on a subject as vital to peace as the question of Israel’s efforts in the nuclear field.”³⁹ Raising the specter of domino effects, Kennedy wrote that he could not, “imagine that the Arabs would refrain from turning to the Soviet Union for assistance if Israel were to develop a nuclear weapons capability...But the problem is much larger than its impact on the Middle East. Development of a nuclear weapons capability by Israel would almost certainly lead other larger countries, that have so far refrained from such development, to feel that they must follow suit.”⁴⁰

In a memo prepared for John McCloy, the Presidential envoy who would travel to the Middle East to open negotiations with the UAR and Israel on the arms control scheme, State Department staffers declared that, “Nuclear proliferation in the Near East, if allowed to continue unchecked, will reduce US capability to intervene. It will also have a disturbing effect on world stability leading other larger countries to feel they must develop their own nuclear capability.” The goal of the Middle East trip, according to the memo, was to elicit commitments from Israel and the UAR that they would not develop nuclear weapons or advanced missiles and would allow the United States to monitor compliance. McCloy was instructed to make clear that Israeli

³⁸ Memorandum From Robert W. Komer of the National Security Staff to President Kennedy, 16 May 1963, Kennedy Administration, *FRUS*, vol. xviii, doc. 250.

³⁹ Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998): 128.

⁴⁰ Telegram From the Department of State to the Embassy in Israel, 18 May 1963, Kennedy Administration, *FRUS*, vol. xviii, doc. 252.

agreement to this scheme would be crucial for American consideration of “a more formal security assurance.”⁴¹

In mid-June, Kennedy drafted an even more threatening letter to Ben-Gurion. However, Ben-Gurion resigned soon thereafter, leading Kennedy to resend essentially the same letter to his successor, Levi Eshkol, two and a half weeks later.⁴² Demanding more stringent inspections of Dimona, Kennedy warned, “This government’s commitment to, and support of, Israel would be seriously jeopardized if it should be thought that we were unable to obtain reliable information on a question as vital to peace as the question of Israel’s efforts in the nuclear field.”⁴³

Meanwhile, the Israel-UAR arms control plan fizzled when Nasser responded negatively to the scheme, leading Kennedy to cancel McCloy’s trip to Israel.⁴⁴

After more than a month of internal debate and delay over how to respond to the harsh Kennedy letter, Eshkol wrote back on August 19th. He accepted continued US inspections but was evasive with respect to many of Kennedy’s more specific conditions, including how frequent the inspections would be.⁴⁵ As George Ball wrote to President Kennedy in August 1963, “Prime Minister Eshkol’s August 19 reply on Dimona inspections, although not entirely what we wanted, probably represents the most we can hope to get at this time from the Israelis.”⁴⁶ Therefore, despite Eshkol’s evasive reply, Kennedy responded warmly, writing to Eshkol “your

⁴¹ Memorandum by the Working Group on Near East Arms Limitation, undated, Kennedy Administration, *FRUS*, vol. xviii, doc. 261. According to *FRUS*, “Presumably this is the memorandum Komer forwarded to President Kennedy on May 31.”

⁴² Zaki Shalom, “Kennedy, Ben-Gurion, and the Dimona Project, 1962-1963,” *Israel Studies* 1, No. 1 (1996): 14.

⁴³ Quoted in *Ibid*, 15.

⁴⁴ Cohen, *Israel and the Bomb*, 156.

⁴⁵ Cohen, “Israel and the Evolution of US Nonproliferation Policy,” 10.

⁴⁶ Memorandum From Acting Secretary of State Ball to President Kennedy, 23 August 1963, *FRUS*, vol. xviii, doc. 317.

letter of August 19 was most welcome here.”⁴⁷ Kennedy made a deliberate decision at this time to delay the question of security assurances, hoping to dissociate it from the nuclear question for the time being and thereby avoid a likely Soviet counter-reaction to a more explicit guarantee of Israel.⁴⁸ According to Cohen, this vague understanding on inspections “greatly diminished” the American sense of urgency regarding the nuclear issue.⁴⁹

US concern over Israel’s nuclear program was revived under the Johnson administration the following year when it became clear that Israel was simultaneously seeking a missile capability. This led McGeorge Bundy, National Security Advisor to Johnson, to inform Israeli Deputy Prime Minister Abba Eban in March that, “what greatly concerned us were the implications of Israel, with an acknowledged nuclear potential, moving to acquire a delivery system which made real sense only with nuclear warheads. Whether or not Israel had any such intention, the Arabs could hardly be expected not to draw this conclusion. What they might do then was deeply disturbing. By now Israel should be fully reassured as to the firmness of US support; the one thing that might upset this increasingly close relationship would be US belief that Israel was moving in the direction of a nuclear deterrent.”⁵⁰ In June, President Johnson met with Eshkol in Washington and “said that he should like to remind the Prime Minister that the US is violently against nuclear proliferation. If Israel is not going to get into nuclear production, why not accept IAEA controls and let US reassure Nasser about Dimona.”⁵¹

⁴⁷ Telegram From the Department of State to the Embassy in Israel, 26 August 1963, Kennedy Administration, *FRUS*, vol. xviii, doc. 319.

⁴⁸ See Memorandum of Conversation, 23 July 1963, Kennedy Administration, *FRUS*, vol. xviii, doc. 303; and Memorandum From Acting Secretary of State Ball to President Kennedy, 23 August 1963, *FRUS*, vol. xviii, doc. 317.

⁴⁹ Cohen, “Israel and the Evolution of US Nonproliferation Policy,” 12.

⁵⁰ Memorandum for Record, 5 March 1964, Johnson Administration, *FRUS*, vol. xviii, doc. 26.

⁵¹ Memorandum of Conversation, 1 June 1964, Johnson Administration, *FRUS*, vol. xviii, doc. 65.

The month after the Chinese nuclear test, and the same day that Johnson commissioned the Gilpatric Committee, the State Department directed the US Ambassador to Israel to press Eshkol on a visit to Dimona: “We are engaged in a continuing effort to prevent proliferation of sophisticated weapons, not least in the Near East...The problem is made more acute by the recent explosion of a nuclear device by Communist China. It has alarmed many countries and made some of them--such as India--think again whether they should not attempt nuclear programs of their own. This is likely to focus Arab suspicion even more upon Israel.”⁵²

In February 1965, the Johnson Administration began a different approach, offering to sell Israel advanced tanks and other weaponry as part of a broader quid pro quo; in return, Israel would have to provide “a firm written reiteration of Israel's intentions not to develop nuclear weapons” and accept IAEA safeguards at Dimona.⁵³ After Israel refused to accept IAEA safeguards until the UAR and other regional countries did so, the final signed Memorandum of Understanding of March 10, which was to be kept secret, stated that, “The Government of Israel has reaffirmed that Israel will not be the first to introduce nuclear weapons into the Arab-Israel area.”⁵⁴

In May, the United States renewed its efforts to get Israel to agree to IAEA safeguards at Dimona. A memo sent from Secretary Rusk to President Johnson made clear the increased US commitment to nonproliferation in the wake of the Gilpatric Committee report. The memo argued that, “Our efforts to slow down the U.A.R. sophisticated weapons program--as well as potential nuclear weapons programs in India and elsewhere--will be influenced by the example

⁵² Telegram From the Department of State to the Embassy in Israel, 25 November 1964, Johnson Administration, *FRUS*, vol. xviii, doc. 109.

⁵³ Memorandum From President Johnson to the Under Secretary of State for Political Affairs (Harriman) and Robert W. Komer of the National Security Council Staff, 21 February 1965, Johnson Administration, *FRUS*, vol. xviii, doc. 157.

⁵⁴ Telegram From the Embassy in Israel to the Department of State, 11 March 1965, Johnson Administration, *FRUS*, vol. xviii, doc 185.

we set in dealing with Israel. We very much need a breakthrough on the problem of preventing proliferation by presently non-nuclear states....So long as the Dimona reactor operates without publicly recognized safeguards, the credibility of our worldwide efforts to prevent proliferation is in doubt.”⁵⁵ Soon thereafter, President Johnson sent a letter to Eshkol pressing Israel to accept IAEA safeguards on all its facilities. The letter warned that, “Suspicion that Israel is developing nuclear weapons...might stimulate Nasser to make concessions to the USSR that could result in a Soviet nuclear support program similar to the one that was attempted in Cuba.”⁵⁶

By 1966, with Israel still rejecting IAEA safeguards, the United States again turned to military sales and aid as leverage on the nuclear question. In a meeting with the Israeli Foreign Minister in February, Secretary Rusk noted that President Johnson would like to grant Israel’s requests for economic assistance and arms sales but that “the only major question that could have a disastrous effect on US-Israeli relations was Israel's attitude on proliferation...Israel should expect the US to be extremely clear and utterly harsh on the matter of non-proliferation.” Rusk warned his Israeli counterpart “not to underestimate the total involvement of US-Israel relations in this matter.”⁵⁷ Within a few weeks, the United States agreed to sell Israel 48 A-4 aircraft in exchange for a set of Israeli commitments, including that they “reaffirm their promises not to go nuclear unless others do.”⁵⁸

As the NPT was taking shape in the summer of 1966, the United States made another push to get Israel to accept IAEA safeguards at Dimona and US threats escalated to their harshest and most explicit level. In a meeting with a high-level Israeli diplomat in July, Secretary Rusk

⁵⁵ Memorandum From Secretary of State Rusk to President Johnson, 10 May 1965, Johnson Administration, *FRUS*, vol. xviii, doc. 214.

⁵⁶ Letter From President Johnson to Prime Minister Eshkol, 21 May 1965, Johnson Administration, *FRUS*, vol. xviii, doc. 218.

⁵⁷ Memorandum of Conversation, 9 February 1966, Johnson Administration, *FRUS*, vol. xviii, doc. 269.

⁵⁸ Memorandum From the President’s Deputy Special Assistant for National Security Affairs (Komer) to President Johnson, 22 February 1966, Johnson Administration, *FRUS*, vol. xviii, doc. 273.

warned that if Israel goes nuclear, “you will lose US support...nothing would be more disastrous to GOI [Government of Israel] than [to] enter nuclear weapon field.” Later in the meeting, when the Israeli official raised problems with a nuclear renunciation agreement, namely that it would not solve Israel’s conventional weaponry problems, Secretary Rusk retorted, “either this card is in your deck, or it is not. If it's not, then get it out of the way by accepting safeguards...if Israel is holding open the nuclear option, it should forget US support. We would not be with you.”⁵⁹

This threat was so jarring that that Israeli Foreign Minister Eban complained to the US Ambassador in September that, “this suggestion of sanctions against Israel was not in accord with the atmosphere of trust and good will that should prevail between good friends.”⁶⁰

By 1968, Israel had already assembled its first nuclear device, unbeknownst to the United States, which continued to use arms sales in an attempt to restrain the Israeli nuclear program. In November, the United States offered to sell Israel 50 F-4 Phantoms on the conditions, “(1) that Israel will not test or deploy strategic missiles, (2) that Israel will not develop, manufacture, or otherwise acquire strategic missiles or nuclear weapons, (3) that Israel will sign and ratify the Nuclear Non-Proliferation Treaty.” Assistant Secretary of Defense Paul Warnke also made clear to Israeli Ambassador Yitzhak Rabin that the United States would cancel the deal in the event that Israel acquired nuclear weapons or strategic missiles later on.⁶¹ Several days later, Rabin reaffirmed the more limited Israeli position, namely that they would not be the first to “introduce” nuclear weapons in the Middle East and that “an unadvertised, untested nuclear

⁵⁹ Telegram From the Department of State to the Embassy in Israel, 28 July 1966, Johnson Administration, *FRUS*, vol. xviii, doc. 312.

⁶⁰ Telegram From the Embassy in Israel to the Department of State, 14 September 1966, Johnson Administration, *FRUS*, vol. xviii, doc. 322.

⁶¹ Memorandum of Conversation, “Negotiations with Israel—F4 and Advanced Weapons,” doc. 3A, 4 November 1968, in Avner Cohe, “Israel Crosses the Threshold,” *NSA, EBB no. 189*.

device is not a nuclear weapon.”⁶² By the end of November, the United States had agreed to sell the F-4s on Israel’s less restrictive terms.⁶³

As Assistant Secretary of State for Near Eastern Affairs Joseph Sisco described in a memo for Secretary of State Rogers the following year, an Israeli bomb could have a range of destabilizing effects, including: (1) increased probability of proliferation elsewhere and reduced support for the NPT, (2) an exacerbation of Arab enmity that would increase the chances of a US-USSR clash in the region, (3) decreased Arab willingness to come to a peace deal, (4) Arab hostility toward the United States for not preventing Israeli proliferation, (5) the possibility that the Soviets would provide a nuclear umbrella to Arab states, or that Arab states would become more dependent on the Soviets, and (6) ultimate Arab acquisition of nuclear weapons, which would make Israel highly vulnerable due to its geography and demographics.⁶⁴

Ultimately, President Nixon came to an understanding with Prime Minister Meir in September of 1969 whereby the United States agreed to stop pressing Israel on the nuclear issue in exchange for Israel promising to keep its arsenal “untested and undeclared.”⁶⁵ The motivation for this decision, as a 1969 memo by Henry Kissinger explained, was that, “public knowledge is almost as dangerous as possession itself. This is what might spark a Soviet nuclear guarantee for the Arabs, tighten the Soviet hold on the Arabs and increase the danger of our involvement. What this means is that, while we might ideally like to halt actual Israeli possession, what we really want at a minimum may be just to keep Israeli possession from becoming an established

⁶² Memcon, “Negotiations with Israel—F4 and Advanced Weapons,” doc 3C, 12 November 1968, in “Israel Crosses the Threshold,” *NSA, EBB no. 189*.

⁶³ Paul C. Warnke to Ambassador Yitzhak Rabin, doc. 3D, 27 November 1968, in “Israel Crosses the Threshold,” *NSA, EBB no. 189*.

⁶⁴ Joseph J. Sisco to the Secretary, “Israel’s Nuclear Policy and Implications for the United States,” doc. 7, 3 April 1969, in “Israel Crosses the Threshold,” *NSA, EBB no. 189*.

⁶⁵ Cohen, *The Worst-Kept Secret*, 25-27.

international fact.”⁶⁶ This concern about a possible Soviet nuclear guarantee for Arab states is analogous to fears of nuclear domino effects in that it envisions Israeli acquisition as causing the deployment of nuclear weapons to the territory of additional states.

The Role of Nuclear Domino Fears vs. Existing Explanations

There is abundant evidence from 1961-1969 that US policymakers worried of nuclear domino effects if Israel were to acquire nuclear weapons. Although different officials and different reports expressed divergent views about whether Arab states would attempt indigenous nuclear weapons programs, receive nuclear weapons or nuclear umbrellas from the Soviets, or whether states outside the Middle East would follow Israel’s lead, nuclear domino fears were clearly a consistent concern at the highest levels of the US government.

While there is little evidence that US officials were worried about Israel gaining autonomy from the United States, or that Israel would increase the risk of nuclear war, there is significant evidence in favor of the power projection argument. In 1963, a State Department report warned that an Israeli bomb would “reduce US capability to intervene,” and multiple government analyses warned of instability in the Middle East were Israel to acquire nuclear weapons, whether initiated by an emboldened Israel or an Arab coalition determined to stand up to a nuclear Israel. Finally, there is little evidence in favor of the selective enforcement argument: the United States repeatedly put harsh pressure on Israel over its nuclear program, and while its decision to focus on inducements such as arms sales rather than actually following through with punitive sanctions may be partially attributable to the relatively warm relationship between the United States and Israel, it is quite clear that the United States vehemently opposed

⁶⁶ Quoted in Ori Rabinowitz, “Washington’s Deals on Nuclear Ambiguity.”

the development of an Israeli nuclear arsenal and then sought to limit its international effects once it was realized.

Taiwan (1967-1977)

The United States consistently opposed the Taiwanese nuclear weapons program, at least partly because of the fear of the nuclear domino effects, although perhaps primarily to avoid entrapment, increased China-Taiwan tensions, and the complication of US efforts to improve relations with the PRC. According to Mitchell, “The United States recognized the tense peace that reigned over the Taiwan Strait, and no US administration, regardless of its support for Taiwan, reveled in the prospect of these tensions escalating into a nuclear standoff.”⁶⁷ As will be discussed in a subsequent chapter, ultimately the United States threatened severe sanctions and convinced Taiwan to halt and dismantle its nuclear program.

Illustrating early US fears about the PRC’s response to Taiwan’s nuclear behavior, a 1972 CIA report judged that if Taiwan were to test a nuclear device, the PRC “would no doubt treat such evidence of a nuclear weapons capability on Taiwan as a threat to peace, not only in East Asia but in global terms,” and questioned whether, “the existence of a small number of nuclear weapons would really serve to deter Peking, rather than provoke it to action.”⁶⁸ However, US officials also worried about nuclear domino effects with respect to Taiwan. In August 1976, the US Ambassador to Taiwan warned Taiwanese Foreign Minister Shen that, “US officials as

⁶⁷ Derek Mitchell, “Taiwan’s Hsin Chu Project: Deterrence, Abandonment, and Honor,” in *The Nuclear Tipping Point*, 294-295.

⁶⁸ Special National Intelligence Estimate 43-1-72, “Taipei’s Intentions and Capabilities Regarding Nuclear Weapons Development,” doc. 1A, 16 November 1972, in William Burr, “US Opposed Taiwanese Bomb during 1970s,” *NSA, EBB no. 221*.

well as the media have an obligation to be suspicious about the possibilities for proliferation in the ROC, as in any other foreign country, because once it begins there is no turning back.”⁶⁹

The United States had good reason to be afraid about a PRC response to a Taiwanese nuclear program. After all, in October 1976, a Chinese official warned an Australian diplomat that, “the PRC would hold the US responsible in the event Taiwan acquired nuclear weapons.”⁷⁰ This concern was clearly reflected in a National Security Council memo on arms sales to Taiwan from the same year that recommended giving, “high priority to avoiding serious problems in our relations with Peking,” and ensuring that US sales “did not contribute to the ROC’s nuclear, long-range/intermediate missile, or chemical warfare development programs.”⁷¹ As noted above, the United States ultimately succeeded in convincing Taiwan to give up its nuclear weapons program, an episode that will be explored at length in Chapter 6.

The Role of Nuclear Domino Fears vs. Existing Explanations

While there is some evidence that the United States worried about domino effects in the Taiwan case, the prime motivation was clearly a desire to avoid potential conflict with China, nuclear or otherwise, which suggests nuclear war risks or power projection explanations most accurately account for US nonproliferation motivations vis-à-vis Taiwan. Interestingly, there is little evidence that the United States viewed as Taiwanese nuclear capability as a source of allied autonomy from the United States, a concern that was perhaps limited by the fact that the United States was already in the process of cutting back its relationship with Taipei. The United States

⁶⁹ US Embassy cable 5695 to State Department, “Ambassador Meets with Foreign Minister Shen to Discuss Recent Press Reports Concerning Reprocessing on Taiwan,” doc. 5A, 31 August 1976, in “US Opposed Taiwanese Bomb during 1970s,” *NSA, EBB no. 221*.

⁷⁰ Memorandum from Burton Levin, Office of Republic of China Affairs, to Oscar Armstrong, Deputy Assistant Secretary for East Asian Affairs, “PRCLO Comment on Taiwan Nuclear Development,” 12 October 1976, in William Burr, “New Archival Evidence on Taiwanese ‘Nuclear Intentions’, 1966-1976,” *NSA, EBB no. 20*.

⁷¹ US Security Assistance to the Republic of China (NSSM 212), 23 June 1976, *DNSA, CH00415*.

did not selectively enforce nonproliferation in this case, giving Taiwan a free pass because of its alliance with the United States. Rather, as will be explored in a subsequent chapter, the United States went to great lengths to prevent Taiwan's nuclearization, essentially threatening to abandon Taiwan if they did not concede.

South Korea (1970-1978)

After US officials became aware of South Korean nuclear efforts in 1974,⁷² they made persistent efforts to halt the ROK nuclear program, which ultimately proved successful as South Korea abandoned its nuclear program by 1978. While the United States was concerned about South Korean nuclearization causing conflict in a strategic location and risking nuclear war, American policymakers were also concerned about the potential for nuclear domino effects.

Early evidence of US concerns over the South Korea nuclear program comes from February 1975, when the State Department recommended to National Security Advisor Brent Scowcroft that the United States not approve a Lockheed contract to sell South Korea missile technology partially on the grounds that they were developing nuclear weapons. According to the memo, "President Park [Chung-Hee], through the ADD [Agency for Defense Development], is embarked upon an ambitious program to develop advanced weapons systems which will be 'strategic' in the context of the Korean Peninsula. In addition to advanced missiles the ADD has been directed to supervise production of a prototype nuclear weapon...Linkage of nuclear

⁷² "US Department of State Cable, ROK Plans to Develop Nuclear Weapons and Missiles" December 11, 1974, History and Public Policy Program Digital Archive, Gerald Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 11, Korea - State Department Telegrams, to SecState - NODIS (2). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114617>

weapons development to an advanced missile capability would have the most serious strategic implications given the ROK [Republic of Korea]'s geographic location."⁷³

The next month, the State Department sent a message to the US embassy in Seoul explaining US motivations for enforcing nonproliferation in South Korea:

In the case of Korea our general concerns are intensified by its strategic location and by the impact which any Korean effort to establish nuclear capability would have on its neighbors, particularly North Korea and Japan. ROK possession of nuclear weapons would have major destabilizing effect in an area in which not only Japan but USSR, PRC, and ourselves are directly involved. It could lead to Soviet or Chinese assurances of nuclear weapons support to North Korea in the event of conflict. Further, ROK efforts to secure a nuclear weapon capability will inevitably impact on our bilateral security relationship. This impact will be complicated by fact that ROK nuclear weapon effort has been in part reflection of lessened ROKG confidence in US security commitment, and consequent desire on Park's part to reduce his military dependence on US.⁷⁴

Immediate US concerns, which through most of 1975 focused on South Korea's deal to buy a reprocessing facility from France, were expressed in a June memo from the State Department to the US embassy in South Korea. The memo directed the embassy to inform ROK officials that, "steps toward even a pilot reprocessing facility in Korea could be destabilizing and could raise serious apprehensions which could impair US-Korean nuclear relationships." Warning South Korea of material consequences were they to persist in their nuclear efforts, the Ambassador was directed to note, "widespread concerns within the executive branch as well as in the congress on the subject of reprocessing...that are very likely to affect our ability to move promptly on Korea's nuclear requests...It is to be noted in this regard that the issue of an Export-

⁷³ "US Department of State Memorandum, Sale of Rocket Propulsion Technology to South Korea" February 04, 1975, History and Public Policy Program Digital Archive, Gerald R. Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 9, Korea (3). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114634>

⁷⁴ "US National Security Council Memorandum, ROK Weapons Plans" March 03, 1975, History and Public Policy Program Digital Archive, Gerald R. Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 9, Korea (4). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114628>

Import Bank loan for the ROK is before congress. This loan may well be disapproved unless these concerns...are satisfied.”⁷⁵

In August, the US ambassador made the threats more specific to the ROK Minister of Science and Technology and warned of possible domino effects, describing “increasing concern in both in congress and administration over implications of nuclear weapons proliferation should ROK acquire reprocessing plant and escalating impetus such acquisition might give North Korean efforts to obtain nuclear technology from PRC and USSR.” The Ambassador said that he did not believe Congress would approve the loan for Korea’s nuclear energy program “unless French reprocessing plant acquisition cancelled” and promised that doing so “would open way to broader and intensified joint ROKG-USG energy development cooperation...If ROKG continued with French deal, future energy cooperation would be impaired.” The ROK minister responded by expressing “surprise over extent [of] USG concern.”⁷⁶

Later that month, Secretary of Defense James Schlesinger traveled to Seoul and met with high-level ROK officials. In a face-to-face meeting with President Park, Schlesinger “stressed that the only thing that could undermine the political relationship between the US and the ROK would be the Korean effort to acquire its own nuclear weapons.”⁷⁷ Later in the visit to Seoul, Schlesinger informed ROK Minister of Defense, Suh Jyong-chul, “The question of non-proliferation is of great significance both in strategic and political terms. One finds the deepest and most persistent concern regarding this problem in Congress. Thus the ratification of the NPT helps us enormously in our relationships with Korea. It is also of great importance to the

⁷⁵ "US Department of State Cable, ROK Nuclear Fuel Reprocessing Plans" June 30, 1975, History and Public Policy Program Digital Archive, Gerald R. Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 9, Korea (9). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114619>

⁷⁶ ROK Nuclear Fuel Reprocessing Plans, 23 August 1975, *DNSA*, KO00185.

⁷⁷ Memorandum of Conversation, 27 August 1975, Nixon-Ford Administration, *FRUS*, vol. E-12, doc. 272.

Japanese, who are very sensitive about this issue. If the ROKG had decided to move ahead with nuclear weapons development, it could have undermined the basis of our political relationship.”⁷⁸

Nonetheless, despite ratifying the NPT, the ROK continued to refuse to cancel its deal with France to purchase a reprocessing facility. By December, the US Ambassador in Seoul recommended an even tougher approach to South Korea, noting that his discussion with the ROK Prime Minister, “indicates that to be effective our approach must emphasize adverse impact on our broader relationship with ROKG if they persist in completing French reprocessing deal...I believe we must make indelibly clear that far more than our nuclear support is at stake here, that if ROKs proceed as they have indicated to date whole range of security and political relationships between US and ROK will be affected, including potential for adverse congressional action on security assistance for Korea.”⁷⁹ Following in this vein, within a week the US ambassador informed the ROK Vice Minister of Science and Technology and the Korean Atomic Energy Research Institute (KAERI) president that the “Real consideration for Koreans at this point, which Ambassador wished conveyed to Prime Minister, was whether Korea prepared jeopardize availability of best technology and largest financing capacity which only US could offer, as well as vital partnership with US, not only in nuclear and scientific areas but in broad political and security areas.” The US Ambassador informed Washington that he had also informed the Korean foreign minister “that this is a matter of highest political importance,

⁷⁸ "Memoranda of Conversations between James R. Schlesinger and Park Chung Hee and Suh Jyong-chul" August 26, 1975, History and Public Policy Program Digital Archive, Gerald R. Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 9, Korea (11). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114633>

⁷⁹ "US Department of State Cable, ROK Nuclear Reprocessing" December 10, 1975, History and Public Policy Program Digital Archive, Gerald Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 11, Korea - State Department Telegrams, to SecState - NODIS (8). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114612>

affecting broad spectrum of ROKG-US relations.”⁸⁰ South Korea ultimately canceled the reprocessing deal in January 1976 and fully ended its nuclear program by 1978.

The Role of Nuclear Domino Fears vs. Existing Explanations

Fears of nuclear domino effects were a significant concern motivating US nonproliferation efforts vis-à-vis South Korea. The State Department worried about “the impact which any Korean effort to establish nuclear capability would have on its neighbors, particularly North Korea and Japan,” and that a South Korean bomb “could lead to Soviet or Chinese assurances of nuclear weapons support to North Korean in the event of conflict.” The US ambassador directly warned ROK officials of, “escalating impetus such acquisition [of a reprocessing plant] might give North Korean efforts to obtain nuclear technology.”

However, there is also evidence that in this case US officials were worried about reduced power projection capability, nuclear war risks, and increased South Korean autonomy. The State Department warned that, “ROK possession of nuclear weapons would have major destabilizing effect in an area in which not only Japan but USSR, PRC, and ourselves are directly involved,” and that a full nuclear missile capability, “would have the most serious strategic implications given the ROK’s geographic location.” With respect to South Korean autonomy, officials were concerned that the South Korean nuclear effort would “inevitably impact on our bilateral security relationship” and was evidence of ROK efforts to lessen “military dependence on US.” There is no evidence, however, that the United States made exceptions for South Korea because of the alliance; rather, US officials exploited South Korean dependence on the United States to force the ROK to halt its nuclear weapons efforts.

⁸⁰ "US Department of State Cable, ROK Nuclear Reprocessing" December 16, 1975, History and Public Policy Program Digital Archive, Gerald Ford Presidential Library, National Security Adviser Presidential Country Files for East Asia and the Pacific, Box 11, Korea - State Department Telegrams, to SecState - NODIS (9). Obtained by Charles Kraus. <http://digitalarchive.wilsoncenter.org/document/114608>

Pakistan (1972-1986)

US efforts to restrain the Pakistani nuclear program began in 1975, in the wake of the 1974 Indian nuclear test. The United States put consistent pressure on Pakistan until 1980, including the imposition of sanctions as per the Symington Amendment, and then waived sanctions in order to resume aid during the Soviet occupation of Afghanistan but nonetheless sought to convince Pakistan to restrain its nuclear program and in particular to refrain from testing. These efforts will be described in detail in a subsequent chapter. As evidenced below, US motivations for nonproliferation advances vis-à-vis Pakistan included fears of nuclear domino effects, along with worries about power projection capability and risks of nuclear war.

As early as April 1978, a government study on the Pakistani nuclear program warned of domino effects, predicting that Pakistani test “could well lead India—which does have that capability—to develop nuclear weapons on its own.”⁸¹ The following year, an Interagency Working Group Paper concluded that Pakistani arsenal would, “demonstrate—even more forcefully than India—that nuclear weapons status is within reach of small, relatively unsophisticated nations notwithstanding the coordinated opposition of the supplier countries. Moreover, the ‘Islamic bomb’ aspect of this case could lead to a direct threat to US national interests in the Middle East and Persian Gulf.”⁸² Several days later, Gerard Smith, Ambassador-at-Large on nonproliferation issues, dramatically warned Deputy Secretary of State Christopher that the Pakistani nuclear program is:

⁸¹ Pakistan’s Nuclear Program, 26 April 1978, *DNSA*, WM00212

⁸² Anthony Lake, Harold Saunders, and Thomas Pickering through Mr. Newsom and Mrs. Benson to the Deputy Secretary, “PRC Paper on South Asia,” doc. 32A, 23 March 1979, in William Burr, “The United States and Pakistan’s Quest for the Bomb,” *NSA*, *EBB* no. 333.

the sharpest challenge to the international structure since 1945...If Pakistan persists, India is bound to develop nuclear weapons and then where does the process stop. It seems inevitable that the present broad consensus against weapons spread (more than 100 nations in NPT) will further erode. The prospect of 'Moslem' bombs is as likely as a German and Japanese bomb (consider what their jingos would make of these countries remaining as 3d class powers.⁸³

A letter from President Carter to Western leaders in the spring of 1979 likewise cautioned about domino effects as well as other threats to US security, warning that if Pakistan acquired nuclear weapons, a South Asian nuclear arms race could result, regional stability would be eroded, and proliferation could become more likely in the Middle East and elsewhere.⁸⁴

In June 1981, a State Department Bureau of Intelligence and Research assessed the probable consequences of a Pakistani nuclear test and identified a range of negative consequences, including that India would revive its nuclear weapons program, a nuclear arms race could ensue, and that, "It is difficult to be optimistic that a stable, long-term mutual deterrence relationship would be established. Political instability, the revival of frictions over the disputed state of Kashmir, differing strategic interests, and deep-seated mutual distrust are likely to produce future regional crises. Under nuclear arms race conditions, a crisis that results in military hostilities would always have a chance of escalating to a nuclear exchange." Further down the road, the study judged that Pakistani and Indian nuclear buildups could ultimately produce a situation where, "a nuclear exchange on the subcontinent would pose risks of escalation of nuclear conflict between India and China, with destabilizing implications for the Sino-Soviet relationship and global security." With respect to nuclear domino effects, the report warned that South Asian proliferation "would weaken international efforts to prevent horizontal

⁸³ Memorandum from Gerard C. Smith, Special Representative of the President for Non-Proliferation Matters, to the Deputy Secretary, doc. 32C, 27 March 1979, in "The United States and Pakistan's Quest for the Bomb," *NSA, EBB no. 333*.

⁸⁴ Paul H. Kreisberg to Mr. Newsom, "Presidential Letter on Pakistan Nuclear Program to Western Leaders," doc. 33, 30 March 1979, in "The United States and Pakistan's Quest for the Bomb," *NSA, EBB no. 333*.

proliferation within Southwest Asia as well as outside the region,” and that India and Pakistan may be tempted to supply sensitive nuclear technology to Middle Eastern countries for security or financial reasons.⁸⁵ Ultimately, in spite of US concerns, Pakistan succeeded in achieving a rudimentary nuclear weapons capability by 1984, as will be discussed in a subsequent chapter.

The Role of Nuclear Domino Fears vs. Existing Explanations

There is clear and abundant evidence indicating that US policymakers worried about domino effects emanating from Pakistan’s acquisition of nuclear weapons. These fears focused in particular on the possibility that Pakistan would inspire or aid other Muslim states to acquire the bomb—states often at odds with the United States and its allies—but also extended to a more general fear that a Pakistani bomb would undermine the nonproliferation regime, cause India to revive its weapons program, and cause states like Japan and Germany to rethink their nuclear abstention.

There is likewise evidence that US officials worried about threats to power projection capability and the risk of nuclear war. Particular concerns included regional instability in the wake of Pakistani nuclearization; moreover, US policymakers were expressed skepticism “that a stable, long-term mutual deterrence relationship would be established... Under nuclear arms race conditions, a crisis that results in military hostilities would always have a chance of escalating to a nuclear exchange.” A Pakistani bomb would also likely lead India to follow suit, in turn leading to a dangerous tripolar nuclear environment between India, Pakistan, and China.

⁸⁵ "Bureau of Intelligence and Research, US Department of State, 'India-Pakistani Views on a Nuclear Weapons Option and Potential Repercussions'" June 25, 1981, History and Public Policy Program Digital Archive, Department of State FOIA release, copy courtesy of Jeffrey Richelson. Obtained and contributed by William Burr and included in NPIHP Research Update #6.
<http://digitalarchive.wilsoncenter.org/document/114242>

While there is little evidence that the United States was worried about weakened influence over Pakistan, there is significant evidence of selective enforcement in the Pakistan case. As will be discussed at length in a later chapter, after the Soviet invasion of Afghanistan US leaders waived nuclear sanctions against Pakistan for a decade because they deemed a strong Pakistan as a counterweight to Soviet influence to be a crucial national interest. Even then, however, the US (successfully) prevented Pakistan from testing for the duration of the aid relationship.

South Africa (1974-1978)

Starting in 1975, the United States put consistent pressure on South Africa to commit to nonproliferation and give up its nuclear weapons program. In developing these policies, US officials were largely motivated by nuclear domino fears. Even after South Africa achieved a nuclear capability in the late 1970s, the Reagan administration worked to prevent a South African nuclear test.

Soon after the Indian nuclear test of May 1974, the CIA began assessing the possibility that South Africa had a nuclear weapons program, concluding, that “a crude fission device could be produced within this decade,”⁸⁶ and later that “South Africa probably would go forward with a nuclear weapons program if it saw a serious threat from African neighbors beginning to emerge.”⁸⁷ In 1975, a campaign by congressional leaders opposed to apartheid led the Ford administration to cancel its nuclear fuel shipments for South Africa’s Safari-1 reactor; the next year similar pressure led the United States to withdraw its bids to construct two nuclear power

⁸⁶ Office of Scientific Intelligence, Central Intelligence Agency, “South Africa Not Currently in Position to Build Nuclear Weapons,” *Weekly Surveyor*, doc. 7, 22 July 1974, in Jeffrey Richelson, “US Intelligence and the South African Bomb,” *NSA, EBB no. 181*.

⁸⁷ Director of Central Intelligence, Memorandum, “Prospects for Further Proliferation of Nuclear Weapons,” doc. 8, 4 September 1974, in “US Intelligence and the South African Bomb,” *NSA, EBB no. 181*.

plants in South Africa.⁸⁸ By the end of 1976, President Ford decided that enriched uranium fuel would only be provided to South Africa if it agreed to sign the NPT and accepted IAEA safeguards on all its nuclear facilities.⁸⁹ When Carter entered the White House in January 1977, he followed through on this policy and “immediately instituted the Ford Administration’s decision to withhold export licenses of enriched uranium to a shocked Pretoria.”⁹⁰

On July 30, 1977, Soviet satellites detected that South Africa appeared to be preparing a nuclear test site in the Kalahari Desert. One week later, the Soviets informed President Carter of this development; two days later, the Soviet news agency reported this development to the world, and the United States confirmed the Soviet assessment with its own satellites.⁹¹ US intelligence officials were surprised by this discovery, since they thought South Africa was still one to four years away from a nuclear capability.⁹² In retrospect, however, this estimate was correct. South Africa had not yet produced enough weapons-grade highly enriched uranium; thus, the Kalahari test was planned to be of the ‘cold’ variety—that is, without the fissile material in the device.⁹³

The Carter administration responded vigorously to the planned test, enlisting the support of France, Britain, and West Germany—all of whose leaders exerted diplomatic pressure on South Africa to cancel the test between August 14 and 21.⁹⁴ The American ambassador to South Africa informed the South African Minister of Foreign Affairs on August 18:

⁸⁸ Peter Liberman, “The Rise and Fall of the South African Bomb,” *International Security* 26, No. 2 (2001): 69.

⁸⁹ Martha Van Wyck, “Ally or Critic? The United States’ Response to South African Nuclear Development, 1949-1980,” *Cold War History* 7, No. 2 (2007): 207.

⁹⁰ *Ibid.*, 208.

⁹¹ Jeffrey Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea* (New York: WW Norton and Company, 2007), 278.

⁹² Mitchell Reiss, *Without the Bomb: The Politics of Nuclear Nonproliferation* (New York: Columbia University Press, 1988), 186.

⁹³ See Richelson, *Spying on the Bomb*, 277.

⁹⁴ Richard Betts, “A Diplomatic Bomb for South Africa?” *International Security* 29, No. 2 (1979): 105.

President Carter has instructed me to make clear that the detonation of a nuclear device whether a nuclear weapon or a so-called peaceful nuclear explosive or any further steps to acquire or develop a nuclear explosive capability would have the most serious consequences for all aspects of our relations and would be considered by us as a serious threat to the peace. Under these circumstances you should know that we do not believe that South Africa could continue to count on help from the Western Powers in any field and you should also be aware of the possibility that the issue may arise in the United Nations Security Council on short notice with unforeseeable results... We believe that you should find means to prove in a publicly persuasive way that you are not developing the Kalahari facility as a nuclear test site and that your pilot enrichment plant is not and will not be used to produce enriched uranium for any explosive purpose.⁹⁵

In response to the US pressure, Vorster pledged that South Africa did “not have and not intend to develop nuclear explosive devices for any purpose either peaceful or as a weapon, that the Kalahari test site...[was] not designed to test nuclear explosives and that no test [would] be taken in South Africa now or in the future.”⁹⁶ After Vorster announced in October that he was “not aware of any promise that I gave to President Carter,” US officials responded by publicizing the written pledge Vorster had made.⁹⁷ South African leaders were reportedly surprised by the harsh reaction to their test preparations. After all, India had tested a PNE in May 1974 without facing sanctions.⁹⁸

Despite increasingly strained relations between the two states because of apartheid and the aborted nuclear test, the US government nonetheless “opposed a complete ban on nuclear cooperation with South Africa” in order to preserve leverage that could be used to gain South

⁹⁵ "Letter, US Ambassador Bowlder to South African Foreign Minister Botha" August 18, 1977, History and Public Policy Program Digital Archive, South African Foreign Affairs Archives, Brand Fourie, Atomic Energy, File 2/5/2/1, Vol 1, Vol 2. Obtained and contributed by Anna-Mart van Wyk, Monash South Africa. <http://digitalarchive.wilsoncenter.org/document/114150>

⁹⁶ David Fischer, “South Africa,” in *Nuclear Proliferation after the Cold War*, 209.

⁹⁷ Betts, “A Diplomatic Bomb for South Africa,” 105-106.

⁹⁸ Mitchell Reiss, *Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities* (Washington: Woodrow Wilson Center Press, 1995), 31.

African adherence to the NPT.⁹⁹ As part of a diplomatic offensive to achieve this goal, in late 1977 the Carter administration again made clear that it would not provide fuel for South African reactors unless South Africa joined the NPT.¹⁰⁰ Coupled with this threat, in order to reassure South Africa that it would indeed resume fuel shipments if South Africa complied, the US government voted against U.N. resolutions mandating a total ban on nuclear cooperation with South Africa.¹⁰¹ Strengthening the US position, in March 1978 Congress passed the Nuclear Nonproliferation Act (NNPA), which prohibited nuclear exports to countries that did not have IAEA safeguards on all their facilities.¹⁰² This cut off South Africa's only reliable fuel supply, forcing them to build several expensive installations to fabricate their own nuclear fuel.¹⁰³

US motivations for opposing a South African nuclear weapons program included fears of nuclear domino effects. After the September 1979 Vela incident, when US satellites picked up signals from what appeared to be a nuclear detonation in the southern Indian Ocean, a State Department report concluded:

The likelihood that an atmospheric nuclear explosion did occur and the possibility that South Africa has tested a nuclear device, impinge on our global nonproliferation and African policy interests...South Africa faces no significant impediment to establishing a nuclear weapons capability, if it is prepared to pay a political price. South Africa might then support nuclear weapons programs in other politically isolated states, such as Israel and Taiwan. The nonproliferation stakes could be high if the September 22 event caused a rupture in our nuclear negotiations with South Africa. But, failure to take action in response to the September 22 event could make more difficult efforts to deter proliferation elsewhere, e.g. Pakistan and India.¹⁰⁴

⁹⁹ Frank Pabian, "South Africa's Nuclear Weapon Program: Lessons for US Nonproliferation Policy," *Nonproliferation Review* 3, No. 1 (1995): 4.

¹⁰⁰ Paul, *Power Versus Prudence*, 114.

¹⁰¹ Betts, "A Diplomatic Bomb for South Africa," 113.

¹⁰² Pabian, "South Africa's Nuclear Weapon Program," 4.

¹⁰³ Ibid.

¹⁰⁴ Christine Dodson, National Security Council, Memorandum for: Secretary of State and others, *Subject: South Atlantic Nuclear Event*, doc. 21, 22 October 1979, in "US Intelligence and the South African Bomb," NSA, EBB no. 181.

While the origin of the 1979 Vela incident has never been definitively determined, it is known that South Africa developed its first nuclear device by 1979 and subsequently built a small arsenal that it gave up during the transition from Apartheid. Nevertheless, even after South Africa had achieved a nuclear capability, US policymakers worked to prevent South Africa from testing. Specifically, the Reagan administration reached a deal with South Africa in 1981 whereby the United States agreed to resume nuclear fuel shipments in exchange for South Africa agreeing not to test, at least until discussing the decision with US officials.¹⁰⁵

The Role of Nuclear Domino Fears vs. Existing Explanations

The limited evidence available suggests that the United States was worried about nuclear domino effects were South Africa to acquire the bomb, both in terms of South Africa helping other states acquire nuclear weapons and in motivating states like India and Pakistan to continue with their nuclear efforts. There is little evidence that US officials were worried about nuclear war risks, power projection, or that they selectively enforced nonproliferation.

Argentina (1979-1990)

The United States made repeated efforts to convince Argentina to make nonproliferation commitments, including accepting full-scope safeguards and signing the Treaty of Tlateloco, which sought to establish a Nuclear Weapons Free Zone in Latin America. The United States did not view an Argentine nuclear capability as a direct threat; rather, US officials were worried about the effect of an Argentine arsenal on further proliferation.

US efforts to halt Argentine nuclear developments were largely based on withholding nuclear energy cooperation until Argentina committed to restraining its nuclear program. For

¹⁰⁵ Rabinowitz, "Washington's Deals on Nuclear Ambiguity."

example, in February 1978 Joseph Nye (then Deputy Under Secretary of State for Security Assistance, Science, and Technology) informed the Argentine Ambassador that only after Argentina ratified the Treaty of Tlatelolco and gave up plans for reprocessing would cooperation be possible: “In stage one, both the US and Argentina will work to ratify Protocol I and the Treaty, respectively. Stage two involves the supply of heavy water and fuel for a second research reactor to be sold to Peru. The latter will require an amendment of our bilateral agreement for cooperation. Full-scope safeguards will be necessary. Under stage 3, the transfer of heavy water production technology might be envisioned under a major change in US policy, and Argentina would have to change its policy and defer reprocessing.”¹⁰⁶ A few weeks later, a State Department memo sent to Secretary of State Vance noted that military sales and training with Argentina would soon be cut off due to human rights sanctions, that Argentina’s failure to ratify Tlatelolco was a serious problem, and that “our nuclear interests in Argentina are the most powerful reasons for maintaining a working relationship with the Argentine government.”¹⁰⁷

In October 1978, US officials met with their Argentine counterparts to discuss peaceful nuclear cooperation. One US official expressed “disappointment” and “concern” over Argentina’s plans to pursue reprocessing, which had recently been made public, warning that “such statements would certainly have a negative impact in Brazil and serve to undermine efforts to achieve our shared non-proliferation goals and to maintain regional stability.” US officials then informed Argentina of the specific conditions they would have to meet to continue peaceful nuclear cooperation as stipulated in the 1978 Nuclear Non-Proliferation Act. This would require, for instance, that Argentina agree to full-scope safeguards and promise that no US-supplied material could be used in the production of any nuclear device. Confirming what Nye had said in

¹⁰⁶ US-Argentine Nuclear Relations, 10 February 1978, *DNSA*, AR01247.

¹⁰⁷ Country Priorities in Latin America, 26 February 1978, *DNSA*, AR01268.

February, US officials made clear that the provision of heavy water production technology would only be possible if Argentina agreed to forego reprocessing.¹⁰⁸ The US position on the Argentine nuclear program continued under the Reagan administration. A memo from Secretary of State Alexander Haig to Reagan in March 1981 preparing him for his meeting with the Argentine President noted that a core US objective was to “obtain a commitment from [President] Viola to ratify the Treaty of Tlatelolco.”¹⁰⁹

American motivations for pursuing nonproliferation in Argentina were indirect, based on the effects an Argentine bomb would have on other states. As a State Department study from 1981 explained:

The United States would not be directly threatened in the near term by the acquisition of the know-how and means to produce weapons grade nuclear material by Latin America’s two leading nuclear powers—Brazil and Argentina. Despite the periodic ups and down in US relations with these countries, both are ideologically pro-West and would derive no advantage from directly threatening US military or civilian interests in the region. The real threat to the US of nuclear proliferation in Brazil and Argentina is indirect. Possession of an independent complete nuclear fuel cycle, especially in the case of Brazil, could lead to the irresistible temptation to supply weapons grade material to countries or groups inimical to US security interests in exchange for increased access to conventional sources of energy.¹¹⁰

A 1982 CIA report on Argentina’s nuclear program in the wake of Falklands War similarly warned of nuclear domino effects, arguing that an Argentine bomb would cause Brazil to go nuclear and could have a similar effect on Chile. More broadly, Argentine acquisition of a bomb “would increase proliferation dangers in two fundamental ways: other near-nuclear

¹⁰⁸ US-Argentine Nuclear Cooperation Talks, 20 October 1978, *DNSA*, AR01696.

¹⁰⁹ Your Meeting with Roberto Viola President-Designate of Argentina, 13 March 1981, *DNSA*, NP01873.

¹¹⁰ "Special Assistant for NPI, NFAC, CIA, to Resource Management Staff, Office of Program Assessment et al, 'Request for Review of Draft Paper on the Security Dimension of Non-Proliferation'" April 09, 1981, History and Public Policy Program Digital Archive, Mandatory Declassification Review request. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114233>

weapons states would be less inclined to hold back the development of their nuclear explosives; and some threshold states might have increased interest in turning to Argentina as a source of sensitive nuclear materials and technology.”¹¹¹ Two months later, a broader CIA report on nuclear proliferation trends likewise concluded, “Efforts by Argentina and Brazil to develop unsafeguarded nuclear-weapons-related capabilities threaten nonproliferation efforts globally. Differences with these states over the need for comprehensive nonproliferation safeguards and the undesirability of so-called peaceful nuclear explosives will tend to hamper US efforts to restore influence in the region.”¹¹² Argentina ultimately ended its nuclear weapons program after a series of bilateral agreements with Brazil in the late 1980s and early 1990s.

The Role of Nuclear Domino Fears vs. Existing Explanations

There is strong evidence that US nonproliferation policy toward Argentina was motivated by nuclear domino fears. American officials worried that an Argentine bomb would increase the likelihood of proliferation both regionally and globally, either by motivating threshold states to follow Argentina’s path or if Argentina were to “supply weapons grade material to countries or groups inimical to US security interests in exchange for increased access to conventional sources of energy,” a clear reference to Libya, Iran, or Iraq.

US officials were not concerned about reduced power projection capability, increased risk of nuclear war, or increased autonomy due to an Argentine bomb. A State Department study explicitly stated that, “The United States would not be directly threatened in the near term by the

¹¹¹ "Special National Intelligence Estimate, SNIE 91-2-82, 'Argentina's Nuclear Policies in Light of the Falkland's Defeat'" September 01, 1982, History and Public Policy Program Digital Archive, Obtained and contributed by William Burr and included in NPIHP Research Update #11. <http://digitalarchive.wilsoncenter.org/document/116895>

¹¹² "National Intelligence Estimate, NIE-4-82, 'Nuclear Proliferation Trends Through 1987'" July, 1982, History and Public Policy Program Digital Archive, Obtained and contributed by William Burr and included in NPIHP Research Update #11. <http://digitalarchive.wilsoncenter.org/document/116894>

acquisition of the know-how and means to produce weapons grade nuclear material,” by Argentina or Brazil, instead highlighting the risk of further proliferation were these countries to acquire nuclear weapons. While a CIA report did not emphasize the effect of nuclear policies on “US efforts to restore influence in the region,” the worry was that *nonproliferation* policies would reduce US influence, not that an Argentine bomb would reduce US influence. Lastly, there is little evidence that the United States selectively enforced nonproliferation and gave Argentina a free pass: the United States repeatedly made efforts to restrain the Argentine nuclear program and withheld nuclear energy cooperation as a means of doing so.

Brazil (1978-1990)

US nonproliferation efforts toward Brazil began after Brazil signed a major nuclear export deal with West Germany in 1975, which would provide Brazil with a complete nuclear fuel cycle and thereby the technical capability to acquire the fissile material for a bomb. Between 1975 and 1977, the Ford and Carter administration made repeated efforts to convince West Germany and Brazil to restrict or cancel the deal.¹¹³ Continuing into the 1980s, the United States worked to restrain the Brazilian program and worried about possible domino effects.

As noted above, the United States did not view a Brazilian nuclear arsenal as a direct threat but instead worried about the systemic effects of a Brazilian bomb: “The real threat to the US of nuclear proliferation in Brazil and Argentina is indirect. Possession of an independent complete nuclear fuel cycle, especially in the case of Brazil, could lead to the irresistible temptation to supply weapons grade material to countries or groups inimical to US security

¹¹³ William Courtney, “Brazil and Argentina: Strategies for American Diplomacy,” in *Nonproliferation and US Foreign Policy*, ed. Joseph Yager (Washington: Brookings Institution, 1980): 377-384. Also see William Glenn Gray, “Commercial Liberties and Nuclear Anxieties: The US-German Feud over Brazil, 1975-7,” *International History Review* 34, No. 3 (2012): 449-474.

interests in exchange for increased access to conventional sources of energy.”¹¹⁴ As with Argentina, the CIA concluded in 1982 that, “efforts by Argentina and Brazil to develop unsafeguarded nuclear-weapons-related capabilities threaten nonproliferation efforts globally.”¹¹⁵

Also similar to Argentina, the United States worked to convince Brazil to fully adhere to the Treaty of Tlatelolco. Although Brazil had ratified the treaty in 1968, it had refused to waive a set of conditions required for full membership.¹¹⁶ In May 1982, the Director of the ACDA, Eugene Rostow, met with the Brazilian ambassador, and “explained US interest in seeing full entry into force of the Tlatelolco regime.” Following this meeting, the Department of State instructed the US ambassador in Brazil to “continue to emphasize the importance that this administration places on Tlatelolco and general non-proliferation issues. In any such discussion you may also wish to emphasize the importance of international cooperation in dealing with the risks of proliferation, and that we must work now to implement and develop the type of international norms and institutions that can head off the possibility of more serious problems, including in Latin America.”¹¹⁷ Withholding peaceful nuclear cooperation was another policy tool for the United States vis-à-vis the Brazilian nuclear program. As a 1983 CIA report noted, “Brazil and the United States recently have moved to improve bilateral nuclear relations, but important differences over nonproliferation issues that arose in the late 1970s still pose obstacles

¹¹⁴ "Special Assistant for NPI, NFAC, CIA, to Resource Management Staff, Office of Program Assessment et al, 'Request for Review of Draft Paper on the Security Dimension of Non-Proliferation' April 09, 1981, History and Public Policy Program Digital Archive, Mandatory Declassification Review request. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114233>

¹¹⁵ "National Intelligence Estimate, NIE-4-82, 'Nuclear Proliferation Trends Through 1987'" July, 1982, History and Public Policy Program Digital Archive, Obtained and contributed by William Burr and included in NPIHP Research Update #11. <http://digitalarchive.wilsoncenter.org/document/116894>

¹¹⁶ Monica Serrano, “Brazil and Argentina,” in *Nuclear Proliferation After the Cold War*, 236.

¹¹⁷ ACDA Director Rostow’s Meeting with Brazilian Ambassador Silveira, 19 May 1982, DNSA, NP01957.

to a resumption of nuclear cooperation.”¹¹⁸ Brazil’s nuclear program came to an end by the early 1990s simultaneously with Argentina.

The Role of Nuclear Domino Fears vs. Existing Explanations

Much like Argentina, US officials were concerned that a Brazilian nuclear arsenal could spur further proliferation globally, either through a supply-side or a demand-side impetus. The United States did not view a Brazilian arsenal as a threat to US power projection capability and there is no evidence that the United States worried Brazil would significantly increase the risk of nuclear war or become more autonomous from the United States. Finally, the United States enforced nonproliferation vis-à-vis Brazil despite the fact that the latter was an ally of the United States as part of the Organization of American States.

Summary and Conclusions

The evidence presented in this chapter suggests that since 1964, the United States has consistently opposed nuclear weapons programs even amongst allied, Western, and democratic states—in stark contrast to selective enforcement arguments. Evidence from US archival documents also reveals that fears of nuclear domino effects were pervasive in these cases—indeed, universally present—although the weight of this motivation vs. others varied by case. Table 4.1 below indicates the relative frequency of motivations discovered in the cases. While nuclear domino fears were always present, they were by no means the only motivation for US policies. It is nevertheless notable that in four cases (Australia, South Africa, Argentina, and Brazil), the fear of nuclear domino effects was individually sufficient to produce American opposition and nonproliferation efforts. While it is hard to disentangle independent effects in

¹¹⁸ Brazil’s Changing Nuclear Goals: Motives and Constraints, 31 October 1983, *DNSA*, WM00281.

cases where multiple motivations were simultaneously present, fears of nuclear domino effects seemed to play the smallest role in the Taiwan case, with comparatively larger importance in the India, Israel, Pakistan, and South Korea cases.

Table 4.1: Frequency of Motivations for US Opposition to Proliferation

	Domino Fears	Power Projection	Nuclear War Risks	Allied Autonomy	Selective Enforcement
Australia (1961-1973)	✓				
India (1964-1974)	✓	✓	✓	✓	
Israel (1958-1968)	✓	✓			
Taiwan (1967-1977)	✓	✓	✓		
South Korea (1970-1978)	✓	✓	✓	✓	
Pakistan (1972-1986)	✓	✓	✓		✓
South Africa (1974-1978)	✓				
Argentina (1979-1990)	✓				
Brazil (1978-1990)	✓				

Having examined the sources of US nonproliferation policy, both in terms of its major advances in the 1964-68 and 1974-78 periods and US motivations in particular cases, this dissertation now turns to an examination of the consequences of US policy. Specifically, the remainder of the dissertation quantitatively assesses the deterrent and compellent effect of US sanctions and offers two in-depth case studies of the efficacy of US nonproliferation efforts in the divergent cases of Taiwan and Pakistan.

Chapter 5: The Consequences of US Nonproliferation Policy

This dissertation's theory on the consequences of US nonproliferation policy suggests that states dependent on the United States economically and militarily should be less likely to pursue nuclear weapons, but only when the threat of sanctions is credible. Moreover, because of selection effects caused by effective deterrence at the threat stage, observed cases of nonproliferation sanctions should largely fail because they are targeted at states relatively isolated from the United States. This chapter provides quantitative evidence for both observable implications.

The Deterrent Effect of Nonproliferation Sanctions

As a proxy for the credibility of the threat of American sanctions, I exploit the shift in US nonproliferation policy that occurred between 1975 and 1978, changes discussed in Chapter 3. Before 1975, when the United States imposed sanctions on South Africa, the United States had never imposed sanctions in the context of nonproliferation. This policy was strengthened and formalized between 1976 and 1977, when Congress passed the Symington and Glenn amendments to the Foreign Assistance Act of 1961. These amendments, codified in the Arms Export Control Act of 1976, banned all US economic assistance, military aid, and export credits to states that export or import plutonium reprocessing technology or unsafeguarded, non-multilaterally managed uranium enrichment technology after August 4, 1977—significantly, these are the only two methods for producing the material needed to build a nuclear bomb—as well as to states that test a nuclear bomb. Only a presidential waiver, submitted to Congress,

could exempt a country from these sanctions.¹ This policy was bolstered by the passage of the Nuclear Non-Proliferation Act (NNPA) in 1978, which mandated a cut-off in nuclear cooperation (absent a presidential exemption) with non-nuclear weapon states that did not conform to a set of strict nonproliferation criteria, including full-scope International Atomic Energy Agency (IAEA) safeguards on all their nuclear facilities, a commitment not to explode a nuclear device and not to enrich or reprocess US-supplied nuclear materials without prior approval.² Between 1975 and 1978, the United States also spearheaded the establishment of the Nuclear Suppliers Group (NSG), an international cartel of nuclear suppliers devoted to preventing the export of sensitive nuclear materials to states without IAEA safeguards.³ Importantly, however, since the NSG included the Soviet Union as well as Japan and European suppliers, its effect would not account for the decline in proliferation *only among countries dependent on the United States* that the theoretical argument predicts. While the United States had previously sponsored the NPT, which entered into force in 1970 and prohibited non-nuclear weapons states that ratified the treaty from developing nuclear weapons, the treaty did not include an explicit sanctioning mechanism. Moreover, while US policy stood in opposition to further proliferation, President Nixon himself was not strongly opposed, at least until the Indian nuclear test of 1974, as described in Chapter 3.

The threat of sanctions developed between 1976 and 1978 meets the primary criteria for threat credibility identified in the deterrence literature: (1) the United States had both the interest

¹ US Nuclear Regulatory Commission, "Nuclear Regulatory Legislation." NUREG-0980, Vol. 3, No. 9 (2011): 1082-1086.

² Ibid, 1050-1052.

³ Joseph Nye, "Maintaining a Nonproliferation Regime," *International Organization* 35, No. 1 (1981): 15-38. Also see Tadeuz Strulak, "The Nuclear Suppliers Group," *Nonproliferation Review* 1, No. 1 (1993): 2-10.

and capability to carry out the threat,⁴ (2) communicated the threat clearly to the world,⁵ and (3) signaled its commitment by adopting hand-tying mechanisms that generate domestic audience costs.⁶ First, in terms of capability, it is clear that the United States had the power to employ sanctions against proliferating states if it desired. The United States also had an interest in doing so: as discussed in the previous chapters, proliferation threatened the US geopolitical position, particularly in adversary states; meanwhile, because of the likelihood of nuclear domino effects, even proliferation by allied or unaligned states was to be opposed. In fact, since the Symington and Glenn Amendments cut aid to offending states, and the NNPA cut off US nuclear energy cooperation, one might conclude that the policy was targeted *especially* at allies, since US adversaries would not be receiving US aid or nuclear cooperation in the first place.

The second criterion for credible threats, clear communication, is also met by the US sanctions policy, which was publicly codified in US law, reported on in the media,⁷ and privately communicated to states that seemed in danger of violating it.⁸ Finally, if American interests in nuclear nonproliferation were not clear enough, the US sanctions legislation tied the president's hands, automatically cutting off aid to proliferating states absent a presidential waiver. By granting a waiver the president would incur audience costs, a nontrivial matter given the

⁴ Classic works include Schelling, *Arms and Influence*; and Alexander George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974). More recently, Daryl Press, *Calculating Credibility* (Ithaca, NY: Cornell University Press, 2005).

⁵ See Schelling, *Arms and Influence*, 70-76; and Alexander George, David Hall, and William Simons, *The Limits of Coercive Diplomacy* (Boston: Little Brown, 1971).

⁶ See Schelling, *Arms and Influence*, 35-125; Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility* (Cambridge: Cambridge University Press, 1990); Fearon, "Signaling Foreign Policy Interests," Fearon, "Domestic Political Audiences and the Escalation of International Disputes," and Branislav, Slantchev, *Military Threats: The Costs of Coercion and the Price of Peace* (New York: Cambridge University Press, 2011).

⁷ See, for instance, Bernard Gwertzman, "US and Pakistan Try to Avoid Split on Nuclear Plant," *New York Times*, 10 August 1976, 1; Clyde Farnsworth, "French-Pakistani Atom Deal Fading," *New York Times*, 12 November 1976, 3; and James Markham, "US-Pakistani Rift on Atom Fuel Grows," *New York Times*, 8 May 1977, 9.

⁸ These include Pakistan, South Korea, and Taiwan.

importance of nonproliferation as an American political issue starting with the 1976 presidential campaign.⁹ In fact, the one case between 1976 and 2000 where the president did waive the Symington Amendment (sanctions against Pakistan were lifted after the Soviet invasion of Afghanistan convinced President Reagan that Pakistani support was crucial) was accompanied by significant congressional and public criticism and efforts by Congress to restrict the presidential waiver, namely the Pressler and Solarz amendments.¹⁰ While Israel is often mentioned as a case where US nonproliferation law was sidestepped, Israel has in fact never triggered sanctions because “(1) it has not been documented to have received any un-safeguarded nuclear fuel since the enactment of the Symington Amendment and the NNPA, (2) it does not receive any US nuclear assistance, and (3) it has never overtly tested a nuclear device.”¹¹

In order to test the hypothesized deterrent effect of US sanctions, I analyze a country-year dataset from 1950-2000, adapted from Singh and Way and incorporating data from Fuhrmann on nuclear cooperation agreements.¹² Measuring the key causal variable, dependence on the United States, requires the recognition that dependence is a multidimensional concept. Empirically, the United States maintains a variety of economic and security relationships with other states in the international system. As a parsimonious way of capturing these relationships, each of which may

⁹ See Martinez, “The Carter Administration and the Evolution of American Nuclear Nonproliferation Policy,” and Joseph Nye, “Nonproliferation: A Long-Term Strategy,” *Foreign Affairs* 56, No. 3 (1978): 601-623.

¹⁰ On the Pressler and Solarz Amendments, see Reiss, *Bridled Ambition*, 183-231. For examples of domestic criticism, see Judith Miller, “Senate Panel Votes to Lift Restrictions on Pakistan Aid,” *New York Times*, 15 May 1981, 6; “Weapons are Not a Policy,” *New York Times*, 19 June 1981, 26; Neil Hoptman, “Mr. Reagan’s \$3 Billion Pakistani Mistake,” *New York Times*, 1 July 1981, 26; and Barbara Crossette, “Strings are Attached by Senators to Aid Going to Pakistanis,” *New York Times*, 21 October 1981, 9.

¹¹ Manohar Thyagaraj and Raju Thomas, “The US-Indian Nuclear Agreement: Balancing Energy Needs and Nonproliferation Goals,” *Orbis* 50, No. 2 (2006): 360. The only nuclear cooperation agreement between the US and Israel is strictly limited to sharing information on nuclear safety. See Yossi Melman, “Israel and US Sign Nuclear Cooperation Agreement,” *Haaretz*, 14 April 2008, <http://www.haaretz.com/news/israel-and-u-s-sign-nuclear-cooperation-agreement-1.243947>

¹² Singh and Way, “The Correlates of Nuclear Proliferation,” and Fuhrmann, “Spreading Temptation.” 1950 is the starting date due to data limitations vis-à-vis trade and U.S troops levels.

contribute to a state's dependence on the United States, and each of which could be endangered by US sanctions, for every country-year I code a dependence score which sums together four binary indicators: (1) whether the state received economic aid from the United States, (2) whether the state received military aid from the United States,¹³ (3) whether the state stationed any US troops,¹⁴ and (4) whether the United States was a major trade partner for the state (more than the median in the full sample, or 1.67% of the state's GDP involved in imports from or exports to the United States).¹⁵ This five-point dependence score thus measures the extent to which a state relies on the United States economically and militarily, with economic aid and trade measuring economic dependence and troop presence and military aid measuring security dependence.¹⁶ The hypothesis is that in the post-1976 period, greater dependence on the United States should reduce the likelihood that a state initiates a nuclear weapons program—the greater the number of pathways through which a state is dependent on the United States, the more likely it will be deterred by the threat of sanctions. In the pre-1976 period, meanwhile, dependence on the United States should have no effect on the probability of pursuing nuclear weapons.

As an initial, informal way of exploring this hypothesis, Tables 5.1 and 5.2 display each of the four dimensions of dependence for all states that have pursued nuclear weapons post-1950, divided by time period. I draw on Singh and Way's coding of nuclear pursuit, which requires that

¹³ US aid data, originally from *US Greenbook*, is from Bruce Bueno de Mesquita and Alastair Smith, "Foreign Aid and Policy Concessions," *Journal of Conflict Resolution* 51, No. 2 (2007): 251-284.

¹⁴ Data from Tim Kane, "Global US Troop Deployment, 1950-2005." *Heritage Foundation* (2006). The results are also robust to 100 and 1000 troop thresholds.

¹⁵ Trade dependence data is from Erik Gartzke and Dong-Joon Jo, "Bargaining, Nuclear Proliferation, and Interstate Disputes," *Journal of Conflict Resolution* 53, No. 2 (2009): 209-233. Trade data for Taiwan is from Katherin Barbieri, Omar Keshk, and Brian Pollins, "Correlates of War Project Trade Data Set, Version 2.01" (2009). Results are robust to using Barbieri et al trade data. GDP data is from Penn World Tables.

¹⁶ Adding whether a state has an alliance with the US to the dependence score does not significantly alter the results, nor does only including the economic components of the dependence score or only the military components. The results are also robust to excluding the US troops indicator from the dependence score.

a state “do more than simply explore the possibility of a weapons program. They have to take additional further steps aimed at acquiring nuclear weapons, such as a political decision by cabinet-level officials, movement toward weaponization, or development of single-use, dedicated technology.”¹⁷ I utilize Way’s 2011 codings of nuclear program dates.¹⁸ While proliferation is a fluid phenomenon, with many states hedging or exploring the nuclear option without formally authorizing a program,¹⁹ for my purposes the explicit political decision to pursue nuclear weapons is most theoretically relevant, since at this pursuit stage it is most accurate to code deterrence as having failed.²⁰ To mitigate reverse causality issues, the data displayed are from the year before the onset of a nuclear weapons program. As the tables illustrate, the average state that pursued nuclear weapons in the pre-1976 time period was significantly more dependent on the United States than in the post-1976 era.

Of course, this data selects on the dependent variable and does not control for alternate reasons that states may or may not pursue nuclear weapons so it is at best suggestive. In order to test the argument more systematically, I turn to a multivariate logit analysis on a global sample of countries from 1950 to 2000.²¹ Following recent work by Singh and Way and Fuhrmann, the binary dependent variable measures whether a state decides to pursue nuclear weapons in a given

¹⁷ Singh and Way, “Correlates of Nuclear Proliferation,” 866.

¹⁸ Way, “Nuclear Proliferation Dates,” 2011. These codings have since been updated (see Christopher Way, “Nuclear Proliferation Dates,” 2012). The results are robust to utilizing the new codings.

¹⁹ See, for example, Singh and Way, “The Correlates of Nuclear Proliferation,” and Levite, “Never Say Never Again.”

²⁰ The results are robust to using as dependent variables (1) exploration of nuclear weapons, (2) whether a state has an ongoing nuclear program, and (3) pursuit of nuclear weapons as defined by Jo and Gartzke, “Determinants of Nuclear Weapons Proliferation.”

²¹ The results are also robust to the use of probit, ReLogit, a linear probability model, and a linear probability model with country fixed effects.

year (states exit the dataset while nuclear programs are ongoing).²² In order to test the theoretical argument, I include the dependence score for each country-year, a dummy variable for the post-1976 period, and create an interaction between these two variables (since dependence on the United States is expected to have an effect only after 1976).²³ Whereas the dependence score proxies the costs of sanctions for a given state, the dummy variable for time period proxies the expected probability of sanctions. Before 1976, when the United States lacked a sanctions policy, the expected probability was close to zero; after 1976, as a result of US legislation, the expected probability was at least in theory close to 100% (because the sanctions were intended to be automatic). The interaction term can therefore be interpreted as the expected value of the cost of sanctions. I estimate three primary models: one that includes only the theoretical variables, one that includes all control variables employed in Fuhrmann (2009), excluding NPT variables out of concerns for post-treatment bias,²⁴ and one that includes the NPT variables as well. I use a

²² States reenter the dataset when they abandon nuclear weapons programs. The results are robust to accounting for temporal dependence by including as covariates the number of years since the last pursuit of nuclear weapons, as well as the squared and cubic terms of this variable (see David Carter and Curtis Signorino, "Back to the Future: Modeling Time Dependence in Binary Data," *Political Analysis* 18, No. 3 (2010): 271-292). The results are also robust to the exclusion of any individual country that pursued nuclear weapons.

²³ I also conducted several placebo tests with different cutoff years. If the argument advanced in this paper is correct, the results should attenuate as one moves the cutoff further back in time (it should not completely eliminate the results since the moving the cutoff back to say, 1973, includes only 3 years where one would expect no effect with 24 years where one would expect an effect). This is indeed what we find: the results are attenuated as the cutoff date is moved further back, with the results completely disappearing when a 1964 cutoff date is used. Indeed, if a model is estimated on the 1964-1976 period alone, dependence on the US has an insignificant effect. Finally, the results are also robust to a using a 1978 cutoff (when the Nuclear Suppliers Group was fully formed).

²⁴ Post-treatment bias occurs when a variable is included as a control that is partially a consequence of the key causal variable. Because states have often signed the NPT only when they have decided against proliferation and because this can be a response to US pressure and sanctions threats, including it as a control may bias the results of dependence on the US toward zero. See Gary King and Langche Zeng, "When Can History Be Our Guide? The Pitfalls of Counterfactual Inference," *International Studies Quarterly* 51, No. 1 (2007): 201-202. It is also possible that dependence on the US in the post-1976 era caused states to be more secure vis-à-vis shared rivals, producing a spurious result. To account for this, I ran a model where I controlled for (1) the number of MIDs a state experienced with the USSR/Russia over the past 5 years and (2) the same variable vis-à-vis China. The results are robust to the inclusion of

Table 5.1: Pre-1976 Nuclear Aspirants and their Dependence on the United States

Pre-1976	Year	Economic Aid	Military Aid	US Troops	High Trade	Dependence Score
France	1953	✓	✓	✓		3
China	1954					0
Israel	1957	✓		✓	✓	3
Australia	1961		✓	✓	✓	3
India	1963	✓	✓	✓		3
Egypt	1964	✓		✓	✓	3
Taiwan	1966	✓	✓	✓	✓	4
Libya	1969	✓	✓	✓	✓	4
South Korea	1969	✓	✓	✓	✓	4
Pakistan	1971	✓	✓	✓		3
South Africa	1973			✓	✓	2
Average		72.7%	63.6%	90.9%	63.6%	2.91

Table 5.2: Post-1976 Nuclear Aspirants and their Dependence on the United States

Post-1976	Year	Economic Aid	Military Aid	US Troops	High Trade	Dependence Score
Brazil	1977	✓	✓	✓		3
Argentina	1978			✓		1
North Korea	1979					0
Iraq	1982				✓	1
Iran	1984					0
Average		20%	20%	40%	20%	1.0

leading dependent variable to mitigate reverse causality and cluster standard errors by country.

Table 5.3 displays the results of the primary models, and shows that regardless of whether controls are included or excluded, and whether variables measuring the NPT era and NPT membership are included, significance and signs on the variables of interest remain largely stable. Because the coefficient and statistical significance of the interaction term cannot be

these variables.

interpreted directly,²⁵ and because logit coefficients do not represent the marginal effects that are of substantive interest, I use Clarify to estimate first differences based on model 2.²⁶ These first differences tell us how much the yearly probability of pursuing nuclear weapons changes in the pre- and post-1976 era as dependence on the United States increases, holding all control variables at their median. Table 5.4 displays the estimates. Supporting the theoretical argument, they suggest that increases in dependence score significantly reduce the probability of proliferation, but only in the post-1976 era. In the pre-1976 era, dependence score has an insignificant, *positive* effect. Specifically, the first differences suggest that an increase in the dependence score from 0 to 1 reduces the yearly probability of proliferation in the post-1976 era by .0018, with this difference significant at the 95% level. While this sounds small, proliferation is a rare outcome, and this first difference represents an approximately 536% decrease from the median yearly predicted probability of proliferation generated by the model. An increase to 2, 3, or 4 in dependence score reduces the probability of proliferation by .0023 to .0025—between a 685% to 745% reduction from the median.

²⁵ Bear Braumoeller, “Hypothesis Testing and Multiplicative Interaction Terms,” *International Organization* 58, No. 4 (2004): 807-820.

²⁶ Gary King, Michael Tomz, and Jason Wittenberg, “Making the Most of Statistical Analyses: Improving Interpretation and Presentation,” *American Journal of Political Science* 44, No. 2 (2000): 341-355. The results remain significant if model 1 or model 3 are used.

Table 5.3: Logistic Regression Models

	Model 1	Model 2	Model 3
Dependence Score	0.398	0.553	0.457
	(0.279)	(0.302)‡	(0.294)
Post-1976 Dummy	2.113	2.579	2.489
	(1.124)‡	(1.514)‡	(1.714)
Dependence Score * Post 76	-1.591	-1.643	-1.359
	(0.616)*	(0.575)**	(0.587)*
No. of Nuclear Cooperation Agreements (NCA)		0.048	.030
		(0.042)	(.044)
NCA * Average # of MIDS in Past 5 Years		0.038	0.063
		(0.020)‡	(0.018)**
Average # of MIDS in Past 5 Years		0.339	0.355
		(0.089)**	(0.090)**
GDP per Capita		0.000	0.000
		(0.000)‡	(0.000)
Industrial Capacity Threshold		1.641	1.977
		(0.670)*	(.767)*
GDP per Capita Squared		-0.000	-0.000
		(0.000)*	(0.000)*
Polity Score		0.003	0.005
		(0.048)	(0.051)
Nuclear Ally		-0.144	0.246
		(0.701)	(0.803)
Interstate Rivalry		1.683	1.314
		(0.866)‡	(0.825)
Trade Openness		-0.003	0.002
		(0.011)	(0.010)
Change in Polity Score in Past 5 Years		-0.101	-0.103
		(0.080)	(0.071)
Change in Trade Openness in Past 5 Years		0.024	0.022
		(0.013)‡	(0.012)‡
NPT Member			-3.468
			(1.499)*
NPT Era (Post-1970)			0.704
			(1.065)
No Proliferation Years		0.004	0.032
		(0.023)	(0.024)
Constant	-6.556	-10.028	-10.376
	(0.863)**	(1.372)**	(1.476)**
<i>N</i>	5,835	5,156	5,156
Pseudo R ²	.0611	.3288	.3761

‡ $p < 0.10$ * $p < 0.05$; ** $p < 0.01$ (two-tailed tests)

Clustered standard errors in parentheses

Table 5.4: First Difference Results

	FD Estimate	95% CI	%Δ Relative to Median Prob.
Dependence Score, 0 to 1, Post-76 era	-.0018*	-.0075, -.0001	-536%
Dependence Score, 0 to 2, Post-76 era	-.0023*	-.0092, -.0001	-685%
Dependence Score, 0 to 3, Post-76 era	-.0024*	-.0095, -.0001	-715%
Dependence Score, 0 to 4, Post-76 era	-.0025*	-.0096, -.0001	-745%
Dependence Score, 0 to 1, Pre-76 era	.0001	-.0000, .0006	+30%
Dependence Score, 0 to 2, Pre-76 era	.0003	-.0001, .0016	+89%
Dependence Score, 0 to 3, Pre-76 era	.0008	-.0001, .0037	+238%
Dependence Score, 0 to 4, Pre-76 era	.0017	-.0001, .0082	+507%

* Significant at the 95% confidence level.

Figure 5.1 displays these first differences graphically. The figure shows that in the pre-sanctions era, there is an insignificant, positive effect of changes in dependence score (the 95% confidence interval always includes zero). In the post-sanctions era, however, the first differences are always negative and significant (never crossing zero), as theoretically expected, with the biggest change in simply moving from 0 to 1 in the dependence score. While the first differences of moving from 1 to 2, 2 to 3, and 3 to 4 in the dependence score are still negative and statistically significant, they are much smaller in magnitude, suggesting that moving from 0 to 1 is most important. Although it is hard to tell from the figures, the 95% confidence intervals for first differences in the two eras never overlap. This means that we can infer with 95% confidence that the effect of dependence on the United States differed in the two eras.

Figure 5.2 shows the first differences of moving from the pre- to post-sanctions era at different levels of dependence score. This treats dependence as the conditioning variable in the interaction term rather than era (as in Figure 1).²⁷ The results suggest that for states with

²⁷ William Berry, Matt Golder, and Daniel Milton, "Improving Tests of Theories Positing Interaction," *Journal of Politics* 74, No. 3 (2012): 653-671. Berry et al note that interaction terms are inherently symmetric (meaning that each component variable conditions the other) and therefore recommend constructing plots both ways.

Figure 5.1

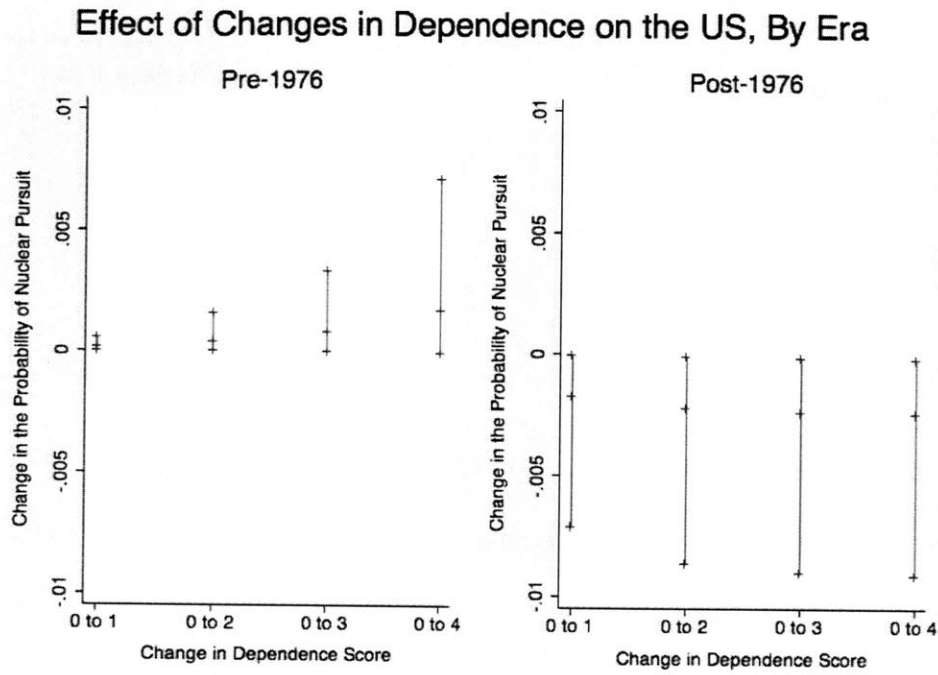
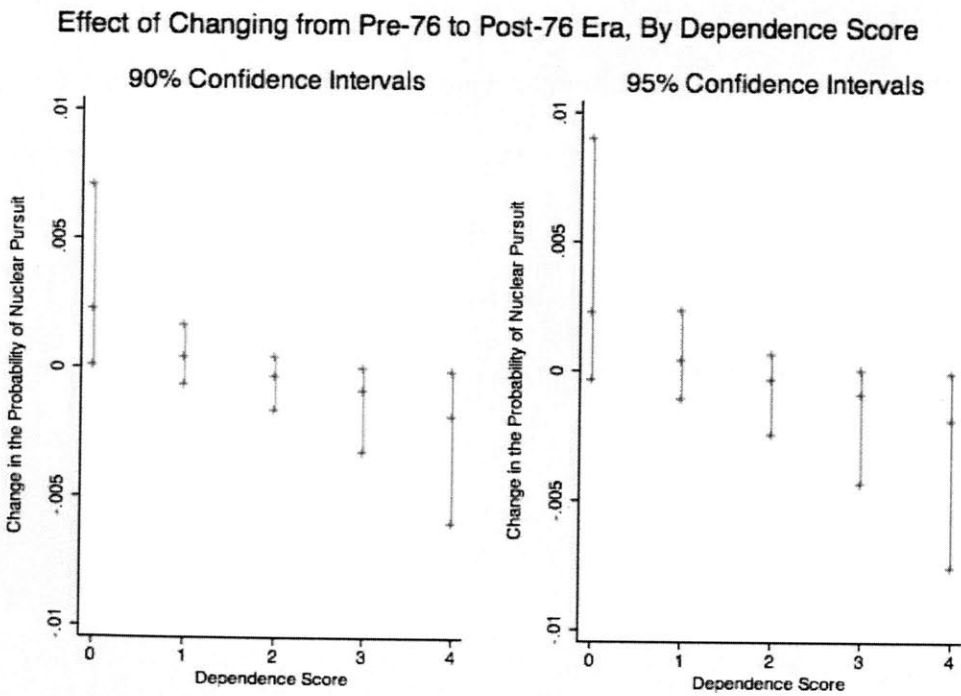


Figure 5.2



relatively low dependence on the United States, (scores of 0 or 1) moving to the post-sanctions era is associated with an insignificant *increase* in the probability of pursuing nuclear weapons. For those with high dependence (scores of 3 or 4), moving to the post-sanctions era is associated with a significant decrease in the probability of pursuing nuclear weapons, as theoretically expected.²⁸ Taken together, these results suggest that in the post-sanctions era, the biggest dampening effect is moving from no dependence to some dependence. However, moving from the pre to post-sanctions era has the biggest negative effect on states with the highest levels of dependence.

Finally, although the effect of dependence is insignificant in the pre-1976 era, the fact that it is positive in sign suggests a shift not just in magnitude but in direction: before the US sanctions policy, states dependent on the United States were actually marginally *more* likely to pursue nuclear weapons, *ceteris paribus*, perhaps due to greater access to nuclear technology and know-how before the United States tightened its nonproliferation policy. This cuts against an important counterargument—that states dependent on the United States do not pursue nuclear weapons simply because they feel more secure—since before 1976 and the US sanctions regime, states dependent on the United States were actually somewhat *more* likely to proliferate.

Counterfactuals: Who Are These Missing Proliferators?

If the theoretical argument advanced in this dissertation correct, there must be states that would have pursued nuclear weapons in the absence of a US sanctions policy. While it is impossible to definitively identify the “dogs that do not bark,” as the literature on deterrence

²⁸ The estimates are statistically significant at the 90% confidence interval for dependence scores of 1, 3 and 4 and significant at the 95% level only for dependence scores of 4.

suggests,²⁹ it is possible to use the statistical models to generate educated guesses. In order to identify these countries, I compare predicted probabilities from two models: a “no sanctions model” that includes the control variables but omits the dependence score, post-1976 dummy, and their interaction—simulating a world where the United States did not impose a sanctions regime after 1976—as well as the “sanctions model” that includes all controls along with the dependence score variable, post-1976 dummy, and associated interaction. I then isolated the country-years in the post-1976 era where the “no sanctions model” predicted at least a 2.5% probability of pursuing nuclear weapons (the median probability for states that *did* pursue nuclear weapons) and narrowed this list down to country-years where the “sanctions model” predicted at least a 25% lower risk of proliferation. These country-years are summarized in Table 5.5 below. The point is not that all of these countries would have pursued nuclear weapons in the absence of a sanctions policy—indeed, the absolute probability in all cases is relatively low since proliferation is a rare event, and such counterfactuals can never be verified. However, supporting the theoretical argument, there is evidence that several of these countries had an interest in nuclear weapons and that several may have been deterred by the prospect of US sanctions.

For example, although the US had initially encouraged Iranian nuclear development, providing a small research reactor and hot cells in the 1960s,³⁰ the change in US nonproliferation policy in the 1970s led to a change in the nuclear relationship with Iran. In 1977, when the model predicts a significant risk of proliferation in the absence of a sanctions policy, the Shah of Iran was in fact exploring nuclear weapons and attempting to acquire an independent nuclear

²⁹ See, for example, Paul Huth and Bruce Russett, “What Makes Deterrence Work? Cases from 1900 to 1980,” *World Politics* 36, No. 4 (1984): 496-526; and Richard Ned Lebow and Janice Gross Stein, “Deterrence: The Elusive Dependent Variable,” *World Politics* 42, No. 3 (1990): 336-369.

³⁰ Solingen, *Nuclear Logics*, 164; and Jacqueline Simon, “United States Non-Proliferation Policy and Iran: Constraints and Opportunities,” *Contemporary Security Policy* 17, No. 3 (1996): 370.

Table 5.5: *The Dogs that Didn't Bark*

Country-Years	Avg. Dependence Score	Avg. Yearly Probability of Pursuit (“No Sanctions Model”)	Avg. Yearly Probability of Pursuit (“Sanctions Model”)
Belarus (1996-1998)	2.67	2.74%	0.31%
Chile (1977)	3	2.66%	0.44%
Egypt (1977; 1979; 1981)	3.33	3.26%	0.31%
Iran (1977)	2	2.89%	1.95%
South Korea (1978-1987)	3.4	6.46%	0.52%
Peru (1998)	4	2.74%	0.43%
Spain (1987-1988)	4	6.10%	0.75%
Thailand (1986-1991)	4	2.92%	0.41%
Turkey (1980-1984; 1987-1991; 1993-1997)	3	7.84%	1.85%

reprocessing capability.³¹ However, the United States persuaded Iran to forsake this option; according to Burr, the Shah conceded because of his desire for continued peaceful nuclear trade with the United States as well as more general “good relations with Washington.”³²

While Egypt’s *pursuit* of nuclear weapons was over by 1974,³³ there is evidence of continued interest in nuclear weapons by at least some Egyptian military officials through the 1980s, which apparently included a short-lived, unauthorized covert military program.³⁴ Notably, Egypt only signed the NPT in 1980, after the United States made continued peaceful nuclear trade conditional on NPT ratification.³⁵ Moreover, in the wake of the 1979 Camp David Accords, the United States was a provider of massive economic and military aid to Egypt—according to Einhorn, “Strong bilateral relations between Egypt and the United States are a critical factor in Egypt continued renunciation of nuclear weapons...[T]hey create strong disincentives against

³¹ William Burr, “A Brief History of US-Iranian Nuclear Negotiations,” *Bulletin of Atomic Scientists* 65, No. 1 (2009): 21-34; and Way, “Nuclear Proliferation Dates,” 2011.

³² Burr, “A Brief History of US-Iranian Nuclear Negotiations,” 31.

³³ Way, “Nuclear Proliferation Dates,” 2011.

³⁴ Walsh, *Bombs Unbuilt*, 181-188; and Robert Einhorn, “Egypt: Frustrated but Still on a Non-Nuclear Course,” in *The Nuclear Tipping Point*, 55-56.

³⁵ Einhorn, “Egypt,” 48-51.

reversing course because Egyptians know that the United States would strongly oppose an Egyptian decision to go nuclear and that such a decision would put those benefits in jeopardy.”³⁶

As is discussed in greater detail in the previous chapter, South Korea began pursuing nuclear weapons prior to the US sanctions policy and was only convinced to halt its program under US threats of sanctions.³⁷ There is also suggestive evidence that Chile was exploring the nuclear weapons option starting in the 1960s and continuing into the 1990s, when it finally signed the NPT. Muller and Schmidt similarly code Spain in engaging in nuclear weapons exploration in the time period predicted by the model; Spain only signed the NPT in 1987.³⁸

Turkey is another country that may have been considering a nuclear weapons effort in the time period predicted by the “no sanctions model,” helping to export sensitive materials to Pakistan, reportedly receiving technical nuclear training from Pakistan in return, and signing a large nuclear deal with Argentina; notably, US pressure ultimately convinced Turkey to terminate all of these activities.³⁹ According to Fuerth, dependence on the United States is a crucial factor in Turkey’s nuclear decisions: “Even the suggestion that Turkey might be thinking of reversing itself on nuclear weapons would precipitate a severe crisis in relations with the United States. The United States would be virtually certain to confront Turkey as it has done repeatedly in the past. In this confrontation, the United States would employ the full weight of its economic influence, bearing on the critical needs of the Turkish government for credit and especially for relative leniency from the International Monetary Fund.”⁴⁰

³⁶ Ibid, 66-67.

³⁷ For a good overview, see Jonathan Pollack and Mitchell Reiss, “South Korea: The Tyranny of Geography and the Vexations of History,” in *The Nuclear Tipping Point*, 254-292

³⁸ Muller and Schmidt, “The Little-Known Story of De-Proliferation.”

³⁹ Leon Fuerth, “Turkey: Nuclear Choices amongst Dangerous Neighbors,” in *The Nuclear Tipping Point*, 160-165.

⁴⁰ Ibid, 166.

Finally, in the early 1990s after the collapse of the Soviet Union, Belarus (along with Kazakhstan and Ukraine) in fact *acquired* nuclear weapons from the Soviet arsenal and was convinced to give them up largely through American and Russian inducements and pressure.⁴¹ While acquiring and then giving up nuclear weapons is a different phenomenon than foregoing the pursuit of nuclear weapons in the first place, the fact that Belarus (as well as Kazakhstan and Ukraine) gave up their inherited nuclear arsenals largely due the desire for positive economic and security relations with United States and Russia is nonetheless consistent with the theoretical logic. By 1993, when Belarus ratified the NPT, the United States and Belarus had “signed more than twenty agreements for military cooperation and economic assistance.”⁴² Reiss concludes that, “financial inducements...played an important role in the denuclearization of Ukraine, Belarus, and Kazakhstan, in their accession to the NPT, and in their acceptance of comprehensive IAEA safeguards.”⁴³ According to Belarusian President Alexander Lukashenko, who assumed power shortly after the agreements to denuclearize were signed and oversaw the removal of nuclear weapons from the country, the decision was a “major mistake” but “I had to ink the document because there was no other way out: both Russia and the USA pressured me to remove the weapons because we had made the promise.”⁴⁴

Relation to the Declining Rate of Nuclear Pursuit

The motivating puzzle for this dissertation is the declining rate of nuclear proliferation over time—in particular, the declining rate at which states have initiated nuclear weapons programs. To what extent does the US sanctions policy assessed above account for this decline?

⁴¹ Reiss, *Bridled Ambition*, 89-149.

⁴² *Ibid*, 136.

⁴³ *Ibid*, 327.

⁴⁴ “Belarus’s Lukashenko Does Not Know What To Do With So Much Enriched Uranium,” *Pravda*, <http://english.pravda.ru/world/ussr/16-04-2010/113043-lukashenko-0/>

To assess this question, I compare the results of two models, as above: (1) a “No Sanctions Model” which includes the standard control variables as well as a covariate measuring year, and (2) a “Sanctions Model” which includes the variables measuring dependence on the US, the control variables, and the year. The results in Table 5.6 below show that in the “No Sanctions Model,” moving from the year 1950 to 2000 is associated with a substantively large and statistically significant decrease in the probability of a country initiating a nuclear weapons program, holding all other variables at their median. However, once one accounts for the variables measuring dependence on the US and era, this effect is cut nearly in half and is no longer statistically significant at the 95% confidence interval. In other words, taking into account the US sanctions policy instituted in the 1970s goes a long way toward explaining the declining rate of proliferation over time.

Table 5.6: Change in the Probability of Pursuit, Moving from 1950 to 2000

	FD Estimate	95% Confidence Interval
No Sanctions Model	-.0059*	-0.0211, -0.0008
Sanctions Model	-.0031	-0.0189, 0.0001

* Significant at 95% confidence level

The Inefficacy of Observed Sanctions

This dissertation’s theory suggests that starting in the late 1970s, states dependent on the United States have been deterred from proliferation by a credible threat of sanctions, an assertion supported by the empirical evidence presented above. This causes a selection effect: because only states with low dependence on the United States are likely to pursue nuclear weapons in this time period, the observed success rate for sanctions should be low—the United States will not have the leverage necessary to succeed.

In order to test this prediction, I built a dataset of all nonproliferation sanctions episodes involving the United States from 1975 to the present.⁴⁵ The data builds on previous datasets on economic sanctions collected by Hufbauer, Schott, Elliott, and Oegg,⁴⁶ the Threat and Imposition of Sanctions Dataset compiled by Morgan, Krustev, and Bapat,⁴⁷ and is supplemented by my own research. In order to qualify for the dataset, the United States must have threatened or imposed some cutoff in its economic or security relationship (trade, economic or military aid, nuclear energy cooperation, US troop commitments) with a state exploring or pursuing nuclear weapons, and the resumption of normal relations must have been linked to some form of nuclear restraint on the part of the target state. A case is coded as successful if the target state halted its development of nuclear weapons shortly following the threat or during the imposition of sanctions. Cases where existing sanctions are tightened or expanded are not counted as separate observations; including them would make the success rate lower.⁴⁸

⁴⁵ I use 1975 as the start date since this is when the US first imposed sanctions in the context of nonproliferation. Sources for sanctions episodes are listed in the online appendix.

⁴⁶ Gary Clyde Hufbauer, Jeffrey Schott, Kimberly Ann Elliott, and Barbara Oegg, *Economic Sanctions Reconsidered*, 3rd ed., (Washington, D.C.: Peterson Institute, 2007). Full list available from <http://www.piie.com/research/topics/sanctions/sanctions-timeline.cfm>

⁴⁷ T. Clifton Morgan, Valentin Krustev, and Navin Bapat, "Threat and Implementation of Sanctions (TIES) Codebook, Version 3.5 (2009)," <http://www.unc.edu/~bapat/TIES.htm>

⁴⁸ While the US imposed nonproliferation sanctions against Iraq following the Gulf War, Iraq did not have an active nuclear weapons program in this period and thus is not included in the dataset. It is possible, however, that the threat of further sanctions may have been responsible for the halting of the Iraqi program (see Brands and Palkki, "Nuclear Alarmism Justified," 162-3). The US also imposed nonproliferation sanctions against India from 1978-1982; by this point, however, India had already tested a nuclear bomb. Coding Iraq as a successful case of imposition and India as a failed case of imposition would make the success rate for imposed sanctions 20%.

Table 5.7: Nonproliferation Sanctions since 1975

	Type	Years	Outcome
South Africa	Threat	1975	Failure
South Africa	Imposition	1975-1982	Failure
South Korea	Threat	Early 1975	Failure
South Korea	Threat	Late 1975	Success
Taiwan	Threat	1976	Failure
Taiwan	Threat	1977	Success
Pakistan	Threat	1976	Failure
Pakistan	Imposition	1977-1978	Failure
Argentina	Threat	1978	Failure
Argentina	Imposition	1978-1982	Failure
Brazil	Threat	1977	Failure
Brazil	Imposition	1978-1982	Failure
Pakistan	Threat	1979	Failure
Pakistan	Imposition	1979-1980	Failure
Iran	Threat	1992	Failure
Iran	Imposition	1992-	Failure (So far) ⁴⁹
North Korea	Threat	1993-1994	Failure ⁵⁰
Libya	Threat	1996	Failure
Libya	Imposition	1996-2004	Success
North Korea	Threat	2002	Failure
North Korea	Imposition	2002-	Failure

The cases are presented in Table 5.7 above, and the evidence strongly confirms the theoretical prediction—that the overall success rate of sanctions should be low. Only one of eight cases of sanctions imposition has succeeded (Libya 2004), for a success rate of 12.5%. Similarly, threats of sanctions have succeeded in only two of thirteen tries (South Korea and Taiwan), for a

⁴⁹ At the time of publication, Iran is engaged in negotiations with the United States and other world powers to limit its nuclear program in exchange for sanctions relief. If this effort is ultimately successful at halting Iran's nuclear weapons program, this case could be coded as a success.

⁵⁰ While a case could be made that the threat of sanctions succeeded because it was followed by the 1994 Agreed Framework that froze the North Korean plutonium program, North Korea did not actually end its nuclear weapons program, simply switching to the uranium enrichment route. Others have argued that by 1994, North Korea already possessed a virtual nuclear capability through plutonium reprocessing. See Richelson, *Spying on the Bomb*, and Larry Nicksch, "North Korea's Nuclear Weapons Program." *Congressional Research Service* (2006). For a dissenting view, see Jacques Hymans, "When Does a State Become a 'Nuclear Weapons State'? An Exercise in Measurement Validation," In *Forecasting Nuclear Proliferation in the 21st Century*, 102-123.

success rate of 15.4%.⁵¹ Overall, there are three cases of success out of 21 observations, a 14.3% rate of success. This is lower than the 34% success rate Hufbauer, Schott and Elliot identified in their analysis of 115 cases of economic sanctions, although higher than the 4.34% success rate Pape found after re-analyzing their data.⁵²

Conclusion

The quantitative evidence presented in this chapter provides strong support for the theoretical argument on the consequences of the US nonproliferation sanctions policy. States dependent on the United States have been less likely to pursue nuclear weapons once the threat of sanctions became credible in the late 1970s. Moreover, this effect largely accounts for the declining rate of nuclear weapons program initiation over time. Finally, because of selection effects caused by effective deterrence of nuclear weapons programs, the observed success rate of US nonproliferation sanctions has been relatively low.

The next two chapters assess the final observable implication on the consequences of US policy: that states should only give up ongoing nuclear weapons programs when they miscalculated the risk of sanctions when they initiated their program. Specifically, Chapter 6 explores the US effort to restrain the Taiwanese nuclear program, which ultimately succeeded after the US instituted its sanctions policy in the 1970s by taking advantage of Taiwan's extreme dependence on the US. Chapter 7 then explores US policy toward the Pakistani nuclear program, at first glance a theoretical outlier that I will argue is in fact consistent with the theoretical argument.

⁵¹ In three cases where explicit evidence of a threat prior to imposition could not be found (South Africa 1975, Iran 1992, and Libya 1996), I assume a private threat was made. Omitting these cases would make the success rate of threats 20% and the overall success rate 16.7%.

⁵² Pape, "Why Economic Sanctions Do Not Work," 91-93.

Chapter 6: The United States and the Taiwanese Nuclear Program

According to this dissertation's theory, Taiwan should be a "most likely" case for the success of US nonproliferation efforts. Having initiated its nuclear weapons program in the 1960s—before US sanctions policies were in place—Taiwan certainly underestimated the risk of sanctions when it began its nuclear efforts. Moreover, given Taiwan's extreme dependence on the United States both economically and militarily, it should have been highly vulnerable to threats of US sanctions once they emerged and became credible in the late 1970s. This is indeed what this chapter finds: Taiwan only fully conceded to US pressure over its nuclear program once the threat of nonproliferation sanctions was made credible in 1976-1977. General coercive credibility due to the American effort to reconcile with China in early 1970s proved insufficient for the success of US efforts: in line with the dissertation's theory, credibility specifically on nonproliferation was required for the United States to achieve its goals.

After exploring the origins of the Taiwanese nuclear program in the wake of China's 1964 nuclear test, this chapter analyzes US-Taiwan interactions in three time periods, when dependence on the United States was consistently high but US credibility varied: (1) 1967-1971, when US nonproliferation credibility was low, (2) 1971-1976, when US nonproliferation credibility remained low, but US efforts at reconciliation with China should have increased the general credibility of US coercive threats vis-à-vis Taiwan, and (3) 1976-1977, when US nonproliferation credibility became high with the passage of congressional sanctions legislation and Taiwan halted its nuclear weapons program. After describing Taiwan's ambiguous nuclear behavior from 1978 to 1988 and continued US nonproliferation interventions, the chapter

concludes by considering alternative explanations for Taiwan's nuclear restraint, including domestic regime orientation, leader identity conception, and technology denial.

October 1964-December 1966: Motivations for the Taiwanese Nuclear Program

After decades of conflict, in 1949 the Chinese Civil War effectively ended as Communist forces gained control of Mainland China and the Nationalists retreated to the island of Taiwan, where they established a government under the leadership of *Generalissimo* Chiang Kai-shek. The Nationalists considered this to be the legitimate government of all China, an assertion initially supported by the United States and a majority of the international community, as Taiwan (officially known as the Republic of China, ROC) represented China at the UN and other international organizations. In December 1954, in the wake of Korean War and increased fears of Communist aggression, the United States and Taiwan signed a Mutual Defense Treaty, which committed the United States to defend Taiwan, but did not cover the offshore islands and included provisions intended to restrain Taiwan from taking unilateral action against the Mainland.¹ While the United States perceived an interest in defending Taiwan, it had no desire to become involved in a renewed Chinese Civil War or a reinvasion of the Mainland, which Chiang Kai-shek consistently advocated.² Chinese shelling of the Taiwanese-controlled islands of Quemoy and Matsu in 1954 and 1958 heightened Taiwan's fears; both times, it took US intervention to defuse the fighting.³

Undoubtedly the most important trigger for Taiwan's nuclear weapons program was China's first nuclear test in October 1964, an event that virtually every discussion of the

¹ Pressman, *Warring Friends*, 33.

² *Ibid*, 34-35.

³ Solingen, *Nuclear Logics*, 100.

Taiwanese nuclear program cites as a critical motivating factor.⁴ Even in the absence of a Chinese nuclear attack, Taiwanese leaders feared China would use its nuclear arsenal to intimidate Taiwan. Moreover, a nuclear China threatened Taiwan's prestige. As Mitchell puts it, "a nuclear PRC may have challenged the government on Taiwan where it hurt the most: on the question of who were the keepers of China's historical great-power status."⁵ Taiwan was also cognizant that its own international support would not last. After all, "the world could not ignore a nuclear-armed People Republic of China forever, regardless of sentiment or ideology."⁶

Within a week of the Chinese test, CIA Deputy Director of Intelligence Ray Cline and US Ambassador Jerauld Wright held meetings with high-level Taiwanese officials, including Chiang Kai-shek, Foreign Minister Shen, and Chiang Ching-kuo (Chiang Kai-shek's son and future successor). Shen "made strong point of the anxiety of the ordinary man in Taipei who feared that three small bombs could destroy Keelung, Taipei, and Kaohsiung. It would be small consolation to him to know that after he was dead, US would retaliate on ChiComs [Chinese Communists]." For his part, Chiang Kai-shek argued, "US assurances for defense of Taiwan inadequate to calm fears aroused by explosion...US, he felt, would be deterred from nuclear retaliation by European allies. It would be useless [to] come to support of GRC [Government of the Republic of China] once it [was] destroyed... Now [is] time for US to review its policy and choose either Mao or Gimo [*Generalissimo* Chiang Kai-shek] as friend."⁷

Soon thereafter, Taiwanese officials began making their case for a preventive attack on China's nuclear facilities. A Kuomintang (KMT) official informed a US embassy officer in late

⁴ See, for example, Rebecca Hersman and Robert Peters, "Nuclear U-Turns: Learning from South Korean and Taiwanese Rollback," *Nonproliferation Review* 13, No. 3 (2006): 543; Solingen, *Nuclear Logics*, 103; David Albright and Corey Gay, "Taiwan: Nuclear Nightmare Averted," *Bulletin of Atomic Scientists* 54, No. 1 (1998), 55; and Mitchell, "Taiwan's Hsin Chu Project," 294.

⁵ Mitchell, "Taiwan's Hsin Chu Project," 296.

⁶ *Ibid.*, 295.

⁷ Report of Meetings, 23-24 October 1964, Johnson Administration, *FRUS*, vol. xxx, doc. 62.

October that the Chinese nuclear test “made a GRC counterattack against the mainland imperative before the Chicoms develop a complete weapons and delivery system.” When the US officer replied that the PRC would likely be deterred by the threat of US retaliation, the Taiwanese official “said that there is doubt regarding US willingness and determination” to respond to a nuclear attack on Taiwan. Somewhat presciently, the KMT official “spoke of apprehension that as a result of the CCNE [Communist Chinese Nuclear Explosion] the US will be ‘trapped’ into negotiations with the Chicoms and increasing de facto acceptance of them as a major international element to the detriment of GRC interests.”⁸ Taiwan’s fears that the Chinese nuclear capability would cause the United States to be more accepting of the PRC’s international status were not unfounded. In late November, NSC staffer Robert Komer sent a memo to National Security Advisor McGeorge Bundy that observed, “Peiping's test also dramatically underlines that *Red China is here to stay*. It destroys what's left of the Gimo's thesis that the civil war is still on (he knows it, too, poor man).”⁹

Chiang Kai-shek himself advocated a preventive attack against China, writing a letter to President Johnson in November arguing, “if the US considered it impracticable at the present time to assist the GRC in overthrowing the Chinese Communist regime before it could produce nuclear weapons, the next best thing would be for the US to make available such material and technical aid as might be necessary for destroying Chinese Communist nuclear installations.”¹⁰

⁸ Comments re Effectiveness and Credibility of US Nuclear Deterrent in Far East in Wake of Chinese Communist Nuclear Detonation, 27 October 1974, *DNSA*, NP01025.

⁹ Memorandum From Robert W. Komer of the National Security Council Staff to the President’s Special Assistant for National Security Affairs (Bundy), 23 November 1964, Johnson Administration, *FRUS*, vol. xxx, doc. 68. Emphasis in original.

¹⁰ US-GRC Consultations concerning Possible Action against the Mainland, 17 September 1965, *DNSA*, CI01703.

President Johnson replied the following month, attempting to reassure Chiang of the American security commitment while rejecting any military action.¹¹

In the closing days of 1964, Chiang publicly promised “to destroy Communist China’s nuclear installations,” a pledge reported on in the *New York Times*.¹² In March 1965, fearing that a second Chinese nuclear test was imminent, Chiang asked for US missiles to improve Taiwanese air defenses, arguing that, “Our air defense system just cannot afford even one of them (Chinese TU4 bombers) to come through and deliver the weapon.”¹³ Several weeks later, Ambassador Wright informed Chiang Ching-kuo, now serving as Defense Minister, that, “no air defense system, however elaborate, could guarantee against the penetration of a small number of planes,” that the United States itself relied not on air defenses but on the threat of nuclear retaliation to prevent nuclear attacks, and that US nuclear forces would be able to deter a Chinese first strike.¹⁴

These reassurances proved insufficient to calm the Taiwanese. When Chiang Kai-shek met with Ray Cline in Taipei in August 1965, he continued to press for a preventive strike. According to the account of the meeting sent to President Johnson, Chiang argued that, “now is the time for an amphibious Chinese Nationalist landing on the South China (Kwangtung) coast in order to cut Peking’s supply lines to Vietnam and to begin the reconquest of the mainland. The Gimo believes that it is now or never; the Sino/Soviet dispute assures that the USSR will not

¹¹ Telegram From the Department of State to the Embassy in the Republic of China, 21 December 1964, Johnson Administration, *FRUS*, vol. xxx, doc. 74.

¹² Chiang Vows to End Peking Atom Power, *New York Times*, 1 January 1965, pg. 17.

¹³ Telegram from the Embassy in the Republic of China to the Department of State, 23 March 1965, Johnson Administration, *FRUS*, vol. xxx, doc. 81.

¹⁴ Airgram From the Embassy in the Republic of China to the Department of State, 14 April 1965, Johnson Administration, *FRUS*, vol. xxx, doc. 82.

intervene, and the Chinese Communists have not yet achieved a sufficient nuclear buildup to deter a Nationalist invasion.”¹⁵

The following month, a high-level Taiwanese delegation traveled to Washington, including Chiang Ching-kuo and Madame Chiang Kai-shek, the prominent wife of the Taiwanese leader. Both pressed aggressively for US support for a Taiwanese preventive attack. When Rusk reiterated the US position that China would be deterred from launching a nuclear first strike on Taiwan, Madame Chiang replied, “that the Chinese Communists are not rational men. They are insane with power and will resort to any means to accomplish their objectives.” Madame Chiang continued, “that in the present situation of increasing ChiCom nuclear power the only course of action for the United States was...to (provide the means) to take out the ChiComs nuclear installations now by the employment of conventional forces.”¹⁶ When Chiang Ching-kuo met with Secretary of Defense McNamara two days later, he echoed his father’s desire for a return to the mainland, while conceding that he was “discussing only policy and strategy, not operational proposals.” Chiang emphasized that his government did not seek the involvement of US ground forces or nuclear weapons but “would need US transportation and also US planes...GRC would need US air and navy cover (protection from ChiCom air and sea attack) but would not need or want US air or naval strikes.”¹⁷

By November, the JCS had concluded that the Taiwanese proposal “depends for its success on massive US naval, air, and logistic support and large-scale popular uprisings and defections once a landing has been accomplished” and that “there appears to be no possibility of

¹⁵ Memorandum From James C. Thomson, Jr., of the National Security Council Staff and the President’s Special Assistant for National Security Affairs (Bundy) to President Johnson, 5 August 1965, Johnson Administration, *FRUS*, vol. xxx, doc. 95.

¹⁶ Memorandum of Conversation, 20 September 1965, Johnson Administration, *FRUS*, vol. xxx, doc. 103.

¹⁷ Memorandum of Conversation, 22 September 1965, Johnson Administration, *FRUS*, vol. xxx, doc. 104.

successfully executing the concept as proposed.”¹⁸ In January 1966, the United States officially rejected the Taiwanese plan, a message Chiang Ching-Kuo received with “disappointment and irritation.”¹⁹ Reflecting Taiwan’s continued concern about China’s nuclear capability, when Secretary Rusk visited Taipei in December 1966, Chiang Kai-Shek said that, “he had become concerned about the possibility that Peking would launch a nuclear strike on Formosa with ‘ten or twelve weapons’ and reduce the island to ashes.” Rusk reiterated the American argument its treaty commitments would prevent such an attack from occurring.²⁰

By the end of 1966 then, Taiwan had been repeatedly frustrated in its attempts to secure American support for a preventive attack on Chinese nuclear facilities. Doubting the ability of the US alliance and nuclear umbrella to deter a Chinese first strike, Taiwanese leaders had a strong incentive to pursue nuclear weapons of their own as a more reliable deterrent.

January 1967-June 1971: High Dependence, Low Credibility

Taiwan launched its nuclear weapons program sometime between 1966 and 1967. By June 1966, the United States had received intelligence that Taiwan was interested in nuclear weapons. The US embassy in Taipei informed Washington that, “At the direction of President Chiang, the GRC Defense Ministry continues to try to develop an atomic weapon and delivery system, according to a source close to the effort.”²¹ In 1967 the Taiwanese Defense Ministry and several other officials (notably, Chiang Ching-kuo) formally proposed a \$140 million program to

¹⁸ Memorandum From the Joint Chiefs of Staff to Secretary of Defense McNamara, 16 November 1965, Johnson Administration, *FRUS*, vol. xxx, doc. 110.

¹⁹ Memorandum From James C. Thomson, Jr., of the National Security Council Staff to the President’s Special Assistant for National Security Affairs (Bundy), 3 February 1966, Johnson Administration, *FRUS*, vol. xxx, doc. 121.

²⁰ Telegram From Secretary of State Rusk to the Department of State, 10 December 1966, Johnson Administration, *FRUS*, vol. xxx, doc. 224.

²¹ Indications GRC [Government of the Republic of China] Continues to Pursue Atomic Weaponry, 20 June 1966, *DNSA*, WM00119.

develop nuclear weapons for Taiwan.²² In February of that year, Taiwan signed a preliminary agreement to purchase a 50 MW heavy water nuclear reactor from West Germany, which US embassy officials judged might be related to Taiwan's interest in nuclear weapons.²³ By 1969 the nuclear weapons program was up and running, nominally under the auspices of the civilian Institute for Nuclear Energy Research (INER), but also with heavy involvement from the military's Chungshan Institute of Science and Technology.²⁴ Although Taiwan signed the NPT in 1968, in 1969 INER signed a deal to purchase a heavy water research reactor from Canada that would become the basis of Taiwan's nuclear weapons program.²⁵

This dissertation's theory suggests that US sanctions are likely to succeed at halting ongoing nuclear weapons programs only when (1) they are targeted at states that underestimated the probability of sanctions when they started their program, (2) are highly dependent on the United States, and (3) when the threat of sanctions is credible. Having started its nuclear program prior to the existence of a US sanctions policy, Taiwan surely underestimated the probability of sanctions. Taiwan was also highly dependent on the United States for the duration of its nuclear weapons program. In addition to the Mutual Defense Treaty, which committed the United States to defend Taiwan, the United States provided large amounts of economic and military aid, had a large trade relationship with Taiwan, and stationed large numbers of US troops there.²⁶ These linkages are illustrated in Table 6.1 below. Even as economic aid ended and military aid and troop levels began to decline in the 1970s, the United States became more important as a trade

²² Hersman and Peters, "Nuclear U-Turns," 543.

²³ GRC [Government of the Republic of China] Plans for Purchase of 50 Megawatt Heavy Water Nuclear Power Plant, 17 February 1967, *DNSA*, WM00124.

²⁴ Albright and Gay, "Taiwan," 56; Hersman and Peters, "Nuclear U-Turns," 543.

²⁵ Albright and Gay, "Taiwan," 56.

²⁶ Trade data is from Barbieri, Keshk, and Pollins, "Correlates of War Project Trade Data Set, Version 2.01." Economic and military aid data is from Bueno de Mesquita and Smith, "Foreign Aid and Policy Concessions." Troop data is from Kane, "Global U.S. Troop Deployment, 1950-2005."

partner and still sold Taiwan large quantities of arms, including hundreds of Hawk missiles, more than a hundred F-5 fighter planes, 50 M-48 Patton tanks, and about two dozen destroyers.²⁷

In this first period, however, the United States lacked credibility on nonproliferation issues and did not threaten sanctions, and therefore the theory suggests Taiwan should persist in its nuclear weapons program. The low US credibility on nonproliferation in time period is evidenced by the fact that the United States made almost no approaches to Taiwan on its nuclear behavior, in spite of the intelligence that Taiwan was seeking nuclear weapons.

Table 6.1: Taiwanese Dependence on the United States, 1964-1978

Year	Economic Aid	Military Aid	US Troops	US Trade as % of Taiwan's GDP
1964	279.80	436.05	3802	4.22
1965	304.09	385.36	4175	4.83
1966	98.46	569.51	7689	4.31
1967	25.37	610.99	9038	5.51
1968	36.23	874.73	8874	6.02
1969	0	622.17	9243	6.78
1970	0	1271.10	8813	7.71
1971	88.39	579.23	8565	8.80
1972	0	619.33	8289	10.44
1973	0	624.06	8267	12.87
1974	0	364.43	4619	17.28
1975	0	294.18	2584	13.73
1976	0	355.77	2090	15.48
1977	0	109.57	995	15.79
1978	0	69.79	753	16.57

Economic Aid and Military Aid in millions, constant 2012 \$US

Other than refusing to sell Taiwan a reprocessing plant that could have been used to separate plutonium in 1969,²⁸ the United States did little to halt Taiwan's nuclear progress. The United States was concerned over Taiwan's plan to buy a heavy water reactor from Germany.

²⁷ SIPRI Arms Transfers Database, http://www.sipri.org/databases/copy_of_armstransfers. These deliveries occurred between 1970 and 1978.

²⁸ Mitchell, "Taiwan's Hsin Chu Project," 298.

However, since it would be under IAEA safeguards and the United States was in the process of negotiating the NPT (which was premised on the IAEA safeguard system), the State Department in 1967 did “not consider that we should attempt to forestall sale” and directed that “Embassy Taipei should be careful to assure that anything said does not imply US effort to frustrate German sale.”²⁹ Likely for the same reason, the United States did little to prevent Taiwan from acquiring a heavy water reactor from Canada,³⁰ despite its suitability for plutonium production.

During this time period, from 1967 to 1971, Taiwan continued to express concerns over China’s nuclear capability. With the Cultural Revolution in full swing on the Mainland, along with the Sino-Soviet split and the ongoing war of attrition in Vietnam, Chiang Kai-shek suggested in March 1967 to the US Ambassador to the UN, Arthur Goldberg, that “now is the golden opportunity to rid the mainland of the Communist regime and destroy the Chinese nuclear threat.”³¹ That same month, however, the US embassy in Taipei informed Washington that, “Recent reporting suggests... more GRC energy is being spent on measures to respond to the developing ChiCom strategic threat than on polishing mainland recovery plans. Redeployment and dispersal of selected military units is under way. GRC officials state this is a precaution against nuclear attack ...A stepped up civil defense effort has been underway for more than a year and...emphasizes defense against nuclear weapons.”³²

By August 1967, a CIA official informed a group of high-level State Department officials that “the current mood of the GRC leadership is one of pessimism growing out of frustration.

²⁹ State Department to Embassies Taipei and Bonn, Cable 16187, 20 March 1967, in “New Archival Evidence on Taiwanese ‘Nuclear Intentions’, 1966-1976,” *NSA, EBB 20*.

³⁰ See Eugene Kogan, “Proliferation Among Friends: Taiwan’s Lessons from the 1970s-80s,” paper presented at the Nuclear Studies Research Initiative Conference, Cedar Creek, TX, October 17-19, 2013, 11.

³¹ Memorandum From the Representative to the United Nations (Goldberg) to President Johnson, 9 March 1967, Johnson Administration, *FRUS*, vol. xxx, doc. 245.

³² County Team Assessment of GRC Intentions, 15 March 1967, *DNSA, CI01802*.

The GRC prediction of a divided leadership on the mainland has come true—by chance—and the US is not interested in taking advantage of it. The uncertainty of status within the UN is continual. Communist China's nuclear power is growing and the Gimo feels strongly that the Communists intend using it against Taiwan.”³³ In September, Chiang Kai-Shek turned to Japanese Prime Minister Sato in his efforts to gain approval for an attack, arguing the United States “does not appreciate need to eliminate growing ChiCom nuclear capability now.”³⁴

In this period, the United States began to take limited steps toward improving relations with China. A series of government studies on policy toward China in February 1968 concluded that “China is a mess” due to the Cultural Revolution but nonetheless suggested “certain steps to be taken unilaterally, where reciprocation is not expected, designed to increase contact and to signal to potential successors to the Maoists that they will have policy options in our regard.”³⁵ Soon after Nixon took office in 1969, the White House issued National Security Study Memorandum (NSSM) 14, which ordered a study on US policy toward the PRC and Taiwan, policy that was soon to undergo dramatic change.³⁶ In June, the White House issued NSDM 17, which called for a “Relaxation of Economic Controls Against China.”³⁷

In August 1969, an official response to NSSM 14 noted, “substantial agreement that those aspects of Chinese policy that adversely affect US interests are unlikely to change over the short run and that, in the long run, no matter how Chinese policy may evolve, US and Chinese interests will remain in conflict in substantial respects.” Nevertheless, the study deemed it likely

³³ Memorandum From Donald S. Macdonald of the Bureau of Intelligence and Research to the Director of the Bureau (Hughes), 18 August 1967, Johnson Administration, *FRUS*, vol. xxx, doc. 278.

³⁴ [Taiwan’s Request for Japan’s Help], 27 September 1967, *DNSA*, CI01833.

³⁵ Memorandum From the President’s Special Assistant (Rostow) to President Johnson, 24 February 1968, Johnson Administration, *FRUS*, vol. xxx, doc. 305.

³⁶ US China Policy, 5 February 1969, *DNSA*, PD01331.

³⁷ National Security Decision Memorandum No. 17, 26 June 1969, *Nixon Library*, <http://www.nixonlibrary.gov/virtuallibrary/documents/nationalsecuritydecisionmemoranda.php>

China would eventually “moderate” its behavior and suggested that in the long run the United States should seek, “To achieve a relaxation of tensions between the US and the PRC, including...normalization of US political and economic relations with the PRC” and “a resolution of the future status of Taiwan without the use of force,” among other goals.³⁸

The changing US position toward the PRC was apparent in the US response to the Sino-Soviet border clashes of 1969. In September, Kissinger sent a memo to Nixon describing how the USSR had floated the idea of an attack on Chinese nuclear facilities and hinted they may help the United States keep the PRC out of the UN. Instead of responding favorably to these overtures, Kissinger recommended that the United States “make clear that we are not playing along with these tactics, in pursuance of your policy of avoiding the appearance of siding with the Soviets. The principal gain in making our position clear would be in our stance with respect to China.”³⁹ By October, the Assistant Secretary of State for East Asia Affairs, Marshall Green, could write that, “The Administration has indicated a willingness to seek friendlier and ‘more normal relations’ with Peking and to bring the Chinese out of their international isolation,” and has “encouraged a number of other countries to convey to the Chinese our general interest in an improvement in relations and contacts.”⁴⁰

The most prominent of these countries was Pakistan. As Kissinger wrote to Nixon ten days later, he had authorized Pakistani President Yahya Khan to inform the Chinese Ambassador to Pakistan of US interests in rapprochement and to say “confidentially that the United States is removing two of its destroyers from the Formosa Straits. I told him that he should not allow any misunderstanding of this move – it did not affect our basic position on Taiwan but it was an

³⁸ Response to National Security Study Memorandum 14, 8 August 1969, Nixon Administration, *FRUS*, vol. xvii, doc. 23.

³⁹ Memorandum From the President’s Assistant for National Security Affairs (Kissinger) to President Nixon, 29 September 1969, Nixon Administration, *FRUS*, vol. xvii, doc. 37.

⁴⁰ Next Steps in China Policy, 6 October 1969, *DNSA*, CH00079.

effort to remove an irritant.”⁴¹ In talks with the Chinese in February 1970, US officials stated that it is “our intention to reduce those military facilities which we now have on Taiwan as tensions in the area diminish.”⁴²

In sum, by 1971 the United States had made little effort to restrain the Taiwanese nuclear program, reflective of the lack of priority given to nonproliferation at the time. The Taiwanese program continued apace, and while the United States made limited steps toward reconciling with China, it was not until July 1971 that dramatic changes in US policy emerged.

**July 1971- May 1976:
High Dependence, Low Nonproliferation Credibility, High General Credibility**

In July 1971, Henry Kissinger secretly traveled to Beijing and met with Chou En-Lai—a historic turning point in American efforts at reconciliation with the PRC. During the meeting, Kissinger declared, “We consider that the People’s Republic of China...must participate on the basis of equality in all matters affecting the peace of Asia and the peace of the world. We consider it in our interest, and above all in the interest of the world, that you play your appropriate role in shaping international arrangements.” While expressing a similar desire to improve relations with the United States, Chou insisted to Kissinger that, “in recognizing China the US must do so unreservedly...Taiwan is a Chinese province, is already restored to China, and is an inalienable part of Chinese territory...The US must withdraw all its armed forces and dismantle all its military installations on Taiwan and in the Taiwan Straits within a limited period.” With respect to US forces on Taiwan, Kissinger stated that, “We are prepared to remove that part [of US forces] related to activities other than to the defense of Taiwan...within a

⁴¹ President Yahya and Communist China, 16 October 1969, *DNSA*, KT00068.

⁴² Reduction of US Presence on Taiwan, 31 March 1970, *DNSA*, CI01953.

specified brief period of time after the ending of the war in Indochina. We are prepared to begin reducing our other forces on Taiwan as our relations improve.”⁴³

In describing his trip to China to Nixon several days later, Kissinger wrote that the visit “resulted in the most searching, sweeping and significant discussion I have ever had in government” and described how an agreement had been reached for Nixon to visit China and meet with Mao the following year.⁴⁴ Taiwan was expelled from UN in October 1971, which recognized the PRC as the only legitimate Chinese government. President Nixon’s trip to February 1972, and the subsequent Shanghai Communique promising to work toward normalization of relations between the United States and China and reduce the American presence on Taiwan, compounded Taiwan’s insecurity, reinforcing the case for a Taiwanese nuclear arsenal.⁴⁵ The Communique explicitly “affirm[ed] the ultimate objective of the withdrawal of all US forces and military installations from Taiwan. In the meantime, it [the United States] will progressively reduce its forces and military installations on Taiwan as the tension in the area diminishes.”⁴⁶

Given the clear trajectory toward reconciliation with China, an argument based on the general credibility of US coercive threats vis-à-vis Taiwan (as opposed to credibility specifically on non-proliferation issues) would expect that Taiwan would concede to US pressure in this period. After all, as Glenn Snyder argued in his classic work on alliance politics, “A strategy of strong commitment and support will have the undesired effect of reducing one’s bargaining leverage over the ally. If he knows he can count on being supported, he is less influencable.

⁴³ [Conversation with Zhou Enlai in Peking; Attached to Cover Memorandum Dated July 29, 1971], 9 July 1971, *DNSA*, KT00303.

⁴⁴ My Talks with Chou En-Lai, 17 July 1971, *DNSA*, JU01406.

⁴⁵ Hersman and Peters, “Nuclear U-Turns,” 544.

⁴⁶ “Joint Communiqué of the United States of America and the People’s Republic of China,” 28 February 1972, <http://www.taiwandocuments.org/communique01.htm>

Conversely, bargaining power over the ally is enhanced to the extent he doubts one's commitment because one can then make credible threats of nonsupport."⁴⁷ What we actually observe, however, is that Taiwan did not abandon its nuclear weapons program in this period in spite of repeated US efforts, even as the US commitment to Taiwan was rapidly and publicly declining.⁴⁸ This outcome is consistent with this dissertation's theory because the United States lacked an established nonproliferation sanctions policy in this time, which made threats of sanctions over proliferation non-credible.

In 1971, as a result of Taiwan's expulsion from the UN and IAEA, a trilateral agreement between the United States, Taiwan, and IAEA was negotiated under which the United States "became the ultimate legal guarantor of Taiwan's non-nuclear status—facilitated by IAEA inspections."⁴⁹ In the early 1970s, the IAEA began its inspections of INER facilities, inspections that were hindered by "too few inspection rights, a lack of designated inspectors, and inadequate equipment."⁵⁰ Around this time, Taiwan greatly increased its efforts in the nuclear field, purchasing multiple light water reactors for civilian use while the Defense Ministry began its efforts to separate plutonium for use in nuclear weapons.⁵¹ Based on the size of Taiwan's young program and the prior purchasing of the Canadian heavy water reactor—which could produce plutonium in sufficient quantities for nuclear weapons—a November 1972 US Special National Intelligence Estimate concluded that "Taipei's present intention is to develop the capability to

⁴⁷ Snyder, "The Security Dilemma in Alliance Politics," 467

⁴⁸ One could make the opposite argument, namely that the declining US commitment to Taiwan should have made Taiwan less likely to concede since its future security situation looked bleaker (and US assurances of continued support in exchange for compliance would be viewed as less credible). However, this argument cannot explain why Taiwan ultimately did concede in 1977, when the security commitment to Taiwan was even weaker, and therefore I do not explicitly consider it in this chapter.

⁴⁹ Mitchell, "Taiwan's Hsin Chu Project," 297-298.

⁵⁰ Albright and Gay, "Taiwan," 58.

⁵¹ Hersman and Peters, "Nuclear U-Turns," 544.

fabricate and test a nuclear device” but noted that sensitivity to American and Chinese reactions would likely keep Taiwan from stockpiling weapons and openly testing them.⁵²

Raising further US concerns, in late 1972 the United States learned that Taiwan was seeking to buy reprocessing equipment from a German company, which could be used to extract plutonium from the heavy water reactor’s spent fuel.⁵³ In early January 1973, the State Department instructed the US embassy in Taipei to inform Taiwanese leaders that the US government “strongly urges ROC to reconsider acquisition of a reprocessing plant” while offering “to assist ROC to obtain reprocessing services from US firms to meet projected ROC requirements.” The United States also pressed Germany and Belgium (the latter of which was to provide some of the equipment for the proposed facility) to cancel their involvement in the deal.⁵⁴ Later that month, the US ambassador apprised Foreign Minister Shen of his “emphatic hope ROC would not set up an unnecessary and uneconomic domestic reprocessing plant which might jeopardize much larger and more important nuclear energy interests” and warned “it was not in the interest of the ROC to stimulate the suspicions of third countries regarding the nuclear activities of ROC.”⁵⁵ By early February, the United States had ostensibly convinced Taiwan to forego the purchase of reprocessing equipment.⁵⁶ Soon thereafter, a US intelligence report summarized activities “indicating an interest on the part of some senior ROC officials...which

⁵² Taipei’s Capabilities and Intentions Regarding Nuclear Weapons Development, Special National Intelligence Estimate, no. 1A, 16 November 1972, in William Burr, “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

⁵³ State Department Memorandum of Conversation, “Germany Inquiry Regarding Safeguards on Export of Parts to ROC Reprocessing Plant,” 22 November 1972, in “New Archival Evidence on Taiwanese ‘Nuclear Intentions’, 1966-1976,” *NSA, EBB 20*.

⁵⁴ Proposed Reprocessing Plant for Republic of China, 4 January 1973, *DNSA, WM00150*. Also see State Department to Embassies in Bonn, Brussels, and Taipei, “Proposed Reprocessing Plant for the Republic of China,” Cable 12137, 20 January 1973, in “New Archival Evidence on Taiwanese ‘Nuclear Intentions’, 1966-1976,” *NSA, EBB 20*.

⁵⁵ Proposed ROC [Republic of China] Reprocessing Plant, 31 January 1973, *DNSA, WM00153*.

⁵⁶ ROC [Republic of China] Decides against Purchase of Nuclear Reprocessing Plant, 8 February 1973, *DNSA, WM00154*.

would at least provide an option for establishing a nuclear weapons program,” including the acquisition of the heavy water reactor and efforts to acquire reprocessing technology.

Nonetheless, the report errantly concluded, “there are at present no plans for proceeding to systematically undertake the development of nuclear weapons.”⁵⁷ The same day that the intelligence report on Taiwan’s nuclear program was released, Kissinger reaffirmed to Chou En-Lai in Beijing the contours of the Shanghai Communiqué.⁵⁸ Kissinger also informed Chou that the United States would remove half of all US forces on Taiwan over the next two years, including several air force squadrons.⁵⁹

Taiwan’s Canadian-supplied heavy water reactor also went into operation in 1973, a model identical to the reactor India used to produce plutonium for its 1974 nuclear test.⁶⁰ In order to produce fuel for the reactor, INER began operating a fuel fabrication plant and purchased around 100 metric tons of South African uranium, “much more than was necessary to serve the research reactor.”⁶¹ Around this time, the US Embassy in Taipei began to take notice of these suspicious developments.⁶² A late February 1973 cable from the US embassy in Taipei observed, “a strong military element in the actual administration of the institute” and noted, “A pilot reprocessing laboratory, which can handle gram-sized quantities only, is under construction.”⁶³

By April, US officials had decided that a “study group” should be sent to Taiwan, ostensibly to discuss US-Taiwanese nuclear energy cooperation but more importantly to gather intelligence on the Taiwanese nuclear weapons program.⁶⁴ In August, after Taiwanese officials

⁵⁷ Nuclear Weapon Intentions of the Republic of China, 15 February 1973, *DNSA*, WM00157.

⁵⁸ [Discussion with Zhou Enlai in Beijing], 15 February 1973, *DNSA*, KT00673.

⁵⁹ My Trip to China, 2 March 1973, *DNSA*, JU01710.

⁶⁰ Albright and Gay, “Taiwan,” 57.

⁶¹ Mitchell, “Taiwan’s Hsin Chu Project,” 298.

⁶² Hersman and Peters, “Nuclear U-Turns,” 544.

⁶³ Chung Shan Nuclear Research Institute, 24 February 1973, *DNSA*, WM00158.

⁶⁴ ROC [Republic of China] Nuclear Intentions, 17 April 1973, *DNSA*, WM00160

expressed a desire to train scientists in reprocessing and begin its own reprocessing operations after 1985, Abraham Friedman of the US Atomic Energy Commission (AEC) informed his Taiwanese counterpart that, “the AEC has very serious problems with ROC’s desire to establish a nuclear reprocessing plant on Taiwan...IAEA’s relationship with the ROC would almost certainly be severed if the ROC proceeded with its plans for a reprocessing plant; this in turn would imperil the ROC’s entire nuclear energy program.”⁶⁵

Adding fuel to the fire, the United States learned in October 1973 that Taiwan was again attempting to buy a reprocessing plant, this time from companies in France and Belgium.⁶⁶ Reacting to this development, the United States sent another study team of scientists and diplomats to Taiwan whose primary aim was express US opposition. Specifically, the team was instructed to inform Taiwanese officials that the United States suspected Taiwan was “interested in developing a capacity to manufacture nuclear weapons. We consider the ROC desire to establish an independent reprocessing facility as one sign of this intention...Should we have reason to believe that the ROC has moved from consideration of a nuclear weapons program to actual implementation, we would be forced to react. That reaction would be based upon the circumstances at the time.”⁶⁷

Responding to this vague warning, the Taiwanese Foreign Minister informed the US ambassador that plans to acquire a reprocessing facility had been dropped, and added that Taiwan “had no intention of proceeding in face of US opposition since ROC could not

⁶⁵ State Department Memorandum of Conversation, “ROC Nuclear Energy Plans,” 29 August 1973, in “New Archival Evidence on Taiwanese ‘Nuclear Intentions’, 1966-1976,” *NSA, EBB 20*.

⁶⁶ Roger Sullivan to Assistant Secretary of State for Far East and Pacific Affairs Arthur W. Hummel, Jr., “Nuclear Study Group Visit to Taiwan,” no. 2B, 29 October 1973, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

⁶⁷ Roger Sullivan to Assistant Secretary of State for Far East and Pacific Affairs Arthur W. Hummel, Jr., “Nuclear Study Group Visit to Taiwan,” no. 2B, 29 October 1973, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

jeopardize nuclear cooperation from US.” US officials pressed the issue even further, stating “we wished ROC to observe even stricter standards than other countries and to go out of its way to remove any ambiguity because we could not otherwise ensure the kind of cooperation necessary for the nuclear power program. We were asking not only that ROC desist from seeking reprocessing capability but also that it cease minor activities which implied continuing interest in this direction.” Officials also made sure to emphasize benefits for Taiwanese cooperation, including an assured fuel supply for Taiwanese power reactors, aid in research, and expedition of additional reactor acquisitions.⁶⁸

Meanwhile, the United States continued to reduce its commitment to Taiwan. In November 1973, Kissinger informed Chou that in addition to the force reductions he had mentioned in March, the United States would also remove its U-2 spy planes and nuclear weapons from Taiwan over the course of the following year, with the result being that the US presence would be limited to “communications and logistics.” He also stated the US desire to entirely normalize relations “before the middle of 1976.”⁶⁹ In March 1974, Nixon formally ordered the force reductions,⁷⁰ which included the United States removing its nuclear weapons from Taiwan.⁷¹ When Chiang Ching-kuo was informed of the schedule by which the nuclear weapons would be withdrawn, he reportedly gave the United States “the green light” to go ahead; however, he attempted to delay the withdrawal of F-4s.⁷²

⁶⁸ US Embassy Taiwan Cable 7051 to State Department, “Fonmin Reaffirms ROC Decision to Refrain From Acquiring Nuclear Reprocessing Plant,” no. 3B, 23 November 1973, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

⁶⁹ [Meeting Between Henry Kissinger and Zhou Enlai, Great Hall of the People], 11 November 1973, *DNSA, CH00278*.

⁷⁰ Changes in US Force Levels on Taiwan, 14 March 1974, *DNSA, CH00289*.

⁷¹ Solingen, *Nuclear Logics*, 103.

⁷² Conversation with CCK regarding Redeployments, 1 May 1974, *DNSA, CI02040*.

In August, Kissinger reported to the newly inaugurated President Ford that, “The chief substantive issue of our residual relations with Taiwan is to achieve a level of security for Taiwan that is acceptable, or tolerable, to the United States, to the PRC, and to the ROC.” Kissinger noted that the treaty with Taiwan would have to be abandoned upon normalization, and therefore that “Taiwan’s security...will probably have to rest chiefly on declarations rather than any formal instruments.” He suggested that on his next trip to China, he would make sure that Beijing “understand that the ROC has substantial capabilities for actions that would make serious problems for both the ROC and the US (declaring independence, or going nuclear, or flirting with a third country such as the USSR whose overtures it has so far rejected) and therefore a strict ‘Japan formula’ of no real US-Taiwan ties would not serve either PRC or US interests.”⁷³ Of course, as the US government was aware, the possibility of Taiwan going nuclear was very real. In October 1974, the CIA judged that “Taipei conducts its small nuclear program with a weapon option clearly in mind, and it will be in a position to fabricate a nuclear device after five years or so...Taipei’s present course probably is leading it toward development of nuclear weapons.”⁷⁴

In November, the State Department completed a study on future arms supply to Taiwan in the context of US efforts at normalization. The study argued that the United States would need to continue providing some level of arms to Taiwan to ensure that China was not tempted to use military force and warned that “greatly reduced access” to American arms “could lead to the ROC to intensify efforts to acquire a military nuclear capability...The inhibitions which have kept the ROC in line could be swept aside by a ROC calculation that a nuclear capability was

⁷³ People’s Republic of China, 14 August 1974, *DNSA*, CH00307.

⁷⁴ Prospects for Further Proliferation of Nuclear Weapons, 2 October 1974, *DNSA*, NP01382.

required as an effective substitute for the vanishing US security commitment.”⁷⁵ Nonetheless, when Kissinger traveled to China at the end of the month, he informed Chinese officials that the United States “is prepared to remove all our troops from Taiwan....by the end of 1977.”⁷⁶

With the US security commitment continuing to decline, Taiwan persisted in its effort to attain a reprocessing capability. In 1975, Chiang Ching-kuo formally took over leadership of the KMT following his father’s death. By the end of the year, the heavy water reactor had already produced spent fuel containing 15 kg of weapons-grade plutonium, and Taiwan had built a small “Plutonium Fuel Chemistry Laboratory” to extract this material, with reprocessing equipment provided by the French firm Saint Gobain prior to the French government’s cancellation of a larger export deal. This laboratory had already produced small amounts of plutonium metal, a substance “rarely if ever used in civilian programs.” With equipment obtained from companies in France, Germany, and the United States, Taiwan had also built an even smaller reprocessing facility at the “Hot Laboratory.” While neither of these facilities could produce sufficient quantities of plutonium suitable for nuclear weapons, they indicated an interest in nuclear weapons research, especially when combined with Taiwan’s attempts to procure larger reprocessing facilities.⁷⁷ Despite Taiwan’s effort at secrecy, this activity was not entirely opaque to the outside world—in the summer of 1975, Time Magazine ran a story suggesting that Taiwan was pursuing nuclear weapons, an accusation that was predictably denied.⁷⁸ In October, the New York Times reported that Chiang Ching-kuo had informed Taiwan’s Legislative Yuan that the

⁷⁵ Submission of Response to NSSM 212 [Includes Report Entitled “US Security to the Republic of China”], 12 November 1974, *DNSA*, PR02171.

⁷⁶ Normalization, 26 November 1974, *DNSA*, CH00322.

⁷⁷ Albright and Gay, “Taiwan,” 57.

⁷⁸ Taipei Denies Work on Atomic Weapons, *New York Times*, 8 July 1975, 8.

government “did actually consider construction of a nuclear arsenal last year” but decided against it due to his father’s opposition.⁷⁹

By early 1976, the IAEA began to suspect that Taiwan was pursuing nuclear weapons.⁸⁰ Around this time, the US and IAEA discovered that Taiwan had the capability to produce plutonium and noticed 500 grams of plutonium were unaccounted for, leading the IAEA to demand to inspect to the “Plutonium Fuel Chemistry Laboratory,” which Taiwan initially resisted then allowed in May, rousing further US and IAEA suspicion.⁸¹ By May 1976, a US intelligence report concluded, “The ROC is attempting to develop the capability to fabricate nuclear devices. If the ROC violates safeguard agreements, it probably could develop the capability and acquire the materials to build a crude nuclear device in three to four years.”⁸² The following month, National Security Advisor Brent Scowcroft recommended to President Ford a strategy of “limited ROC access to new weapons,” with one of the limitations being that these arms “did not contribute to the ROC’s nuclear, long-range/intermediate missile, or chemical warfare development programs.”⁸³

By the middle of 1976 then, Taiwan was clearly persisting with its nuclear weapons effort despite US pressures. While the United States had repeatedly expressed its displeasure to Taiwan over its nuclear activities, warning that it could jeopardize nuclear cooperation with the IAEA and potentially with the United States, there was no credible threat of sanctions in this period, with no strong US nonproliferation sanctions policy in place. Even though the United States was well on its way toward normalization with China, and had dramatically reduced its

⁷⁹ Fox Butterfield, “Taiwan, Diplomatic Ties Weak, Is Thriving on Its Self-Reliance,” *New York Times*, 14 October 1975, 2.

⁸⁰ Hersman and Peters, “Nuclear U-Turns,” 544.

⁸¹ Albright and Gay, “Taiwan,” 58.

⁸² Prospects for Arms Production and Development in the Republic of China, May 1976, *DNSA*, CI02075.

⁸³ US Security Assistance to the Republic of China, NSSM 212, June 1976, *DNSA*, CH00410.

military commitment to Taiwan, US warnings over Taiwan's nuclear program proved unsuccessful.

**June 1976-December 1978:
High Dependence, High Nonproliferation Credibility, High General Credibility**

In May 1976, the Symington Amendment was approved in the US congress, which dramatically improved the credibility of US nonproliferation efforts by promising to cut off economic and military aid to countries importing sensitive nuclear technologies. Soon thereafter, US pressure on Taiwan escalated, with US officials repeatedly making clear that nonproliferation was a global US objective with increasingly high priority and that noncompliance would trigger serious sanctions. In line with this dissertation's theory, these efforts ultimately proved successful and Taiwan halted its nuclear weapons program in 1977, physically dismantling much of its nuclear infrastructure under intense US pressure.

The US diplomatic campaign began in August 1976, when the US ambassador, Leonard Unger, provided Taiwanese Vice Minister of Foreign Affairs Chien with information describing "US concern over possible construction [of] nuclear fuel reprocessing plants [in] Pakistan, Iran, and elsewhere. I said I was passing this along as a matter of information to underline continuing concern US government has about this nuclear proliferation problem wherever [sic] it may arise in the world."⁸⁴ A few days later, the Ford administration discovered that Taiwan was again attempting to purchase reprocessing technology, this time from a Belgian firm.⁸⁵ After press reports on this fact surfaced,⁸⁶ the American ambassador to Taiwan reminded Foreign Minister

⁸⁴ US Embassy Taiwan cable 5536 to State Department, "Nuclear Fuel Reprocessing Plant," no. 4B, 16 August 1976, in "The United States and Taiwan's Nuclear Program, 1976-1980," *NSA, EBB 221*.

⁸⁵ US Embassy Belgium Cable 8149 to State Department, "Nuclear Processing in ROC," no. 4E, 20 August 1976, in "The United States and Taiwan's Nuclear Program, 1976-1980," *NSA, EBB 221*.

⁸⁶ See David Binder, "US Finds Taiwan Develop A-Fuel," *New York Times*, 30 August 1976, 1.

Shen of “US concern over possible nuclear proliferation through nuclear fuel reprocessing in both Pakistan and Iran and earlier in Brazil... US officials as well as the media have an obligation to be suspicious about the possibilities for proliferation in the ROC, as in any other foreign country, *because once it begins there is no turning back.*”⁸⁷ This global concern over proliferation was publicly discussed in the press, with a Ford administration official telling the New York Times, “We don’t want to jump on Taiwan alone,” mentioning that South Korea and Pakistan were believed to be pursuing nuclear weapons and that in Argentina, Brazil, Libya, and South Africa, “at least some important people are interested in going nuclear.”⁸⁸

In September, the United States stepped up its pressure to the highest level yet. The State Department instructed the US ambassador to inform Taiwanese officials, “we do not accept the argument that a reprocessing facility is required to support the ROC’s nuclear power program.” The ambassador was to warn that Taiwan’s lack of compliance would threaten the nuclear cooperation between the two states and also make reference to:

legislative efforts by the US congress, such as the Symington Amendment, to deny US military and economic assistance to any country that acquires a national reprocessing capability. This reflects the growing sensitivity of congressional and public opinion on the issue of nuclear proliferation and the implications seem clear to my government—should the ROC or any other government seek national reprocessing facilities, this would risk jeopardizing additional highly important relationships with the US. I cannot overestimate the importance my government places upon this matter, and I hope that after you have reported my remarks to the appropriate authorities, the GROC will reaffirm the assurances your government has given concerning reprocessing and non-proliferation.⁸⁹

⁸⁷ US Embassy Taiwan Cable 5965 to State Department, “Ambassador Meets with Foreign Minister Shen to Discuss Recent Press Reports Concerning Reprocessing on Taiwan,” no. 5A, 31 August 1976, in “United States and Taiwan’s Nuclear Program,” NSA, EBB 221, emphasis added.

⁸⁸ David Binder, “US Fears Spread of Atomic Arms in Asia,” *New York Times*, 31 August 1976, 6.

⁸⁹ State Department Cable 91733 to Embassy Taiwan, “ROC’s Nuclear Intentions,” no. 6A, 4 September 1976, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” NSA, EBB 221. These instructions were carried out on September 7, with the Ambassador making the points to Foreign Minister Shen. See US Embassy Taiwan cable 6100 to State Department, “Demarche on ROC’s Nuclear Intentions,” no. 6B, 9 September 1976, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” NSA, EBB 221.

These threats appeared to be successful, as on September 14, Chiang Ching-kuo reiterated that Taiwan's policy was "not to manufacture nuclear weapons" and that "all nuclear research on Taiwan would be directed toward peaceful uses."⁹⁰ He pledged that Taiwan would cease all reprocessing activity and end attempts to purchase reprocessing technology abroad.⁹¹ Several days later, just as the United States was beginning threaten sanctions against Taiwan, President Ford issued NSDM 339, which ordered that US forces on Taiwan be reduced to 1,400 by the end of the year.⁹²

In early October, the author of US sanctions legislation, Senator Stuart Symington, convened the Congressional Subcommittee on Arms Control and held hearings on Taiwan's nuclear program. Multiple US officials testified to, "the US commitment to non-proliferation, the steps we had taken to prevent Taiwan from acquiring a reprocessing facility and the forthcoming written response we received from the ROC that it would neither manufacture nuclear weapons nor engage in activities related to reprocessing...the US had clearly warned the ROC that serious consequences would result from violations of its non-proliferation assurances."⁹³

While the United States was pressuring Taiwan and holding congressional hearings, China began to take notice of Taiwan's nuclear activities. Later in October, in a meeting with Australian diplomats, a Chinese official "accused the US of assisting Taiwan's nuclear weapons program and said that the PRC would hold the US responsible in the event Taiwan acquired

⁹⁰ US Embassy Taiwan Cable 6272 to State Department, "ROC's Nuclear Intentions: Conversation with Premier Chiang Ching-kuo," no. 7A, 15 September 1976, in "The United States and Taiwan's Nuclear Program, 1976-1980," NSA, *EBB 221*.

⁹¹ Albright and Gay, "Taiwan," 58.

⁹² National Security Decision Memorandum 339, 20 September 1976, Ford Administration, *FRUS*, vol. xviii, doc. 156.

⁹³ State Department cable 235429 to US Embassy Taiwan, "Congressional Hearings on ROC Nuclear Activities," no. 8, 9 October 1976, in "The United States and Taiwan's Nuclear Program, 1976-1980," NSA, *EBB 221*.

nuclear weapons.”⁹⁴ On the same day, the US ambassador reiterated to Chiang that nonproliferation, “will be matter of continuing concern in Washington and he should understand that Washington will continue to be suspicious and to be alert worldwide to any indications of any country’s intention of initiating nuclear reprocessing or other undesirable activities.”⁹⁵

In late 1976 and early 1977, the IAEA uncovered further evidence indicating that Taiwan was secretly reprocessing plutonium from spent fuel rods. Making matters worse, Chiang Ching-kuo stated that while “we have the ability and facilities to manufacture nuclear weapons...we will never manufacture them.”⁹⁶ By December 1976, the ambassador was forced to admit, “we have rather compelling evidence that in spite of solemn and public assurances given by the GROC and personally by Premier Chiang, the Chinese may not yet have given up their intentions of acquiring a capability for reprocessing nuclear fuels.”⁹⁷

In January 1977, a US team traveled to Taiwan to confront the ROC government over this intelligence. Burton Levin, the Director for Republic of China Affairs at the State Department, made clear the shift in US nonproliferation policy in a meeting with Taiwanese Vice Foreign Minister Chien, placing:

special emphasis on the fact that US policy with regard to nuclear matters has become increasingly stringent in recent years. Certain research activities such as reprocessing and mixed oxide fuel fabrication which previously may have been considered an unobjectionable part of the nuclear fuel cycle were no longer acceptable because they involved weapons-usable materials. Because the proliferation risks were overriding, we could no longer accept any argument involving economic benefits, resource savings, etc. Levin went on to emphasize

⁹⁴ Memorandum from Burton Levin, Office of Republic of China Affairs, to Oscar Armstrong, Deputy Assistant Secretary for East Asian Affairs, “PRCLO Comment on Taiwan Nuclear Development,” 12 October 1976, in “New Archival Evidence on Taiwanese ‘Nuclear Intentions’, 1966-1976,” *NSA, EBB 20*.

⁹⁵ US Embassy Taiwan cable 6864 to State Department, ROC’s Nuclear Intentions: Conversation with Premier, no. 9A, 12 October 1976, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

⁹⁶ Albright and Gay, “Taiwan,” 59.

⁹⁷ US Embassy Taiwan cable 8654 to State Department, “US Nuclear Team Visit,” no. 10A, 30 December 1976, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

that adherence to the NPT and the acceptance of IAEA safeguards were not absolute assurances against proliferation in view of the possibility that a sovereign nation might at some time abrogate its obligations under these arrangements.⁹⁸

With the US policy in flux (the Symington and Glenn Amendments would not go into effect until 1977, for example), Taiwanese officials remained unsure about the US commitment to nonproliferation. Illustrating Taiwan's continued confusion about the new US policy, Chien complained that he had "seen a press report that US would acquiesce in West German and French sales of reprocessing facilities to Brazil and Pakistan respectively" and "asked whether the US was applying a 'double standard' with regard to its policy of opposing acquisition of reprocessing facilities." After being informed that the new American policy was "global, and that the US would be 'unstinting' in its efforts to prevent proliferation of sensitive technology to Brazil and Pakistan," Chien still felt the US policy was sufficiently vague that he asked, "out of 'curiosity,' what the penalties would be in the event a nation did not follow US non-proliferation guidelines." The response was clear and to the point: "the sanctions would not be confined to nuclear matters but would also affect a wide range of relations, including military cooperation...Levin dwelt on the adverse consequences that questionable ROC nuclear activities would have on weapons supply and cited the Symington Amendment as an example of the increasingly restrictive US attitude toward proliferation risks." In relaying this meeting back to Washington, the US ambassador commented, "we were particularly struck by Chien's question about penalties that would result from defiance of US nuclear policies. It seemed as if he might have been seeking ammunition—which we supplied—to use within ROC policy counsels."⁹⁹

⁹⁸ US Embassy Taiwan Cable 332, "US Nuclear Team Visit to ROC—Calls," no. 10E, 19 January 1977, in "The United States and Taiwan's Nuclear Program, 1976-1980," *NSA, EBB 221*.

⁹⁹ *Ibid.*

During the visit, Levin made similar presentations to Taiwanese nuclear officials. The US ambassador reported to Washington that, “Recital of increasingly restrictive US attitude ...had an obvious and profound impact on INER leadership which sat in deep silence for several minutes following conclusion of presentation...As indication that US message hit home, during tour of INER facilities Deputy Director Li Yu-Hao pointed to the mixed oxide fuel fabrication building, now under construction, and referred to it as the ‘former’ mixed oxide facility.”¹⁰⁰

Over the next few months, the United States kept up the pressure on Taiwan. In February, the US ambassador cabled Washington, describing how he had informed Chiang Ching-kuo of the “prime importance which President Carter attaches to the dangers of nuclear proliferation... I emphasized the importance of his government’s carrying through fully on what it has agreed to. Otherwise, our cooperation in the nuclear field will be jeopardized and cooperation in other fields could also be in danger.” After the Vice Foreign Minister said that Chiang “had asked him whether US had taken similarly tough line with other countries,” the ambassador “referred to discussions with Republic of Korea, Pakistan and Brazil which are matters of public knowledge.”¹⁰¹ The same day, a State Department memo sent to National Security Advisor Brzezinski concluded, “that the ROC, in the absence of US steps, will have the capacity to detonate a nuclear device in the next two to four years,” and observed that “the issue is of intense interest to the President.”¹⁰² The following day, Ambassador Unger cabled Washington expressing the embassy’s “considered opinion that the only way the GROC can be effectively

¹⁰⁰ US Embassy Taiwan cable 409 to State Department, “US Nuclear Team Visit to ROC,” no. 10F, 22 January 1977, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

¹⁰¹ Telegram From the Embassy in the Republic of China to the Department of State, 16 February 1977, Carter Administration, *FRUS*, vol. xiii, doc. 11.

¹⁰² Memorandum From Michel Oksenberg of the National Security Council Staff to the President’s Assistant for National Security Affairs, 16 February 1977, Carter Administration, *FRUS*, vol. xiii, doc. 12.

stopped in its apparent intention to acquire a nuclear weapons capability is for the USG to take a very strong position regarding its whole nuclear research and development program.”¹⁰³

In line with this advice, by March the US government had decided that “determined and far-reaching action is required to eliminate the nuclear proliferation risk we now face on Taiwan,” and instructed the US ambassador to inform Chiang Ching-kuo that President Carter is determined “to do everything in his power to prevent nuclear proliferation...our non-proliferation policy is global in scope and must be based on long-term considerations.” The Ambassador was to inform Chiang that “the US is convinced that much of INER’s current activities have far greater relevance to a nuclear explosive research program than to the ROC’s nuclear power program. This is of greatest concern to us and unless the ROC’s nuclear program is significantly modified to eliminate all proliferation risks, we will not be able to continue cooperation on peaceful nuclear energy matters. Other important relationships between us will also suffer.” In order for this cooperation for continue, the Ambassador was instructed to demand that Taiwan agree to a laundry list of stringent conditions:

- (1) Include all present and future ROC nuclear facilities and materials under the US/ROC bilateral agreement for cooperation.
- (2) Dispose of spent fuel from existing and future reactors under mutually acceptable conditions.
- (3) Terminate all fuel cycle activities and reorient facilities involving or leading to weapons-usable materials, such as the separation or handling of plutonium and uranium-233, and development of uranium enrichment and heavy water production capabilities.
- (4) Avoid any program or activity which, upon consultation with the US, is determined to have application to the development of a nuclear explosive capability.
- (5) Transfer all present holdings of plutonium to the US under appropriate compensatory arrangements.
- (6) Pending establishment of a mutually acceptable research program, disposition of spent fuel in a mutually acceptable manner, and mutual determination that effective safeguards could be applied to

¹⁰³ US Embassy Taiwan cable 332 to State Department, “US Nuclear Team Conclusions and Recommendations,” no. 10G, 17 February 1977, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

the reactor and associated facilities, suspend operation of the TRR and notify the IAEA of your government's action.¹⁰⁴

With the threat of a cutoff in nuclear cooperation, as well as military and economic support made crystal clear, Taiwan complied with the tough American conditions, which went far beyond Taiwan's obligations under the NPT.¹⁰⁵ After all, as Harkavy notes, at the time Taiwan had "no discernible alternatives to US arms sales."¹⁰⁶ Furthermore, in this time period, "Taiwan imported over 80 percent of its energy needs, mostly oil, and nuclear power had become critical to the [economic] model's viability...The United States was not only Taiwan's main market, source of foreign investment, and provider of weapons and security guarantees, but also its principal supplier of low-enriched uranium for power reactors."¹⁰⁷

The United States forced Taiwan to shut down its heavy water reactor, and "in 1977 every fuel element in the core was radioactively scanned by scientists from Los Alamos National Laboratory. This process verified Taiwan's declaration of the irradiation history of the fuel rods that were in the core, making it likely that any future diversions would be detected."¹⁰⁸ As part of complying with US requests, Taiwan tore down its reprocessing facilities and converted its "Hot Laboratory" to other uses.¹⁰⁹ By late April 1977, National Security Advisor Zbigniew Brzezinski notified Carter "it is now quite clear that the Taiwanese Institute of Nuclear Energy Research has been ordered to terminate its heavy water reactor project and close hot laboratory. The American

¹⁰⁴ State Department Cable 67316 to Embassy Taiwan, "Nuclear Representation to the ROC," no. 13A, 26 March 1977, in "The United States and Taiwan's Nuclear Program, 1976-1980," NSA, EBB 221.

¹⁰⁵ Mitchell, "Taiwan's Hsin Chu Project," 301.

¹⁰⁶ Harkavy, "Pariah States and Nuclear Proliferation," 147.

¹⁰⁷ Solingen, *Nuclear Logics*, 112.

¹⁰⁸ Albright and Gay, "Taiwan," 59.

¹⁰⁹ Ibid.

effort to crack down on this project clearly yielded its desired results.”¹¹⁰ 1977 is when Taiwan is coded as ending its nuclear program according to existing datasets.¹¹¹

Postscript: Ambiguous Taiwanese Behavior and Continued US Pressure, 1978-88

Even after Taiwan had halted its nuclear weapons program and dismantled much of its nuclear infrastructure under US threats, the United States made sure to keep Taiwan apprised of the potential for sanctions as US nonproliferation policy continued to tighten. In April 1978, the deputy chief of mission in Taipei informed Vice Foreign Minister Chien of the newly passed Nuclear Non-Proliferation Act, explaining “his impression that the act would require the Executive branch to take action to suspend cooperation in the event of violations. He expressed the hope that Chien would convey the sense of this risk to all appropriate departments and agencies of the ROC Government.”¹¹² In July, a US nuclear team visited Taiwan in order to “reiterate US commitment to non-proliferation, review the Nuclear Non-Proliferation Act, stress the importance of the ROC’s scrupulously adhering to its agreements in the nuclear field, and to describe the consequences for nuclear exports to the ROC which would...flow from a violation of those agreements.”¹¹³

In the summer months of 1978, inspectors found what they thought to be evidence of uranium enrichment, although it is unclear if this work had political authorization. According to Burr, the United States again succeeded in bringing Taiwan into line by applying tough pressure.

¹¹⁰ Zbigniew Brzezinski to President Carter, “Weekly National Security Report #11,” no. 14, 29 April 1977, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

¹¹¹ Way, “Nuclear Proliferation Dates,” 2012.

¹¹² Telegram From the Embassy in the Republic of China to the Department of State, 11 April 1978, Carter Administration, *FRUS*, vol. xiii, doc. 93.

¹¹³ Taiwan Embassy cable 4988 to State Department, “Nuclear Team Visit: Initial Calls: Discussion with CIST Director Tang,” no. 20A, 31 July 1978, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

As he puts it, “Chiang knew that the Carter administration was negotiating a normalization agreement with Beijing that would end official US-Taiwan ties, but would still leave the island dependent on US security guarantees and arms sales. Thus, he was constrained to issue a more authoritative and unambiguous statement that his government ‘has no intention whatsoever to develop nuclear weapons or a nuclear device.’”¹¹⁴ Chiang also promised that, “my government is not engaged in any research work in the sensitive fields of nuclear enrichment, reprocessing or heavy-water production.”¹¹⁵ In the following years, to further reduce the risk of Taiwanese proliferation, the United States converted the heavy water reactor’s core to reduce the amount of plutonium it could produce, and arranged for all of Taiwan’s spent fuel to be transferred to the United States—a deal which was concluded in 1985.¹¹⁶ By September 1978, a State Department INR official, Joseph Hayes, was prepared to brief the Nuclear Regulatory Commission that, “There is no evidence to indicate that there is a weapons development program or an attempt to obtain fissile material by any means now underway in Taiwan.”¹¹⁷

In 1979, the United States normalized relations with Communist China, an action Taiwan considered “a deep betrayal.”¹¹⁸ As part of this shift, the United States also ended the Mutual Defense Treaty with Taiwan, replacing it with the Taiwan Relations Act, which defined threats to Taiwan as “of grave concern” but left the formal US security commitment unclear.¹¹⁹ Even as

¹¹⁴ William Burr, “The Taiwanese Nuclear Case: Lessons For Today,” *Carnegie Endowment for International Peace*, 9 August 2007, <http://carnegieendowment.org/2007/08/09/taiwanese-nuclear-case-lessons-for-today/6cq>

¹¹⁵ US Embassy Taiwan cable 6279 to State Department, “President Chiang’s Reply to Secretary Vance’s Letter on Nuclear Matters,” no. 21D, 14 September 1978, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

¹¹⁶ Albright and Gay, “Taiwan,” 59.

¹¹⁷ Proposed Talking Points for Joe Hayes Briefing of the NRC on the ROC Nuclear Program, with “Talking Points” attached, no. 22, c. September 1978, in “The United States and Taiwan’s Nuclear Program, 1976-1980,” *NSA, EBB 221*.

¹¹⁸ Mitchell, “Taiwan’s Hsin Chu Project,” 295.

¹¹⁹ Hersman and Peters, “Nuclear U-Turns,” 545.

normalization was occurring, however, US officials made sure to remind Taiwan that the pledges they had made to the United States in 1977 with respect to nonproliferation remained in place.¹²⁰ When formally notified about the end of the Treaty and recognition of Beijing in the closing days of 1978, a high-level Taiwanese military official “asked that the United States bring Taiwan ‘under the US nuclear umbrella,’” a request which US officials deflected. Having ignored the Taiwanese official’s request for greater security assurances, US officials then said that Taiwanese plans to produce “long-range missiles” raised concerns given their “obligations and assurances with respect to the non-development of nuclear weapons,” assurances which were subsequently affirmed.¹²¹

Although it is unclear whether Taiwan made a political decision restart its nuclear weapons program, and is not coded as pursuing nuclear weapons in this period according existing datasets, in 1987 INER secretly constructed a “multiple hot cell facility” that could be used for reprocessing small amounts of plutonium, violating Taiwan’s agreement with the United States.¹²² Fortunately for the United States, in January 1988 INER deputy director Colonel Chang Hsien-yi defected to the United States with the help of the CIA, providing extensive information about the reprocessing facility and Taiwan’s nuclear activities.¹²³ Based on this information and a subsequent inspection, the United States exerted “intense pressure” on Taiwan to shut down the reprocessing facility and end controversial nuclear activities, which new Taiwanese President Lee Teng-hui pledged to do in a “written guarantee” to President Reagan.¹²⁴ In addition, in March the United States went even further, threatening to cut off fuel supplies unless Taiwan

¹²⁰ Memorandum From the President’s Assistant for National Security Affairs (Brzezinski) to the Deputy Secretary of State (Christopher), 26 December 1978, Carter Administration, *FRUS*, vol. xiii, doc. 181.

¹²¹ Telegram From the US Pacific Command to the Department of State and the White House, 30 December 1978, Carter Administration, *FRUS*, vol. xiii, doc. 183.

¹²² Albright and Gay, “Taiwan,” 59-60.

¹²³ Ibid; Mitchell, “Taiwan’s Hsin Chu Project,” 300.

¹²⁴ Mitchell, “Taiwan’s Hsin Chu Project,” 300.

completely shut down its heavy water reactor and converted it to light water—removing the capability to produce large amounts of weapons-usable plutonium.¹²⁵ Taiwan complied with all US demands. Despite the fact that Taiwan never produced significant amounts of fissile material, in 1988 US intelligence officials estimated that Taiwan was only “one to two years away from having a new weapons capability.”¹²⁶

Alternative Explanations for Taiwanese Nuclear Restraint

Perhaps the most likely alternative explanation, addressed in the body of the chapter above, is that Taiwan conceded to US threats because the ongoing rapprochement with the PRC made US threats of abandonment particularly credible. However, as shown above, Taiwan resisted US pressure and threats *even when it was clear the United States was moving toward normalization*, and did not concede until the United States established a credible, across-the-board nonproliferation sanctions policy and made this very clear to Taiwanese leaders. The remainder of this chapter addresses three additional alternative explanations: domestic regime orientation, leader identity conception, and technology denial.

Domestic Regime Orientation

Solingen attributes Taiwan’s nuclear abstention to its internationalizing domestic political model, which took hold in the mid-1960s.¹²⁷ Yet this begs a question: why did Taiwan pursue nuclear weapons in the first place if it was internationalizing? Part of the answer for Solingen is that they did not actually pursue nuclear weapons due to Chiang Kai-shek’s opposition; however,

¹²⁵ Albright and Gay, “Taiwan,” 60.

¹²⁶ Hersman and Peters, “Nuclear U-Turns,” 545.

¹²⁷ Solingen, *Nuclear Logics*, 109–13.

as she admits, this fact is disputed.¹²⁸ What is clear is that from 1969 onward, there is overwhelming evidence that Taiwan was engaged in a nuclear weapons program, much of which is recounted above. First of all, Taiwan embarked on a pattern of behavior that looked suspiciously similar to what was recommended in the 1967 report proposing the development of nuclear weapons. As recommended in the report, INER purchased a heavy water reactor, a plutonium separation facility, and also made repeated efforts to acquire larger reprocessing facilities.¹²⁹ Second, as David Albright and Corey Gay note, “many members of INER’s senior staff were military officers, and many of them . . . were known to favor nuclear weapons.”¹³⁰ Finally, in 1990 a Taiwanese government official justified keeping the financial records of the Chung-Shan Institute secret by claiming that it was “involved in making atomic bombs.”¹³¹ Contrary to Solingen’s theory then, the internationalizing model did not prevent the emergence of a Taiwanese nuclear weapons program.

To the extent that Taiwan’s internationalizing model made their regime particularly dependent on the United States, this dissertation’s theory is in agreement with Solingen about the causes of Taiwan’s nuclear restraint, who concedes that US pressure played an important role.¹³² However, by black-boxing US nonproliferation policy, which has not been constant over time, Solingen is unable to explain the timing of Taiwan’s concessions in 1977. Indeed, her theory suggests that nonproliferation barriers have been constant post-1968, when in reality sanctions policies have only been in place since the late 1970s (most notably in the United States).

¹²⁸ Ibid, 100–101.

¹²⁹ Albright and Gay, “Taiwan,” 55–59.

¹³⁰ Ibid, 56.

¹³¹ Lincoln Kaye, “Atomic Intentions,” *Far Eastern Economic Review*, 3 May 1990, 9, quoted in Albright and Gay, “Taiwan,” 56.

¹³² Solingen, *Nuclear Logics*, 112.

Leader Identity Conception

The identity-based approach to proliferation advanced by Hymans at first glance appears more promising for explaining the Taiwan case. It seems quite plausible that Chiang Kai-shek—a militant nationalist in a bitter feud with Communist China, over whose population he claimed sovereignty—was an oppositional nationalist. However, this theoretical framework cannot explain why Taiwan halted its nuclear weapons efforts in the late 1970s. The evidence suggests that Chiang Ching-kuo, who dismantled the Taiwanese nuclear program in the face of American pressure, was in the fact the primary driving force behind the nuclear weapons effort from 1967 onward, more enthusiastic than his father.¹³³ Hymans' leader-identity approach would expect that only oppositional nationalists would pursue nuclear weapons and that these leaders would be resistant to external nonproliferation pressures. Yet what we actually see is that the leader who was most supportive of a nuclear weapons effort—Chiang Ching-kuo—gave in when facing harsh US threats of sanctions.

Technology Denial

Kogan argues that the United States effectively halted the Taiwanese program through a coercion by denial strategy—in other words, by inspecting and dismantling the Taiwanese nuclear facilities rather than through coercive threats or inducements. Specifically, he argues, “Repeated military punishment threats against Taiwan’s security (threat to abandon) and civilian nuclear program failed to change this ally’s determination to acquire nuclear weapons. Success was achieved thanks to coercion by denial and dismantlement that uncovered and stopped

¹³³ See Hersman and Peters, “Nuclear U-Turns,” 543; Solingen, *Nuclear Logics*, 101.

Taipei's nuclear work."¹³⁴ However, this argument begs the question of why Taiwan allowed the United States to dismantle its nuclear infrastructure. The reason, as showed above, was precisely the threats of sanctions that Kogan dismisses, sanctions which would cut off US economic and military support to Taiwan. Indeed, Kogan's own narrative highlights how Taiwan's extreme dependence on the United States facilitated the success of this strategy, and how "coercion by forceful persuasion"—threats of sanctions by another name—was crucial to the positive outcome.¹³⁵ While it is true that some questionable nuclear activities continued after 1977 (as described above), there is no evidence that these represented political decisions to resume the nuclear weapons program. Moreover, in both cases further threats of sanctions were the key to Taiwan discontinuing these behaviors. In sum, the evidence is clear that the dismantling of the Taiwanese nuclear infrastructure was a consequence of the success of US sanctions threats, not an independent cause of Taiwanese nuclear restraint.

Conclusion

The evidence in this chapter supports this dissertation's theory. Taiwan, having underestimated the risk of sanctions when it started its nuclear weapons program, conceded to US threats of sanctions due to its high dependence on the United States, but only once these threats of sanctions became credible with the passage of congressional legislation in the late 1970s. Even though the United States was already in the process of normalizing relations with China and reducing its commitment to Taiwan, it took credibility specifically on the nonproliferation issue before US pressures succeeded. Finally, this chapter finds limited support for a regime orientation explanation, and little support for leader identity conception or

¹³⁴ Kogan, "Proliferation Among Friends," 3.

¹³⁵ *Ibid.*, 35-42.

technology denial as sources of Taiwanese nuclear restraint. The next chapter explores the contrasting case of US policy toward the Pakistani nuclear program, an effort that failed to prevent Pakistani acquisition of nuclear weapons.

Chapter 7: The United States and the Pakistani Nuclear Program

At first glance, Pakistan appears to represent an “off-the-line” case for the theory. Despite its status as a US ally and aid recipient, when Pakistan was confronted with threats of sanctions as the United States tightened its nonproliferation policy in 1976, Pakistan persisted and ultimately achieved a nuclear weapons capability by the mid-1980s. In this chapter, I argue that the Pakistan case can nonetheless be explained within the theoretical logic. Between 1974 and 1979, Pakistan was not highly dependent on the United States—despite its status as an ally and aid recipient—and so was not brought in line by US sanctions. From 1980 onward, Pakistan did become dependent on the United States due to the Soviet invasion of Afghanistan and increased need for aid, but rather than make this aid contingent on Pakistan verifiably giving up its nuclear weapons program, the United States undermined its credibility by waiving sanctions and focusing solely on preventing Pakistan from testing, an effort which succeeded but which allowed Pakistan to advance to the point of acquiring the capability to construct a nuclear device. The counterfactual claim is therefore that *had the United States made aid explicitly contingent on stricter limits on the Pakistani nuclear program in the 1980s*, Pakistan likely would have restrained its nuclear program more substantially, at least for the duration of the Afghan war.

After exploring the motivations for Pakistan’s nuclear weapons program, the remainder of the chapter explores US diplomacy toward the Pakistani nuclear program in three time periods: (1) 1972-1976, when Pakistan lacked dependence and the United States lacked credibility on nonproliferation issues, (2) 1976-1980, when the United States gained credibility due to congressional sanctions legislation but Pakistan continued to have low dependence on the United States, and (3) 1980-1990, when Pakistan became highly dependent but the United States

undermined its credibility by waiving sanctions and focusing solely on preventing Pakistan from testing.

Motivations for the Pakistani Nuclear Weapons Program

One of the most persistent challengers to the nonproliferation regime, Pakistan initiated its nuclear weapons program in 1972. Broadly speaking, Pakistan's nuclear weapons program was motivated by its desire for security, particularly in response to the perceived threat from India. Since the two states were partitioned by Britain in 1947, India and Pakistan had become bitter rivals, engaging in three separate wars—one immediately following the partition in 1947, one in 1965, and a third in 1971. Further complicating this rivalry for Pakistan was India's conventional military superiority, an imbalance that led Richard Betts to identify Pakistan in a 1977 article as a prototypical "pygmy" state with a strong incentive to go nuclear.¹ As Cirincione et al. nicely summarize, domestic and bureaucratic pressures—along with the desire for prestige in the Islamic world—may have played minor roles in Pakistan's nuclear ambitions, but undoubtedly the greatest consideration for Pakistan was "fears of domination by India, whose population, economy, and military resources dwarf its own."²

The 1971 war was the proximate trigger that motivated Pakistan's nuclear program. After East Pakistan declared its independence from the Western wing of the state and India intervened on behalf of the East Pakistanis, a brief war broke out in December where India decisively defeated Pakistan and established Bangladesh as an independent state. This defeat reinforced Pakistani fears of Indian military superiority, and despite the US "tilt" toward Pakistan in the

¹ Betts, "Paranoids, Pygmies, Pariahs, and Nonproliferation," 165.

² Joseph Cirincione, Jon Wolfsthal, and Miriam Rajkumar, *Deadly Arsenals: Nuclear, Biological, and Chemical Threats* (Washington: Carnegie Endowment, 2005), 240.

conflict, Pakistan felt that the United States failed to provide sufficient or timely assistance while the Soviet Union had supported India. According to a variety of sources, this was the key turning point leading to Pakistan's initiation of a nuclear weapons program.³

January 1972-April 1976: Low Dependence, Low Credibility

Almost immediately following the crushing defeat in the 1971 war, President Zulfikar Ali Bhutto covertly initiated a Pakistani nuclear weapons program.⁴ In March 1973, Pakistan reached a secret preliminary deal with the French firm Saint Gobain Nucleaire for the construction of a large reprocessing facility, to be located at Chashma. When completed, this facility would be able to extract plutonium for bombs from the spent fuel of the Canadian-provided KANUPP heavy water reactor, which was finished in 1972.⁵ Although Pakistan had already initiated its nuclear weapons program, the Indian nuclear test in May 1974 increased the urgency of the program in the eyes of Pakistani leaders.⁶

When Pakistan began its nuclear weapons program, it was not highly dependent on the United States, despite its position in the US-led Cold War alliance system. Although Pakistan was an ally of the United States by virtue of its membership in the Central Treaty Organization (CENTO), Southeast Asian Treaty Organization (SEATO), and a 1959 Bilateral Agreement with the United States, these alliances only committed the United States to come to the aid of Pakistan

³ See, for example, Samina Ahmed, "Pakistan's Nuclear Weapons Program: Turning Points and Nuclear Choices," *International Security* 23, No. 4 (1999): 183; Paul, *Power Versus Prudence*, 133; Cirincione et al, *Deadly Arsenals*, 240; and Farzana Shaikh, "Pakistan's Nuclear Bomb: Beyond the Non-Proliferation Regime," *International Affairs* 78, No. 1 (January 2002): 42.

⁴ Richelson, *Spying on the Bomb*, 328.

⁵ Ibid.

⁶ Reiss, *Bridled Ambition*, 185.

in the event of an attack by Communist powers.⁷ Moreover, the aftermath of the 1965 war with India undermined this relationship, as the United States banned the sale of arms to both India and Pakistan as punishment—a move that cut Pakistan off from its main arms supplier and threatened to lock in India’s military superiority.⁸ This led Pakistan to rely increasingly on China for its military needs, although “influential segments of the Pakistani military believed that the Chinese arms were neither quantitatively nor qualitatively adequate to counterbalance India’s conventional arms superiority.”⁹ Whereas between 1955 and 1965 the United States provided Pakistan with F-86 fighter aircraft, B-57B bombers, and hundreds of M-24, M-47, and M-48 tanks, virtually no major weapons systems were transferred over the next decade.¹⁰

As Table 7.1 below illustrates, both economic and military aid to Pakistan dropped precipitously after 1965, with military aid virtually nonexistent when Pakistan initiated its nuclear weapons program in 1972.¹¹ US troops stationed in Pakistan numbered less than 50 after 1969 and Pakistan was not particularly dependent on the United States for trade, always less than 2% of Pakistani GDP. At the same time, the United States had low credibility on nuclear issues, with no established sanctions policy, no track record of imposing sanctions, and a conspicuous failure to sanction India in the immediate aftermath of their nuclear test.¹² With this combination of low dependence and low credibility, the theory therefore predicts that the United States should

⁷ On CENTO and the bilateral agreement, see Virginia Foran and Leonard Spector, “The Application of Incentives to Nuclear Proliferation,” in *The Price of Peace: Incentives and International Conflict Prevention*, ed. David Cortright (New York: Rowan and Littlefield, 1997): 44.

⁸ Ahmed, “Pakistan’s Nuclear Weapons Program,” 182.

⁹ Ibid.

¹⁰ SIPRI Arms Transfers Database, http://www.sipri.org/databases/copy_of_armstransfers.

¹¹ Trade data is from Barbieri, Keshk, and Pollins, “Correlates of War Project Trade Data Set, Version 2.01.” Economic and military aid data is from Bueno de Mesquita and Smith, “Foreign Aid and Policy Concessions.” Troop data is from Kane, “Global U.S. Troop Deployment, 1950-2005.”

¹² Reiss, *Without the Bomb*, 232; and Perkovich, *India’s Nuclear Bomb*, 184.

have little success at restraining Pakistan in this time period: Pakistan would have little incentive to comply with US demands and the associated threats would not be believable.

Table 7.1: Pakistani Dependence on the United States, 1955-1976

Year	Economic Aid	Military Aid	US Troops	US Trade as % of Pakistan's GDP
1955	768.10	278.68	314	0.85
1956	1,116.49	1,138.32	112	0.71
1957	1,130.52	458.21	114	1.87
1958	1,013.87	558.27	247	1.61
1959	1,433.24	384.32	503	1.22
1960	1,770.53	241.39	887	2.07
1961	1,036.24	272.77	927	2.01
1962	2,444.87	574.95	1148	3.09
1963	2,164.37	306.11	1380	3.90
1964	2,327.66	196.40	1394	3.67
1965	2,021.07	81.08	1354	2.92
1966	854.87	8.80	1440	2.21
1967	1,270.76	27.58	1575	2.64
1968	1,572.77	27.21	1589	2.07
1969	567.68	0.52	658	1.66
1970	1,014.25	0.91	24	1.62
1971	496.76	0.76	32	1.17
1972	725.79	0.44	28	0.71
1973	749.37	1.26	26	1.07
1974	400.02	0.91	32	1.44
1975	643.43	0.92	37	0.92
1976	674.64	1.33	31	1.18

Economic and military Aid in millions of constant 2012 \$US

Nuclear diplomacy between Pakistan and the United States began less than a week after the Indian nuclear test of May 1974, as Pakistani officials approached the United States seeking greater security assurances and an end to the arms embargo. The Pakistani defense minister, Aziz Ahmed, specifically asked President Nixon for surface-to-air missiles and anti-tank missiles, and also asked if “the nuclear powers [could] give a guarantee to the non-nuclear powers against

nuclear attack,” which he said “would rule out blackmail would reduce the incentive to get nuclear weapons.”¹³ Nixon refused to make any promises on these requests, but reminded Ahmed of US diplomatic support for Pakistan in the 1971 war and stated, “we will keep in close touch on what steps to take— publicly and privately —to ensure Pakistan's survival.”¹⁴ Ahmed continued to make such requests in June, but achieved little success. As Kissinger told him in a meeting, “I'm not the obstacle. I've always believed in military supply for Pakistan. It's absurd that the Soviets can arm India while our hands are tied. It's a massive problem, but I don't believe the Congress would let us do it.”¹⁵ In regard to some sort of guarantee against the Indian nuclear threat, Kissinger noted that he was “strongly allergic to placing the full weight of American prestige against an accomplished fact,” but agreed to “make a statement supporting Pakistan's independence and territorial integrity.”¹⁶

The same month, the US embassy in Pakistan cabled Washington, informing the State Department that the “Indian nuclear blast has created profound shock in Pakistan, has greatly exacerbated chronic feeling of insecurity, and has led to all-out GOP [Government of Pakistan] efforts to seek urgent security guarantees and arms aid from major powers.”¹⁷ In October of 1974, with military aid still not forthcoming, Ahmed informed the newly inaugurated President Ford and Kissinger that Pakistan was “desperate,” noting, “For nine years we have been shut off. We can't even buy it from another country... We are at the mercy of India militarily, and also of Afghanistan if it is supported by the Soviet Union. The next war can come easily whenever the

¹³ Memorandum of Conversation, 24 May 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc 164.

¹⁴ *Ibid.*

¹⁵ Memorandum of Conversation, 3 June 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 166.

¹⁶ *Ibid.*

¹⁷ Telegram 5623 From the Embassy in Pakistan to the Department of State, 12 June 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 167.

Soviet Union, India and Afghanistan want it—and we would be wiped out.”¹⁸ After visiting India later that month, Kissinger again signaled his sympathy for Pakistan while also highlighting the weak US commitment to nonproliferation at the time, jokingly informing Bhutto that “After seeing India, I am thinking about supplying nuclear weapons, not only conventional arms, to Pakistan and even Bangladesh!”¹⁹ Despite this expression of support however, and his reassurances that he had informed India of American support for Pakistan, Kissinger did not commit to resuming arms sales to Pakistan.²⁰ By December 1974, Pakistan had also begun pushing for a Nuclear Weapons-Free Zone (NWFZ) in South Asia in the UN, but India opposed these efforts, and the United States abstained from voting on the resolution because of reservations about clauses involving nuclear weapons states agreeing to refrain from the threat or employment of nuclear weapons.²¹

By early 1975, the US government was aware of Pakistan’s questionable nuclear activities. In January, ACDA official Robert Gallucci drafted a memo on the Pakistani program, which observed that Pakistan sought a “virtually independent nuclear fuel cycle and the opportunity to separate a sufficient amount of plutonium to build a nuclear weapon... Given their treaty status, their determination to purchase critical nuclear facilities, and their near declaratory policy of acquisition following the Indian detonation, they may well have already decided to

¹⁸ Memorandum of Conversation, 17 October 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 177.

¹⁹ Memorandum of Conversation, 31 October 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 183.

²⁰ *Ibid.*

²¹ Telegram 268984 From the Department of State to the Mission to the United Nations and the Embassy in Pakistan, 7 December 1974, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 185.

produce a weapon, and they have clearly decided to have the capability to build one.”²² Gallucci recommended a linkage between arms sales and Pakistani restraint in the nuclear realm.²³

In February 1975, Ford and Kissinger met with Prime Minister Bhutto and several other high-ranking officials and explicitly made that linkage. Kissinger asked for Pakistan to commit to “some nuclear restraint” in exchange for “help in conventional arms.”²⁴ The same day, Kissinger discussed a pledge with the Pakistani foreign minister whereby Pakistan would promise, “to observe safeguards and...not undertake any experiments outside the scope of the safeguards” as a means of expediting the arms sales and appeasing Congress.²⁵ When the foreign minister raised the question of peaceful nuclear explosives (PNEs), Kissinger forcefully responded, “We have found there is no way to distinguish between a peaceful explosion and weapons technology. I always tell the Indians when they talk about their peaceful explosion that it is nonsense.”²⁶ A few weeks later, Kissinger informed Senator Sparkman, the Chairman of the Senate Foreign Relations Committee, that, “Pakistan has given us assurance not to go into nuclear explosives.”²⁷ On March 24, Ford lifted the arms embargo on Pakistan and India, with several qualifications, including that the sales should not “restore the pre-1965 situation in which the US was a major regional arms supplier.”²⁸

The following year, intelligence emerged on the Pakistani deal to buy a French reprocessing facility, in addition to efforts to obtain a heavy water production facility from West

²² Pakistan and the Non-Proliferation Issue, January 22, 1975, State Department Background Paper, no. 20, 22 January 1975, in “India and Pakistan—On the Nuclear Threshold,” *NSA, EBB 6*.

²³ *Ibid*

²⁴ Memorandum of Conversation, 5 February 1975, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 188.

²⁵ Memorandum of Conversation, 5 February 1975, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 189.

²⁶ *Ibid*.

²⁷ Arms Sales to Pakistan, 20 February 1975, *DNSA, KA13314*.

²⁸ National Security Decision Memorandum 289, 24 March 1975, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 193.

Germany. Marking the first time the United States put real pressure on Pakistan over its nuclear program, this prompted Under Secretary of State for Political Affairs Joseph Sisco to press the Pakistani government to cancel the deals. Sisco informed the Pakistani Ambassador of, “increasing apprehension in this country and elsewhere over acquisition by growing number of countries of sensitive nuclear technology such as nuclear fuel reprocessing.” Foreshadowing the Symington and Glenn amendments, which had not yet been adopted, Sisco then warned of, “the attitudes that are developing in the American public and in the congress on nuclear issues that could cause difficulties for both of us. We share with Pakistan a mutual desire to avoid anything that would affect our ability to do the things we want to do together in our bilateral programs.”²⁹

President Ford followed up on this effort in March by sending a personal letter to Prime Minister Bhutto making many of the same points as Sisco. Ford wrote that Pakistan’s nuclear plans are “of deep concern to my Government,” specifically because “the establishment of sensitive nuclear facilities under national control inevitably gives rise to perceptions in many quarters that...non-peaceful uses may be contemplated.” Ford warned Bhutto of, “the possible effect of your actions in this area on our ability to sustain support in public opinion here for our close cooperation on a broad range of issues of interest to both our governments...Pakistan’s acquisition of these sensitive facilities...could erode this support.”³⁰

By April 1976, Pakistan was persisting with its nuclear weapons program, having resisted multiple vague warnings from the United States in addition to inducements in the form of limited arms sales and pledges of diplomatic support. This is consistent with the theoretical logic, as US

²⁹ Telegram 40475 From the Department of State to the Embassy in Pakistan, 19 February 1976, 2317Z, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 224.

³⁰ Letter From President Ford to Pakistani Prime Minister Bhutto, 19 March 1976, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 225.

nonproliferation threats lacked credibility and the United States at the time provided little tangible support that could be cut off.

May 1976-December 1979: Low Dependence, High Credibility

In May of 1976, US nonproliferation credibility was strengthened with the introduction of the Symington Amendment in the US congress. As Assistant Secretary of State for Near Eastern Affairs Etherton explained in a meeting of State Department officials, this amendment “would cut off all funds for military or economic assistance to countries which either exported reprocessing facilities or received such facilities unless two conditions are met: the reprocessing facility would have to be multilateral and the recipient country would have to agree to place all its nuclear facilities under IAEA safeguards.”³¹ This regulation would directly affect the Pakistani reprocessing deal with France, although it would not go into effect until 1977.

However, Pakistan still was not dependent on the United States, and therefore the theory predicts that Pakistan would not concede to US pressure despite increased threat credibility. Kissinger was well aware of Pakistan’s low dependence: two months after the Symington Amendment was adopted, Kissinger met with State Department officials to discuss policy options toward the Pakistani nuclear program and repeatedly highlighted the lack of US leverage. Kissinger stated, “I must say I have some sympathy for Bhutto in this. We are doing nothing to help him on conventional arms, we are going ahead and selling nuclear fuel to India even after they exploded a bomb and then for this little project we are coming down on him like a ton of bricks.” When Phil Habib asked Kissinger, “Do you want to use military supply as leverage?” Kissinger explicitly referenced the lack of American leverage over Pakistan, declaring, “We

³¹ Proposed Cable to Tehran on Pakistani Nuclear Processing, no. 3, 12 May 1976, in “China, Pakistan, and the Bomb,” NSA. *EBB* 114.

started this military supply relationship with the Pakistanis with great fanfare and have delivered nothing. *There is no leverage in interrupting something that we are not giving anyway.*"

Elaborating this point later in the meeting, Kissinger observed, "Now, if we were giving him [Bhutto] something important we might have some leverage but this stuff is just junk. FMS [foreign military sales] credits would give us some leverage." Ultimately, Kissinger settled on the idea of offering Pakistan further arms sales as inducements, including A-7 attack aircraft, and convincing Pakistan to buy a nuclear reactor from France in lieu of the reprocessing plant.³²

Following up on this idea, in September 1976 the United States simultaneously offered to sell Pakistan A-7 aircraft if they would cancel the deal with France while hinting at possible sanctions if they refused to do so. With the US presidential election approaching, Kissinger warned the Pakistani ambassador, "if the Democrats win, they would like nothing better than to make a horrible example of somebody...you will face an assault and they will attack you. Credit and arms sales will be much more difficult, even impossible." Kissinger referenced the recently adopted Symington Amendment, which he cautioned would apply to Pakistan and cut off aid if they acquired the reprocessing facility.³³

The following month, Kissinger warned the Pakistani Minister of Foreign Affairs and Defense, "We are probably coming up with a nonproliferation policy before Congress comes back...After November 2, if we are elected, Congress will act. If Carter is elected, Congress and the President will act against you."³⁴ By December, with Jimmy Carter having won the election, Kissinger made a final push to get Pakistan to cancel the deal, promising A-7s and additional

³² Memorandum of Conversation, 9 July 1976, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 231. Emphasis in quotation added.

³³ Memorandum of Conversation, 11 September 1976, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 235.

³⁴ Memorandum of Conversation, 6 October 1976, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 236.

inducements and warning the Pakistani ambassador, “when you see an express train coming down the track, it seems only prudent to get out of its way. I would hate very much to see Pakistan become the first object of a desire by a new Administration to score something.” Kissinger emphasized that the Carter administration “was elected on a plank of non-proliferation. And I think I can assure you that it won’t avail itself of escape clauses.”³⁵ Having faced this harsh pressure, Feroz Khan notes that the “Pakistanis were surprised at the intensity with which the US was pursuing the nuclear question.”³⁶

Nevertheless, Pakistan ultimately decided to decline the A-7 offer and weather the sanctions. In July 1977, Pakistani General Zia-ul-Haq seized power from Bhutto in a coup. Two months later, the newly elected Carter administration reiterated the threat of an aid cutoff, with Joseph Nye, then Deputy Undersecretary of State for Security Assistance, Science, and Technology, traveling to Pakistan and delivering the message in person. Yet because Pakistan was getting so little from the United States in the way of aid, this threat had little power to it. After all, “At that time, Pakistan was receiving only \$50 million in aid annually, so the new leader [Zia] had no incentive to agree and clearly informed Nye that he intended to proceed with the project. In response, US nuclear sanctions were applied and only food aid continued.”³⁷

With sanctions in place, in June 1978 President Carter wrote to Zia and referenced, “the real legal and political hurdles placed in our way by Pakistan’s plans to acquire a reprocessing plant.”³⁸ By the summer of 1978, however, France had terminated the reprocessing deal due to increasing US pressure, the sharing of intelligence on Pakistan’s nuclear program, and Pakistan’s

³⁵ Memorandum of Conversation, 17 December 1976, Nixon-Ford Administrations, *FRUS*, vol. E-8, doc. 239.

³⁶ Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb* (Palo Alto, CA: Stanford University Press, 2012): 136-7.

³⁷ *Ibid*, 138.

³⁸ Pakistan’s Position in South Asia, 9 June 1978, *DNSA*, CO00372.

refusal to accept modifications to the deal designed to minimize proliferation risks.³⁹

Nevertheless, the French firm contracted to build the plant—Saint Gobain Nucleaire—had already provided the vast majority of blueprints for the plant, and German and Belgian firms subsequently helped Pakistan construct the facility.⁴⁰

In response to the cancellation of the deal, the United States informed Pakistan that aid would be resumed in October 1978.⁴¹ When the Pakistani ambassador to France assured the US ambassador to France later that month that Pakistan would complete the reprocessing facility on its own, taking advantage of the fact that the sanctions legislation only would be triggered by imports of technology, the US ambassador replied, “the best way to assure Pakistan’s security was to make sure it had friends...for Pakistan to go ahead with the plant would make it extremely difficult for the US to maintain the kind of bilateral relationship that the Paks would want for their own security. I repeated what we have told them in Washington, New York, and Islamabad about not taking the letter of the Glenn Amendment as an assurance that aid could continue if Pakistan completed the plant.”⁴² Soon thereafter, the State Department sent a cable to Western nuclear suppliers urging, “vigilance and appropriate control to deter Pakistan from acquiring sensitive facilities which would permit them to develop nuclear explosive capability.”⁴³

³⁹ Richelson, *Spying on the Bomb*, 328-9.

⁴⁰ Khan, *Eating Grass*, 198-9.

⁴¹ Memo to Chris [Warren Christopher] from Steve [Oxman], no. 18, 4 October 1978, in “The United States and Pakistan’s Quest for the Bomb,” NSA, *EBB no. 333*.

⁴² Pakistan Ambassador to France Hardlines on Reprocessing Plant, 21 October 1978, *DNSA*, NP01612.

⁴³ “US Demarche on Pakistani Reprocessing Plant,” Department of State cable 281962 to US Embassy United Kingdom et al. November 04, 1978, History and Public Policy Program Digital Archive, Mandatory Declassification Review request. Obtained and contributed by William Burr and included in NPIHP Research Update #3. <http://digitalarchive.wilsoncenter.org/document/112895>

By early 1979, it became clear to US officials that Pakistan was making serious efforts to obtain enrichment technology, which threatened again to trigger sanctions.⁴⁴ Indeed, as early as 1974, A.Q. Khan—a Pakistani scientist working for a nuclear firm in the Netherlands—had begun clandestinely acquiring centrifuge plans from his employer.⁴⁵ Soon thereafter, Khan suggested to Pakistani officials that they initiate a secret uranium enrichment program; Bhutto approved the plan in early 1975 and research and procurement activities began.⁴⁶

In response to evidence of these activities, in January 1979 the US ambassador was instructed to “approach Zia in general terms about the Pakistani nuclear program and to point out the implications for US-Pakistani relations.”⁴⁷ In February, Pakistan refused to allow the United States to inspect its nuclear facilities on the grounds that India did not agree to similar inspections. This led the US ambassador to inform the Pakistani Foreign Secretary of his “deep regret at this decision” and that the “purpose of proposed inspection was to clear up discrepancies between our information and GOP [Government of Pakistan] assurances about its nuclear programs. I said that continuance of these discrepancies will have effect on US attitudes toward Pakistan and that applicable US law might have to be implemented.”⁴⁸ Deputy Secretary of State Warren Christopher reiterated these points to Pakistani officials in March, noting “in

⁴⁴ John Despres, National Intelligence Officer for Nuclear Proliferation via Deputy Director for National Foreign Assessment [and] National Intelligence Officer for Warning to Director of Central Intelligence, “Monthly Warning Report – Nuclear Proliferation,” no. 21, 5 December 1978, in “The United States and Pakistan’s Quest for the Bomb,” *NSA, EBB no. 333*. Also see John Despres, NIO for Nuclear Proliferation, to Interagency Intelligence Working Group on Nuclear Proliferation, “Monthly Warning Report,” no. 22, 18 January, 1979, in “The United States and Pakistan’s Quest for the Bomb,” *NSA, EBB no. 333*.

⁴⁵ Richelson, *Spying on the Bomb*, 330.

⁴⁶ *Ibid.*, 329-330.

⁴⁷ Presidential Review Committee Meeting, January 22, 1979, “Summary of Conclusions: Mini-PRC on Pakistani Nuclear Matters,” no. 23C, 23 January 1979, in “The United States and Pakistan’s Quest for the Bomb,” *NSA, EBB no. 333*.

⁴⁸ US Embassy Islamabad to cable 2413 to State Department, “Pakistan Nuclear Program: Technical Team Visit,” no. 25, 27 February 1979, in “The United States and Pakistan’s Quest for the Bomb,” *NSA, EBB no. 333*.

clear unambiguous terms substance of US legislation on these matters and stated his belief that Glenn and/or Symington Amendments would be triggered.”⁴⁹ On this visit, Zia reportedly refused to accept safeguards and would not foreswear “peaceful” nuclear explosions but promised that the program would be devoted to peaceful purposes.⁵⁰ According to Feroz Khan, the low level of aid currently being provided to Pakistan gave Zia “no incentive to oblige” and give in to US sanctions threats.⁵¹ By late March, the United States began the process of suspending aid to Pakistan as per the Symington Amendment.⁵² In early April, the US government declared that aid had been suspended.⁵³

With sanctions in place for the second time, in June the United States began exploring alternative approaches to bringing the Pakistani nuclear program under control. As part of this effort, the US ambassador to India was sent to discuss a possible bilateral nuclear arms control agreement with Indian Prime Minister Desai. However, as Ambassador Robert Goheen reported back to Washington, Desai argued that since India had already pledged not to build nuclear weapons, “if Pakistan did likewise, the two pledges would be as good as a joint statement.” Desai also shot down the idea of South Asian NWFZ, arguing that it would “mean nothing” so long as the superpower arms race continued and that “he was convinced that Pakistan...could not be trusted to abide by one, but that he could not say that publicly.”⁵⁴ Around this time, President

⁴⁹ US Embassy Islamabad cable 2769 to State Department, "Nuclear Aspects of DepSec Visit Discussed with UK and French Ambassadors," no. 25A, 7 March 1979, in "The United States and Pakistan's Quest for the Bomb," *NSA, EBB no. 333*.

⁵⁰ Khan, *Eating Grass*, 209.

⁵¹ *Ibid*, 208.

⁵² Ambassador Pickering, Paul Kreisberg, and Jack Miklos through Mr. Newsom and Mrs. Benson to the Secretary, "Presidential Letter to President Zia on Nuclear Issues," no. 31, 21 March 1979, in "The United States and Pakistan's Quest for the Bomb," *NSA, EBB no. 333*.

⁵³ William Burr, "The United States and Pakistan's Quest for the Bomb," <http://www2.gwu.edu/~nsarchiv/nukevault/ebb333/>

⁵⁴ US embassy New Delhi cable 9979, "India and the Pakistan Nuclear Problem," no. 35B, 7 June 1979, in "The United States and Pakistan's Quest for the Bomb," *NSA, EBB no. 333*.

Carter commissioned an interagency taskforce to explore policy options regarding Pakistan's nuclear weapons program. It soon became public that the options discussed included harsher economic sanctions, the provision of more effective conventional arms as an inducement and—most controversially—a covert military operation to disable Pakistan's uranium enrichment facility. Despite the assurances of US officials that the latter option was not seriously considered, Pakistan reacted angrily, surrounding its nuclear facilities with anti-aircraft guns and reaffirming its commitment to persist with its supposedly peaceful nuclear program.⁵⁵ In October 1979, Secretary of State Cyrus Vance reportedly warned the Pakistani Foreign Minister that by pursuing their nuclear program, Pakistan was “entering the Valley of Death” due to India's conventional (and nuclear) superiority.⁵⁶

By the end of 1979, Pakistan had endured two rounds of US sanctions due its nuclear program. Although US credibility on the nuclear issue was high due to the passage of the Symington and Glenn Amendments, which made aid cutoffs automatic absent a presidential waiver, Pakistan simply was not very dependent on the United States and therefore had very little incentive to comply with US demands.

1980-1990: High Dependence, Low Credibility

The US-Pakistan dynamic was drastically altered when the Soviet Union invaded Afghanistan in the closing days of December 1979. Starting in 1980, Pakistan faced, “almost daily air and groundspace violations of Pakistani territory by Soviet and Afghanistani aircraft,

⁵⁵ Nuclear Threat Initiative, “Pakistan Nuclear Chronology,” <http://www.nti.org/analysis/articles/pakistan-nuclear-chronology/>

⁵⁶ Khan, *Eating Grass*, 212.

including frequent bombings.”⁵⁷ Moreover, the conflict resulted in a massive influx of refugees that overwhelmed Pakistani capacity.⁵⁸ The Soviet intervention “was a catastrophe for Pakistan, much more of a catastrophe...than it was for the United States,” which forced the Pakistani leadership to “contend not only with the increased potential for subversive activities among Pakistan’s numerous dissident political groups, but also with the increased potential for military collusion between Moscow and New Delhi.”⁵⁹ Abdul Sattar, Foreign Minister of Pakistan under Pervez Musharraf, recounts how the Soviet invasion, “provoked a deep sense of alarm in Pakistan,” with security officials worrying that the Soviets had territorial designs on Pakistan itself.⁶⁰ Indeed, “with its own history of internal instability and vulnerability to dismemberment in 1971 serving as reminders of the ‘threat from within’ —Pakistan’s survival as a nation appeared threatened.”⁶¹ Soon after the Soviet invasion, the hawkish Indira Gandhi returned to power in India. The result, as Khan describes, was that, “Pakistan was very vulnerable to its two nemeses, and the United States was its only recourse.”⁶²

However, instead of responding to Pakistan’s newfound need for support with a large offer of assistance made contingent on halting its nuclear weapons program, which this dissertation’s theory suggests would have the best chance of success, the Carter administration responded by deciding to waive the Symington Amendment sanctions—essentially destroying American credibility on the nuclear issue—and then offering a relatively modest amount of aid,

⁵⁷ A.Z. Hilali, “The Costs and Benefits of the Afghan War for Pakistan,” *Contemporary South Asia* 11, No. 3 (2002): 299.

⁵⁸ Shuja Nawaz, *Crossed Swords: Pakistan, its Army, and the Wars Within* (Karachi: Oxford University Press, 2008), 371.

⁵⁹ Robert Wirsing, “Pakistan and the War in Afghanistan,” *Asian Affairs* 14, No. 2 (1987): 61.

⁶⁰ Abdul Sattar, *Pakistan’s Foreign Policy: A Concise History* (Karachi: Oxford University Press, 2007), 155.

⁶¹ Rodney Jones, “The Military and Security in Pakistan,” in *Zia’s Pakistan: Politics and Stability in a Frontline State*, ed. Craig Baxter (Boulder, CO: Westview Press, 1985), 63.

⁶² Khan, *Eating Grass*, 215.

which gave Pakistan little incentive to comply with US demands, regardless of their credibility. The resulting combination of low to moderate dependence and low credibility leads to an expectation of US failure according to the theory, which is indeed what is observed.

Initially, President Carter was reluctant to waive the sanctions on Pakistan. At a National Security Council meeting less than a week after the Soviet invasion, President Carter recommended communicating to Zia, “that we are bound by law on the non-proliferation issue and can’t change it, but let’s try to get together on Afghanistan and work out the non-proliferation issue later.”⁶³ Carter’s reluctance in waiving the Symington Amendment is also evidenced by a December 31 memo written for National Security Adviser Brzezinski that referenced the President’s “apparent decision at the NSC not to seek a change in the Symington Amendment.”⁶⁴ A January 1 memo from Assistant Secretary of State for Near Eastern Affairs, Harold Saunders, suggested increasing PL-480 food aid and selling (rather providing via US aid) approximately arms \$200 million worth of arms to Pakistan—actions that could be taken without waiving the Symington Amendment and were therefore “consistent with our understanding of NSC and Presidential decisions.”⁶⁵

By January 4, however, Carter had changed his mind: a Special Coordination Committee of officials from the State Department, White House, Defense Department, JCS, CIA, and NSC “agreed that our first priority must be to lift the legislative restrictions which currently prevent US assistance to Pakistan.”⁶⁶ The following day, this decision was finalized. According to a government memo detailing answers to potential questions from the press:

We are working with Congressional leaders and will support legislation to remove restrictions on American assistance to Pakistan. The United States Government

⁶³ Iran, Afghanistan, and Pakistan, 28 December 1979, *DNSA*, CO00662.

⁶⁴ Material on Pakistan/Afghanistan, 31 December 1979, *DNSA*, CO00666.

⁶⁵ NSC Discussion of Support for Pakistan, 1 January 1980, *DNSA*, NP01707.

⁶⁶ Pakistan—Funding Issues, 4 January 1980, *DNSA*, CO00685.

must be able to provide the military equipment, food and other assistance to Pakistan that is necessary to help that nation, which borders on Afghanistan, deal effectively with the seriously increased threat that it faces from the north. We believe that we can develop, together with the Congress, a means of balancing our continuing concerns about Pakistan's nuclear activities with the urgent need to respond, in a clear and credible manner, to the Soviet challenge to peace in Asia. This is clearly an exceptional circumstance. We remain committed in our opposition to any proliferation of nuclear devices.⁶⁷

On January 9, the White House informed the Secretary of State, Secretary of Defense, and Director of OMB that Carter had decided to waive the Symington Amendment sanctions against Pakistan.⁶⁸ Pakistani officials were soon aware that the United States was willing to provide aid in spite of Pakistan's nuclear activities. A week later, after preliminary discussions on an aid package, Zia publicly stated his impression that the United States "has not got strings in mind" when it comes to aid.⁶⁹

In addition to undermining US credibility by de-linking aid from the nuclear issue, the Carter administration offered Pakistan a relatively small amount of aid, thereby reducing Pakistani incentives to cooperate with the US. By January 18, it became public that the United States was planning to offer \$400 million to Pakistan over two years, and Zia publicly declared the sum to be "peanuts...Pakistan will not buy its security with \$400 million." In the same press conference, Zia stated his desire that the 1959 US-Pakistani cooperation agreement be transformed into a full-blown treaty, "where the US has a commitment...and the freedom of Pakistan is guaranteed."⁷⁰ Nonetheless, despite Zia's clear dissatisfaction, Carter decided to stick with the aid offer. Secretary of State Vance informed the US ambassador in Pakistan that he should communicate to Foreign Minister Shahi that the aid package, "was drawn up after very

⁶⁷ Questions and Answers Pertaining to the President's Friday Night Speech, 5 January 1980, *DNSA*, AF00758.

⁶⁸ Assistance for Pakistan, 9 January 1980, *DNSA*, CO00694.

⁶⁹ President Zia ul-Haq's Press Conference, January 15, 16 January 1980, *DNSA*, AF00802.

⁷⁰ Zia's Remarks to US Newsmen on US [Aid] Offer, Bilateral Agreement, Nuclear Issue, 18 January 1980, *DNSA*, NP01720.

careful consideration both of Pakistan's needs and of our own resources...Continued public controversy regarding the size of our assistance package for Pakistan will only undermine support for it in the congress and complicate our efforts with our allies."⁷¹

As National Security Advisor Brzezinski and Deputy Secretary of State Warren Christopher prepared to visit Pakistan in late January, Carter instructed the officials to "convey to Zia a sense of the breadth and firmness of the US response to the Soviet invasion of Afghanistan," but also to, "reaffirm the present level of our proposed bilateral assistance through FY 81 and to convince Zia that it would be unwise...to voice public disappointment with our assistance or to criticize US unwillingness to negotiate a treaty." In what would become the basis of US nonproliferation efforts via Pakistan over the next decade, Carter moved the US red line from a nuclear weapons program to nuclear testing, asking Brzezinski and Christopher, "To seek assurances that the Zia government will not test a nuclear device and to impress upon Zia how dangerous a test would be to Pakistan's security and to the new Western relationship we are seeking to develop."⁷² On the same day, the US government notified allied countries that the US would work to resume aid to Pakistan. According to the State Department cable:

We are taking this extraordinary action in view of the real and immediate threat to Pakistan's security. I wish to emphasize that US global non-proliferation policy is unchanged and that the decision to renew assistance to Pakistan in no way diminishes the importance we attach to preventing the spread of nuclear explosives capabilities. Nor do we have plans to change the Symington or Glenn Amendment.⁷³

During Brzezinski and Christopher's visit in Pakistan, the Pakistani government again made clear their dissatisfaction with the size of the US offer, arguing "that the vulnerability of

⁷¹ US Assistance for Pakistan, 18 January 1980, *DNSA*, NP01721.

⁷² Your Visit to Pakistan, 30 January [1980], *DNSA*, CO00459.

⁷³ State Department cable 25686 to US Embassy Switzerland et al., "Non-Proliferation Policy and Renewed Assistance to Pakistan," no. 46, 30 January 1980, in "The United States and Pakistan's Quest for the Bomb," *NSA, EBB no. 333*.

their position requires a higher level of assistance.”⁷⁴ The following month, Shahi publicly announced Pakistan’s rejection of the US aid offer, arguing that the US failure to intervene on Pakistan’s behalf in the 1971 war proved the weakness of the 1959 bilateral agreement, that “it was not possible for the two sides to reach an accommodation.” Shahi continued that, “We could not ignore the fact that US sensitivity to Indian reactions appeared to be determining the size and nature of the aid package, denuding it of relevance to our defense capacity. There was also the suggestion that the acceptance of the aid package could affect the pursuit of our nuclear research and development programme as long as the aid relationship continued.”⁷⁵

However, despite Shahi’s remarks, the evidence suggests that Pakistan did not reject the aid offer due to the United States attaching strings vis-à-vis Pakistan’s nuclear weapons program. First, as described above, the United States did not attach any explicit strings—indeed, the US clearly communicated that it would waive sanctions legislation and only privately asked that Pakistan not test. Second, Pakistan’s leader made clear that it was the size and content of the aid offer, not any “strings” attached, which led Pakistan to reject American overtures. When Zia spoke with American journalist Selig Harrison several days after Shahi’s remarks, he gave no indication that any strings were attached to the aid, or that this affected the decision to reject the package. Instead, he focused on the “embarrassingly low” aid amount and the “difficulties of getting a hard and fast security commitment from the US.”⁷⁶ Further evidence that Pakistan did not perceive the strong US pressure on its nuclear program is provided by a US intelligence report from April 1980 that noted, “the recently reported belief within the Pakistani government

⁷⁴ Christopher Briefing of SFRC on February 7, 5 February 1980, *DNSA*, NP01731.

⁷⁵ Agha Shahi Publicly Rejects Proposed US Assistance Package, 6 March 1980, *DNSA*, NP01749.

⁷⁶ US-Pakistan Relations: Zia Expounds to American Scholar, 9 March 1980, *DNSA*, NP01751.

that the US is reconciled to a Pakistani nuclear weapons capability.”⁷⁷ Finally, a State Department memo from May 1980 reinforces this version of events, noting that Pakistan “concluded that our offer was grossly insufficient...The Pakistanis asked for a firmer security commitment to be embodied in treaty form, as well as for more resources.”⁷⁸ In sum, the evidence is clear that Pakistan rejected the offer because of its size and the lack of a firm security guarantee, not any strings attached to the nuclear program.

In August 1980, with no agreement on US aid and Pakistan facing “severe economic problems,” Zia turned to Saudi Arabia, reportedly offering to station Pakistani troops in the Kingdom in exchange for \$800 million in aid annually.⁷⁹ At the time, Pakistan’s foreign debt was roughly \$8 billion—equivalent to more than 40% of GNP, “among the world’s highest” debt ratios.⁸⁰ Underlining Zia’s domestic vulnerability, two months later Pakistani courts convicted a former general and his son of plotting a coup against Zia, which was supposed to have taken place in March 1980.⁸¹ In the period between Reagan’s election victory in November 1980 and his inauguration, “the Pakistanis were quite active in making their case for full-blown United States arms support, inviting several influential Republicans...to Islamabad.”⁸² By January 1981, the *New York Times* reported that Zia feels “isolated, unable to count on military support from either China or the United States and concerned about a Soviet ability to stir up dissident ethnic

⁷⁷ Special Assistant for Nuclear Proliferation Intelligence via Deputy Director for National Foreign Assessment [and] National Intelligence Officer for Warning to Director of Central Intelligence, “Warning Report --Nuclear Proliferation,” no. 47, 30 April 1980, in “The United States and Pakistan’s Quest for the Bomb,” *NSA, EBB no. 333*.

⁷⁸ Assistance for Pakistan, 22 May 1980, *DNSA, NP01784*.

⁷⁹ Richard Burt, “Pakistan Said to Offer to Base Troops on Saudi Soil,” *New York Times*, 20 August 1980, 5.

⁸⁰ Michael Kaufman, “Pakistan’s People are its Main Exports,” *New York Times*, 7 October 1980, 13.

⁸¹ Reuters, “2 Officers Convicted in Pakistan of Plotting the Overthrow of Zia,” *New York Times*, 7 October 1980, 4; and Nawaz, *Crossed Swords*, 387.

⁸² Michael Kaufman, “US Said to Weight Extensive Arms Sales to Pakistan,” *New York Times*, 5 March 1981, 3.

and regional groups in his nation.”⁸³ The following month, Zia confronted another threat to his rule, preemptively arresting opposition leaders in the Movement for the Restoration of Democracy—including the widow of the executed Pakistani leader Zulfikar Ali Bhutto—who had planned protests and strikes intended to topple Zia.⁸⁴

When the Reagan administration took office in 1981, the United States had another opportunity to take advantage of Zia’s domestic and international vulnerability to restrain Pakistan’s nuclear program. Like the Carter administration, however, the Reagan White House was resolved to provide aid without explicit limits on Pakistan’s enrichment or reprocessing programs. The consequently low American credibility on nonproliferation vis-à-vis Pakistan therefore suggests that the United States should fail in its efforts to restrain the Pakistani program despite Pakistan’s high dependence on the United States.

In April, a State Department official sent a memo to US embassies in allied countries instructing them to let their host governments know, “We have concluded that a stronger, more self-confident Pakistan, capable of resisting Soviet pressures through Afghanistan, is essential for the enhanced deterrence to Soviet expansionism which we seek...As a first tangible step, we plan to resume our military training program (IMET) with Pakistan, subject to modification of existing legislative sanctions.”⁸⁵ Between April and September 1981, the Reagan administration sought to convince the American public and congress to support a large aid program for Pakistan, which required some level of continued vigilance with respect to Pakistan’s nuclear weapons program. When the Pakistani Foreign Minister visited Washington in late April to discuss US assistance, Secretary of State Alexander Haig “underscored the Reagan

⁸³ Bernard Nossiter, “US Envoys See Pakistani Shift Toward Karmal’s Kabul Regime,” *New York Times*, 9 January 1981, 8.

⁸⁴ AP, “Mrs. Bhutto is Held Briefly after Foes of Regime Meet,” *New York Times*, 27 February 1981, 3.

⁸⁵ US Policy towards Pakistan, 1 April 1981, *DNSA*, NP01875.

Administration's determination to stop Soviet expansionism," but also "made clear...that the explosion of a nuclear device could make it very difficult to maintain our support."⁸⁶ By June, the US and Pakistan released a statement that announced a preliminary agreement on a five-year aid program of \$3 billion, in addition to the sale of F-16 aircraft.⁸⁷

In congressional hearings over aid to Pakistan in July, Under Secretary of State for International Security Affairs James Buckley continued to argue that the aid program was compatible with nonproliferation, informing members of the House Foreign Affairs Committee of, "Zia's assurance that Pakistan did not intend to make nuclear weapons."⁸⁸ Later that month, Buckley wrote a letter to the New York Times responding to a Selig Harrison op-ed critical of Reagan's new policy on Pakistan. He argued, "The Administration's decision to support Pakistan does not represent a slackening of US efforts to control the spread of nuclear weapons," and that providing conventional arms could resolve "the underlying sources of insecurity that prompt a nation like Pakistan to seek a nuclear capability in the first place."⁸⁹ The United States also still sought to limit the Pakistani program on the supply side. An August 1981 ACDA memo described how, "During the past three years some 300 demarches have been made to foreign governments," in an effort to crack down on private firms that had been exporting sensitive nuclear components to Pakistan.⁹⁰

In September 1981, the Reagan administration finally concluded a five-year, \$3.2 billion aid deal with Pakistan, and also agreed to sell Pakistan 40 F-16 fighter-bombers. In order for this

⁸⁶ Visit of Pakistan Foreign Minister, 25 April 1981, *DNSA*, AF01172.

⁸⁷ Joint US-Pakistan Statement, 15 June 1981, *DNSA*, AF01205.

⁸⁸ Buckley Briefing of House Foreign Affairs Committee on Pakistan, 2 July 1981, *DNSA*, AF01216.

⁸⁹ Letter of Response to Op-Ed Piece in July 15 New York Times, 25 July 1981, *DNSA*, AF01237.

⁹⁰ "Report on Diplomatic Actions Taken Concerning Foreign, Nuclear-Related Supplies to Pakistan, Richard L. Williamson, Arms Control Disarmament Agency (ACDA) " August 14, 1981, History and Public Policy Program Digital Archive, CIA Research Tool (CREST), National Archives, College Park, MD. Obtained and contributed by William Burr and included in NPIHP Research Update #3. <http://digitalarchive.wilsoncenter.org/document/112915>

aid to be disbursed, Congress approved Pakistan for a six-year exemption from the Symington Amendment; at the same time, however, legislation was strengthened to impose sanctions on any new nuclear state that tested a device.⁹¹ While the President would have the power to waive the provision on nuclear tests, “the ban would be automatically reimposed after 30 days unless Congress was persuaded to vote to restore assistance within that month.” According to Senator Alan Cranston (D-CA), a prominent advocate for nonproliferation, “The Reagan policy, as modified by Congress, makes an aid cutoff mandatory only after proliferation has occurred and a bomb has been detonated.” Nonetheless, in that it put some limits on the waiver of the Symington Amendment for Pakistan sought by the White House, Cranston conceded that the new regulations were “something of a victory for Congress.”⁹²

In the process of negotiating the aid deal, according to Feroz Khan, the two sides agreed on four principles: “(1) US security assurances, (2) Pakistani sovereignty, (3) covert intelligence cooperation, and (4) Pakistan’s assurances of the peaceful use of nuclear technology.” Pakistan specifically promised not to undertake a hot nuclear test—as the story goes, Zia assured Reagan that he would “never embarrass his friend” by conducting a test.⁹³ In other words, while Pakistan did not agree to halt its enrichment program, which the now-waived Symington Amendment had sought to enforce, it did commit to refraining from testing, the one clear red line that remained in US sanctions legislation.

From 1982 onward, Pakistan persisted in its nuclear weapons program, developing the capability to construct and test a nuclear device although refraining from actually testing to avoid triggering sanctions. The United States, for its part, continually failed to punish Pakistan for its

⁹¹ Leonard Spector, *Nuclear Ambitions: The Spread of Nuclear Weapons, 1989-1990* (Boulder, CO: Westview Press, 1990), 92-93.

⁹² “Congress Widens Role in Arms Sales,” *New York Times*, 2 January 1982, 9.

⁹³ Khan, *Eating Grass*, 214-215.

behavior and provided massive amounts of aid, cumulatively weakening American credibility. Despite Pakistani assurances, by January 1982 a US intelligence report judged that, “Pakistan is likely to continue developing and stockpiling fissile material that could be used in a nuclear device.”⁹⁴ This indeed proved prescient, as in July the US ambassador to Pakistan confronted Zia with “intelligence of an incontrovertible nature” that Pakistan was continuing to procure nuclear weapons components. Zia responded that, “he would not develop a nuclear weapon and would not explode a nuclear device,” to which the ambassador replied, “as far as the impact on congress was concerned, there was no difference between a nuclear explosive and a nuclear weapon program. Either would destroy any chance of our obtaining congressional approval for our large multi-billion dollar assistance program for Pakistan.”⁹⁵ The following day, Zia provided a letter to President Reagan reaffirming his assurances.⁹⁶ Confronted with similar intelligence in October 1982, Zia made essentially the same denials and provided the same assurances.⁹⁷ Zia asked the US ambassador, “to tell your president that I give him my word of honor as President of Pakistan and as a soldier that I am not and will not develop a nuclear device or weapon.”⁹⁸

⁹⁴ Judith Miller, “US Says Pakistan’s Nuclear Potential is Growing,” *New York Times*, 24 January 1982, 1.

⁹⁵ "US Embassy Pakistan Cable 10239 to State Department, 'My First Meeting with President Zia'" July 05, 1982, History and Public Policy Program Digital Archive, State Department Mandatory Declassification Review release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114252>

⁹⁶ "US Embassy Pakistan Cable 10276 to State Department, 'My Final Meeting with President Zia'" July 06, 1982, History and Public Policy Program Digital Archive, State Department Mandatory Declassification Review release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114253>

⁹⁷ "US Embassy Pakistan Cable 15696 to State Department, 'Pakistan Nuclear Issue: Meeting with General Zia'" October 17, 1982, History and Public Policy Program Digital Archive, State Department Mandatory Declassification Review release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114254>

⁹⁸ "State Department Cable 299499 to US Embassy Islamabad, 'Pakistan Nuclear Issue: Meeting with General Zia'" October 25, 1982, History and Public Policy Program Digital Archive, State Department Mandatory Declassification Review release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114255>

In reality, by 1982 Zia had ordered A.Q. Khan to prepare a cold test of a nuclear device and had sought and received a complete bomb design and 50kg of highly enriched uranium from China—enough for two nuclear bombs.⁹⁹ The following month, George Shultz, the newly appointed Secretary of State, wrote a memo to President Reagan that concluded, “There is overwhelming evidence that Zia has been breaking our assurances to us.” Noting US strategic interests that made sustaining support for Pakistan important, Shultz wrote that, “A rupture of our relationship would call into question a central tenet of this Administration’s foreign policy—strong support for our friends.” If the Pakistani program continued unabated, Shultz judged it to be, “highly likely” that congress would seek to terminate aid even before a nuclear test, and that this “would greatly damage our ability to realize those interests served by close ties to Pakistan.” In terms of policy options, Shultz identified three: (1) explicitly threatening at the Presidential level that the United States would end its aid to Pakistan if the nuclear weapons program continued, (2) making clear that Congress would try to end the aid program if the Pakistani program was not halted, or (3) vaguely threatening that the Pakistani program “will seriously jeopardize” the overall strategic and aid relationship. Shultz concluded that, “the odds are against any of the available options” succeeding and referenced the lack of US credibility on the issue, noting, “the Pakistanis probably believe that because of the strategic considerations in the region the USG will seek to protect the US-Pakistan security relationship against Congressional moves prompted by Pakistan’s nuclear weapons activities.”¹⁰⁰

⁹⁹ Khan, *Eating Grass*, 187-188.

¹⁰⁰ "Secretary of State George Schultz to President Reagan, 'How Do We Make Use of the Zia Visit to Protect Our Strategic Interests in the Face of Pakistan's Nuclear Weapons Activities'" November 26, 1982, History and Public Policy Program Digital Archive, CIA Records Search Tool [CREST]. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114311>

Briefing papers prepared for the President in his meeting with Zia in December suggest that confronting the Pakistani leader about the nuclear program was not high on the agenda. According to a paper written by Nicholas Veliotis, the Assistant Secretary of State for Near Eastern Affairs, "The President should reiterate the importance we place on establishing U.S.-Pakistan ties and our intention, despite serious budgetary constraints, to do everything possible to meet our security assistance commitment to Pakistan," and should commend Zia "for Pakistan's courageous position."¹⁰¹ Nonetheless, according to a report drafted the following year, in his meetings with Zia, Reagan indicated that, "nuclear weapons development is inconsistent with the continuation of the US security and economic assistance program."¹⁰² More specifically, Reagan reportedly laid out a series of red lines, none of which were actually included in existing sanctions legislation save for the prohibition on testing: namely that the United States would cut off aid "if Pakistan assembles or tests a nuclear device, transfers technology for such a device, violates international safeguards or undertakes unsafeguarded reprocessing."¹⁰³

In March 1983, the White House prepared a report for congress that was necessary to continue the waiver of the Symington Amendment for Pakistan. The draft report argued that US aid, "has been the most important factor in our efforts to persuade Pakistan to renounce the development of nuclear weapons." The draft report also suggested that US assistance had succeeded in convincing Pakistan to foreswear PNEs, something they had previously refused to

¹⁰¹ Your Briefing of the President in Preparation for His Meeting with President Zia ul-Haq of Pakistan, 6 December 1982, *DNSA*, AF01407.

¹⁰² Report to Congress Pursuant to Section 735 of the International Security and Development Cooperation Act of 1981: Pakistan's Nuclear Program, 14 March 1983, *DNSA*, NP02022.

¹⁰³ Quoted in "Kenneth Adelman, Director, Arms Control and Disarmament Agency, to Assistant to the President for National Security Affairs, 'Pakistan's Nuclear Weapons Programs and US Security Assistance'" June 16, 1986, History and Public Policy Program Digital Archive, Mandatory Declassification Review Release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114316>

do.¹⁰⁴ In May of 1984, the US government reiterated to the Pakistani Foreign Minister the red lines that President Reagan had set in December 1982.¹⁰⁵ This came two months after Pakistan had conducted its first successful cold test; when coupled with the fissile material received from China, this meant that Pakistan now possessed a crude nuclear weapons capability, albeit a “large bomb that could be delivered only by a C-130 cargo aircraft with no assurance of delivery accuracy.”¹⁰⁶ Just as Pakistan achieved this capability, AQ Khan stated in an interview that Pakistan could build a nuclear device if needed.¹⁰⁷

In September 1984, the National Security Planning Group met to discuss the Pakistan nuclear issue in the context of increasing security threats emanating from India and Afghanistan. The participants included President Reagan, Vice President Bush, Secretary of Defense Weinberger, Secretary of State Shultz, the Director of the CIA (William Casey), National Security Advisor MacFarlane, and the Director of the ACDA (Ken Adelman). MacFarlane opened the meeting by observing, “While we want to assist Pakistan in coping with the increased pressure on the northern border, if the evidence of the progress on nuclear weapons development continues, we will face difficulty in the Congress in sustaining our security assistance.” As a means of forestalling the Pakistani program, Secretary Shultz recommended to President Reagan:

We ought to get off a letter to Zia from you reemphasizing the importance and seeking Zia’s commitment in writing to formally accept what he conveyed orally to Deane Hinton, namely that he would not enrich above the 5% level. He has made the commitment once, but it has not been reaffirmed since. We should note that you have laid down a number of red lines to Zia on nuclear development and

¹⁰⁴ Report to Congress Pursuant to Section 735 of the International Security and Development Cooperation Act of 1981: Pakistan’s Nuclear Program, 14 March 1983, *DNSA*, NP02022.

¹⁰⁵ “Kenneth Adelman, Director, Arms Control and Disarmament Agency, to Assistant to the President for National Security Affairs, ‘Pakistan’s Nuclear Weapons Programs and US Security Assistance’” June 16, 1986, History and Public Policy Program Digital Archive, Mandatory Declassification Review Release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114316>

¹⁰⁶ Khan, *Eating Grass*, 189.

¹⁰⁷ Reuters, “Pakistani Cities [sic] Nuclear Advance,” *New York Times*, 10 February 1984, 4.

they have not been crossed. Zia needs to understand that he must commit to limits on enrichment and that this must be done quickly if we are to save our security assistance program for Pakistan from Congressional assaults. Your message should have that element—expression of continued support—and our willingness to continue to provide security assistance. At the same time, Zia should understand that there is a serious question as to whether we can continue to provide assistance. A letter such as this needs to be crafted. It's tough, and the most difficult problem is how hard a marker we should put down on enrichment above the 5% level. No one is advocating an irrevocable 'red line' or a warning... 'if you cross it then...'. We will prepare such a letter through the interagency process for your approval.¹⁰⁸

In other words, the United States wanted to convince Pakistan to restrain its nuclear program, but was unwilling to make an explicit threat of an aid cutoff. Later that month, President Reagan sent a letter to Zia warning him, "that enrichment of uranium above five percent would be of the same significance as those nuclear activities such as unsafeguarded reprocessing which I personally discussed with you in December 1982 and would have the same implications for our security program and relationship."¹⁰⁹

On October 11, the White House issued National Security Decision Directive 147 on policies toward Pakistan and India. The directive listed as objectives both that the US "provide support to Pakistan necessary to maintain active Pakistani involvement in our Afghan policy" and to "Persuade Pakistan and India to accept non-proliferation measures." In terms of specific actions, the directive recommended, "work to discourage Pakistan's movement toward a nuclear explosives capability and to encourage acceptance of safeguards. This must be backed with substantial US security assistance if it is to be meaningful." Underlining the problems the White

¹⁰⁸ Pakistan and NSDD-99 Work Program, 7 September 1984, *DNSA*, CO01547.

¹⁰⁹ Quoted in "Kenneth Adelman, Director, Arms Control and Disarmament Agency, to Assistant to the President for National Security Affairs, 'Pakistan's Nuclear Weapons Programs and US Security Assistance'" June 16, 1986, History and Public Policy Program Digital Archive, Mandatory Declassification Review Release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114316>

House faced in Congress over the nuclear issue, the directive also ordered the government to “prepare a program to drive home to Congress Pakistan’s vital role in our Afghanistan policy.”¹¹⁰

Around the same time, the Soviet Union deployed 40,000 more troops to Afghanistan and began regularly bombing camps for Afghan refugees across the border in Pakistan. The United States responded in March 1985 by providing Pakistan with advanced air-to-air missiles. This occurred despite intelligence had Pakistan had conducted a “successful test of the non-nuclear triggering package for a nuclear weapon.” By October, the Reagan administration learned that Pakistan had violated its assurances and enriched uranium beyond 5%. Nonetheless, Reagan refrained from confronting Zia with this information when the two met later that month.¹¹¹

While the United States continued to provide aid, Congress also adopted the Pressler Amendment in 1985, which made continuation of aid to Pakistan conditional upon the President certifying each year that Pakistan did not have a nuclear device and that continued assistance would help to prevent this eventuality.¹¹² The Solarz Amendment was enacted as well, which banned “aid to any non-nuclear state found to have smuggled items from the United States for use in a nuclear explosive device.”¹¹³ Nevertheless, even when evidence emerged that Pakistan was smuggling dual-use components both in the United States and Europe, the White House and CIA went to great lengths to downplay the intelligence. As Narang notes, this “seemed to convince Zia that the United States would go to extraordinary lengths to keep Pakistan from crossing certain thresholds in its nuclear program that might cause Congress to automatically cut off aid and threaten the American effort in Afghanistan.”¹¹⁴ Despite the fact that Pakistan had violated the 5% enrichment barrier, in March 1986 another aid package worth more than \$4

¹¹⁰ US Policy towards India and Pakistan, 11 October 1984, *DNSA*, CO01568

¹¹¹ Spector, *Nuclear Ambitions*, 93-94.

¹¹² Reiss, *Bridled Ambition*, 186.

¹¹³ Spector, *Nuclear Ambitions*, 94.

¹¹⁴ Narang, *Nuclear Strategy in the Modern Era*, 72.

billion was approved.¹¹⁵ As Spector notes, “From this point onward, there could be no doubt in Islamabad that the Reagan Administration was...prepared to look the other way.”¹¹⁶

Reflecting this reality, in June 1986 the Director of the ACDA, Kenneth Adelman, sent a memo to the National Security Advisor, John Poindexter, which noted that Zia had broken the commitment not to enrich uranium beyond five percent: “when we confronted Zia last April with the evidence, he lied to us again and denied any production of high enriched uranium. Since our demarche, Pakistan has continued to produce such uranium.” The report continued that, “US failure to do more than ‘jawbone’ risks the President’s credibility and has virtually no prospect of convincing Pakistan to cease its enrichment activities.” Adelman concluded that, “We may eventually be forced to conclude that the ‘least bad’ alternative is to accept Pakistani enrichment while toughing it out with Congress on the aid relationship. Even so, we should attempt to force Zia to face the choice between enrichment and security assistance before conceding him both.”¹¹⁷

When Pakistan’s new Prime Minister, Mohammad Khan Junejo, visited Washington in July 1986, Secretary Shultz advised President Reagan to, “ensure that Junejo understands critical need for positive steps to meet serious USG concern about Pakistan’s nuclear program.”¹¹⁸ According to a State Department memo describing Junejo’s visit, US officials, “emphasized to Junejo...the absolute criticality to the continuance of American assistance of restraint in

¹¹⁵ Reiss, *Bridled Ambition*, 186.

¹¹⁶ Spector, *Nuclear Ambitions*, 94.

¹¹⁷ "Kenneth Adelman, Director, Arms Control and Disarmament Agency, to Assistant to the President for National Security Affairs, 'Pakistan's Nuclear Weapons Programs and US Security Assistance'" June 16, 1986, History and Public Policy Program Digital Archive, Mandatory Declassification Review Release. Obtained and contributed by William Burr and included in NPIHP Research Update #6. <http://digitalarchive.wilsoncenter.org/document/114316>

¹¹⁸ Your Meeting with Pakistan Prime Minister Mohammad Khan Junejo, 1 July 1986, *DNSA*, NP02306.

Pakistan's nuclear program," and Junejo publicly reaffirmed to reporters, "Pakistan's commitment not to enrich uranium above five percent."¹¹⁹

In the first few months of 1987, both A.Q. Khan and Zia made public statements suggesting that Pakistan had achieved a nuclear weapons capability, although both were subsequently denied or qualified.¹²⁰ In reality, as described above, Pakistan had already acquired a limited capability by 1984. Despite this, however, US presidents Reagan and Bush continued to certify Pakistan for continued aid until Bush finally refused to do so in 1990 under the weight of mounting public evidence of Pakistan's nuclear capability.¹²¹

In sum, from 1981 to 1990 the United States failed to take advantage of Pakistan's acute dependence on the United States because it de-linked aid from Pakistan's nuclear weapons program and thereby undermined US credibility. Although the United States did succeed in preventing Pakistan from undertaking a test, it failed to prevent Pakistan from becoming a de facto nuclear weapons state by the mid-1980s.

Alternative Explanations for Pakistan's Resistance to US Nonproliferation Efforts

The remainder of the chapter explores three alternative explanations for Pakistani resistance to US nonproliferation efforts: Zia's identity conception as a leader, Pakistan's domestic regime orientation, and the severity of the Pakistani security environment.

Leader Identity Conception

Hymans' argument raises the possibility that Zia was an oppositional nationalist, and that this provided him with a strong psychological attraction to nuclear weapons and the inclination

¹¹⁹ Visit of Pakistan Prime Minister Mohammad Khan Junejo to Washington—15-18 July 1986, 23 July 1986, DNSA, NP02334.

¹²⁰ Spector, *Nuclear Ambitions*, 96-97.

¹²¹ Reiss, *Bridled Ambition*, 187.

to resist external nonproliferation pressure—regardless of how credible US threats were. To be an oppositional nationalist, Zia would have to view the world in “us vs. them” terms and view Pakistan as equal or greater than its primary reference nation, which is of course India. Yet evidence from Zia’s actions and public statements call this into question. In particular, while Zia was clearly nationalist in a generic sense, subscribing to the “two nation” concept of Pakistan as the guardian of South Asia’s Muslims,¹²² there is evidence suggesting that Zia recognized India’s superior power position and was willing to compromise with India to a significant extent.

As early as April 1980, CIA director Stansfield Turner “noted a new reality in Pakistani foreign politics—an unwillingness to antagonize either India or the Soviet Union, a desire to improve relations in India.”¹²³ In October 1981, soon after Pakistan accepted the \$3 billion aid offer, Zia was quoted in the *New York Times* as calling for “ ‘a larger, more powerful India’ to show magnanimity in its attitude toward his country’s efforts to acquire jet fighters from the United States. ‘I have told the Indians, you are a larger country, you have a larger force, a larger economic reservoir. [You] have a greater role to play...A big country like India should be able to eschew a lot of nonsense.’” Zia also offered to conclude a nonaggression pact with India, who he argued should feel safe because of its power position to “take some risks in order to gain improved relations.” Later in the interview, Zia stated, “We are a smaller country but we have peculiarities of our own... We are autonomous and we are a respectable nation. We will respect the Indians and we will demand that much respect as is due to a respectable nation.”¹²⁴

¹²² Hasan-Askari Rizvi, *Military, State, and Society in Pakistan* (New York: St. Martin’s Press, 2000), 181.

¹²³ Minutes—PRC Meeting on Pakistan, 21 April 1980, DNSA, CO00824.

¹²⁴ Michael Kaufman, “Pakistani Leader Defends Move to Buy F-16s,” *New York Times*, 18 October 1981, 6.

The following year, India and Pakistan did indeed begin negotiations on a nonaggression pact.¹²⁵ By October 1982, the *New York Times* could report that, “for the first time in a decade, the leaders of India and Pakistan are to sit down and begin talking about how to bring lasting peace between their countries.”¹²⁶ This meeting in New Delhi made Zia the first “leader of Pakistan ever to visit the capital of India while in office,”¹²⁷ and resulted in an agreement, “to establish a permanent joint commission to work out problems between their countries as they arise,”¹²⁸ an agreement formally announced in December.¹²⁹ While Pakistan reportedly wanted the commission to address political and security issues in addition to economic and cultural topics, this was ultimately left out “in the face of strong resistance from India.”¹³⁰ The leaders from the two countries were not able to agree on the nonaggression pact proposed by Zia.¹³¹

By August 1983, however, relations took a turn for the worse after Indira Gandhi publicly supported the protestors in the Movement to Restore Democracy that sought to overthrow Zia.¹³² By late 1984, the India-Pakistan relationship was even chillier, as rumors circulated that India was considering a preventive attack on Pakistani nuclear facilities and India accused Pakistan of aiding anti-Indian rebels and initiating skirmishes in Kashmir.¹³³ After Indira Gandhi was assassinated in October 1984, Zia informed Rajiv Gandhi, Indira’s successor, of “the full support of the Government of Pakistan in efforts to build a relationship of trust and confidence between

¹²⁵ Reuters, “India and Pakistan Agree to Revive Talks,” *New York Times*, 2 June 1982, 5.

¹²⁶ William Stevens, “Pakistan’s Leader to Confer in India,” *New York Times*, 31 October 1982, 11.

¹²⁷ Stevens, “Pakistan’s Leader to Confer in India.”

¹²⁸ William Stevens, “India and Pakistan Leaders Agree to Form Panel to Solve Problems,” *New York Times*, 2 November 1982, 9.

¹²⁹ “India-Pakistan Commission is Approved,” *New York Times*, 24 December 1982, 3.

¹³⁰ “India-Pakistan Commission is Approved.”

¹³¹ Reuters, “5-Year India-Pakistan Accord on Stronger Ties is Initialed,” *New York Times*, 25 December 1982, 3.

¹³² William Stevens, “India and Pakistan Skirmish Verbally,” *New York Times*, 8 January 1984, 9.

¹³³ Philip Taubman, “Worsening India-Pakistan Ties Worry US,” *New York Times*, 15 September 1984, 2.

our two countries and create a secure and tranquil environment in our region.”¹³⁴ By 1986, efforts at improving relations had fully stalled following India’s seizure of the Siachen Glacier and their launching of Operation Brasstacks, a mass military exercise on Pakistan’s border that the latter feared was a prelude to preventive war.

There is thus significant evidence that Zia willing to compromise with India, and that he acknowledged India’s superior power status. This casts doubt on whether Zia was indeed an oppositional nationalist, doubt that is strengthened further by Zia’s refusal to test nuclear weapons, which was a direct response to US pressure. Hymans generally treats testing as the critical expression of a country’s nuclear status and suggests that oppositional nationalists should be enthusiastic about doing so (and resistant to nonproliferation efforts), neither of which accurately characterizes Zia.

Domestic Regime Orientation

A second alternative explanation for Pakistan’s nuclear decisions is that it was ruled by an inward-looking, nationalist regime with relatively few ties to the international economy and this made nuclear weapons politically attractive and relatively costless from a domestic politics standpoint. While it is certainly true that the military regime under Zia was nationalist in a generic sense, as described above, it is more difficult to characterize the economic orientation of the regime. As Adams wrote in 1985, “Pakistan’s current economic policies fail to meet any test of consistency or coherence...They are capitalist-socialist-Islamic, public-private sector, simultaneously progrowth and prodistribution.”¹³⁵

¹³⁴ Reuters, “Assassination Aftermath: Olive Branches from Neighbors; Pakistan Offers to Improve India Ties,” *New York Times*, 2 November 1984, 17.

¹³⁵ John Adams, “Pakistan’s Economic Performance in the 1980s,” in *Zia’s Pakistan*, 55.

What is clear is that the *trajectory* of the Pakistani economy under Zia was towards greater liberalization and that Pakistan was in fact heavily dependent on the international economy. First, in terms of liberalization, Burki describes how under Zia, “The further development of the public sector was constrained, and private entrepreneurs were invited back to invest in all sectors of the economy.”¹³⁶ In a similar vein, Adams writes that Pakistan’s Sixth Five-Year Plan, initiated in 1983, “articulated a tilt toward the private sector, although...this was perhaps perceivable as mostly cosmetic window dressing to mollify economists from international organizations and foreign aid agencies.”¹³⁷ This followed on the heels of Zia’s Fifth Five-Year Plan, which marked a “shift in strategy whereby the private sector was to regain the prominence it had lost” in recent years.¹³⁸ Nawaz likewise characterizes Zia’s economic policy as “a guarded return to free-market economics after the deep nationalizations of the Bhutto era.”¹³⁹

Pakistan was also quite dependent on the international economy. According to Burki, “external resource flows—through export earnings as well as capital transfers—have always been important in view of the [Pakistan’s] very low domestic saving rate.”¹⁴⁰ Starting in the 1970s, migrant remittances also became an increasingly important stabilizer of the Pakistani economy, helping to cover trade deficits spurred by the oil crisis.¹⁴¹ Adams likewise observed in 1985 that, “With an acute shortage of domestic capital, Pakistan relies heavily upon remittances and foreign aid.”¹⁴² In addition to the remittances that flowed in during Zia’s tenure, “American

¹³⁶ Shahid Javed Burki, *Pakistan: Fifty Years of Nationhood* (Boulder, CO: Westview Press, 1999), 106-107.

¹³⁷ Adams, “Pakistan’s Economic Performance in the 1980s,” 55-56.

¹³⁸ Omar Noman, “Pakistan and General Zia: Era and Legacy,” *Third World Quarterly* 11, No. 1 (1989): 30.

¹³⁹ Nawaz, *Crossed Swords*, 360-1

¹⁴⁰ Burki, *Pakistan*, 108-109.

¹⁴¹ Burki, *Pakistan*, 117-118. Also see Noman, “Pakistan and General Zia,” 45.

¹⁴² Adams, “Pakistan’s Economic Performance in the 1980s,” 59.

economic aid and weapons helped to boost the fortunes of his regime,” as did foreign aid from wealthier Muslim countries.¹⁴³

Overall, while Pakistan in the 1980s was not a pure case of a regime adopting an internationalizing economic model, the trajectory was in this direction. Moreover, Pakistan was in fact heavily dependent on international sources of capital. Solingen’s theory, therefore, would likely predict greater nuclear restraint from Pakistan than we actually observe, a difference that this chapter suggests is due the lack of American threat credibility, which undermined its ability to take advantage of Pakistan’s dependence on international aid.

Security Threats

Finally, it is possible that Pakistan faced such severe security threats—in particular a conventionally superior, nuclear-capable India—that Zia (or any other Pakistani leader) would have borne any cost to achieve a nuclear arsenal, regardless of how credible American threats were. However, the specific course of the Pakistani nuclear program from 1980-1998 suggests that Pakistan was not single-mindedly focused on the Indian threat. In particular, the delay in testing and weaponizing makes little sense from a pure security standpoint and requires taking into account Pakistan’s dependence on the United States and the need to comply with the one credible remaining red line in US sanctions legislation.

Were Pakistan solely focused on deterring India at all costs—a country which had already demonstrated its nuclear capability with a test in 1974—one would have expected Pakistan to eagerly test in order to make its capability clear to India. Instead, Pakistan refrained from engaging in nuclear tests for more than a decade because of its dependence on the United States. As Feroz Khan describes, “Actual work on the construction of the Chagai [test] site began

¹⁴³ Rizvi, *Military, State, and Society in Pakistan*, 180-181.

in earnest in 1978...After completion, the Chagai site was left unused until Pakistan's May 1998 hot test. Zia ul-Haq ordered the delay, allowing only cold tests per a deal he had brokered with the Reagan administration in 1981."¹⁴⁴ Even after Pakistan achieved a rudimentary nuclear capability in 1984, rather than deterring India directly it adopted a catalytic nuclear posture that focused on drawing in US intervention to defuse a conflict. As Narang argues, this strategy was chosen by Pakistan in spite of its security environment because "it could not afford a cutoff of American aid, nor the international sanctions that would result if it tested nuclear weapons."¹⁴⁵ Perhaps unsurprisingly, Pakistan's switch to an asymmetric escalation nuclear posture in 1998 significantly increased its deterrent efficacy against India,¹⁴⁶ a change spurred by the US abandonment of Pakistan in the early 1990s, which reduced US leverage over Islamabad.¹⁴⁷

The trajectory of Pakistan's nuclear weapons program thus defies the notion that Pakistani leaders were purely driven by security concerns and therefore immune to external nonproliferation pressure. Rather, the evidence suggests that Pakistan in fact shaped its nuclear program and posture in order to comply with the one red line that remained in US sanctions legislation: the automatic cutoff of aid in response to a nuclear test.

Conclusion

Although Pakistan appears to be an "off-the-line" case with respect to this dissertation's theory, a close examination reveals that it is consistent with the theoretical logic. Pakistan initially was not dependent on the United States and therefore was not effectively coerced by sanctions, once they were made credible in 1976. Once Pakistan became dependent on the

¹⁴⁴ Khan, *Eating Grass*, 184.

¹⁴⁵ Narang, *Nuclear Strategy in the Modern Era*, 70.

¹⁴⁶ Vipin Narang, "Posturing for Peace," 60.

¹⁴⁷ Narang, *Nuclear Strategy in the Modern Era*, 76.

United States due to the Soviet invasion of Afghanistan, the US undermined its nonproliferation credibility by waiving sanctions and therefore was unable to convince Pakistan to halt its nuclear weapons program. However, US efforts did succeed in enforcing the one red line remaining in US legislation vis-à-vis Pakistan: the prohibition from testing. This suggests that had the United States refrained from waiving the sanctions and instead made a large aid offer contingent on Pakistan observing more stringent limits on its nuclear program, it likely would have succeeded in more substantially restraining Islamabad's nuclear developments.

Chapter 8: Conclusion

This dissertation has addressed the puzzle of the declining rate of nuclear proliferation in recent decades. It has argued that this decline is largely attributable to US nonproliferation policy, in particular the credible threat of sanctions that was established in the 1970s. By threatening to withdraw economic and military support from countries pursuing nuclear weapons, the United States dramatically raised the costs of proliferation for states dependent on US resources, deterring a decision to go nuclear by these states through security, domestic, and normative pathways. Because states vulnerable to sanctions are deterred from pursuing nuclear weapons by this policy, observed cases of nonproliferation sanctions should be largely ineffective since they will be targeted at states with little dependence on the United States. Cases where sanctions successes are observed should be confined to states that underestimated the risk of sanctions when they initiated their nuclear weapons programs. The evidence examined in the body of the dissertation supports the theoretical argument: states dependent on the United States have been less likely to pursue nuclear weapons, but only after the development of US sanctions policies in the 1970s. Moreover, this effect largely accounts for the declining rate of nuclear pursuit over time. The evidence also confirms that observed cases of nonproliferation sanctions have largely failed while the Taiwanese case illustrates how the threat of sanctions ended a nuclear weapons program because the proliferating state underestimated the risk of sanctions. Finally, the Pakistan case, while at first glance an outlier with respect the theory, shows that dependence on the United States only brings about nuclear reversal when it is coupled with a credible threat of sanctions.

This dissertation has also offered a theory on the causes of US nonproliferation policy, arguing that fears of nuclear domino effects explain why US policies were strengthened so dramatically from 1964-68 and 1974-78 and why the United States ultimately decided to adopt a universal rather than selective nonproliferation policy. Specifically, the Chinese and Indian nuclear tests of 1964 and 1974 caused fears of nuclear domino effects that convinced US policymakers to abandon a selective approach to nonproliferation. The likelihood of domino effects meant that proliferation could not be contained to individual cases; as a result, while preventing an ally or unaligned state going nuclear may not have been worth the costs on its own, the fact this would in turn lead other, more dangerous states to go nuclear meant that proliferation had to be opposed everywhere. The historical evidence presented in this dissertation provides significant support for the argument: policymakers consistently cited fears of domino effects as motivations for strengthened US nonproliferation policy in the 1960s and 1970s and these fears animated nonproliferation efforts toward individual allied and unaligned states as well in the post-1964 era.

This closing chapter sketches out the implications of these findings both for theory and policy. After discussing the implications, it concludes by identifying questions for future research on nuclear nonproliferation.

Theoretical Implications

The findings in this dissertation have important implications for international relations broadly and the study of nuclear proliferation in particular. First, the findings suggest that specific historical turning points can play a major role in shaping great power policies that in turn exert substantial influence on the international system. The Chinese and Indian tests, occurring at a time when proliferation was in fact accelerating, spurred major advances in US

nonproliferation policy that ultimately had the effect of slowing the rate of proliferation. Other than a narrow focus on hegemonic wars, most theories of international relations afford little role to specific events, instead attributing state behavior to timeless structural imperatives like maximizing relative power, security, prestige, or wealth.¹ However, the findings in this dissertation suggest that it may take a specific historical trigger for states to act on these imperatives. While US nonproliferation policy has always aimed at maximizing US security and protecting the US power position, it took the shocks of the Chinese and Indian test for this objective to be translated into strong, across-the-board policy. In its focus on power and security as core objectives, this dissertation's theory of US behavior is consistent with realist theory; however, its focus on critical events and triggers places it more in the camp of historical institutionalism, which often affords a large role to so-called crucial or critical junctures.²

On the causes of proliferation, the findings suggest we should move beyond focusing on the incentives and capacity to build nuclear weapons and pay more attention to disincentives. While important theoretical works have emphasized the disincentives in terms of negative economic and security externalities,³ sanctions have been largely ignored and systematic

¹ For example, Kenneth Waltz, *Theory of International Politics* (Long Grove, IL: Waveland Press, 1979); Gilpin, *War and Change in World Politics*; Robert Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton, NJ: Princeton University Press, 1984); John Mearsheimer, *The Tragedy of Great Power Politics* (New York: WW Norton and Company, 2001); G. John Ikenberry, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order After Major Wars* (Princeton, NJ: Princeton University Press, 2001); and Charles Glaser, *Rational Theory of International Politics: The Logic of Competition and Cooperation* (Princeton, NJ: Princeton University Press, 2010).

² See, for example, Peter Hall and Rosemary Taylor, "Political Science and the Three New Institutionalisms," *Political Studies* 44, No. 5 (1996): 936-957; Oliver Williamson, "The New Institutional Economics: Taking Stock, Looking Ahead," *Journal of Economic Literature* 38, No. 3 (September 2000): 595-613; Avner Greif and David Laitin, "A Theory of Endogenous Institutional Change," *American Political Science Review* 98, No. 4 (November 2004): 633-652; Giovanni Capocchia and R. Daniel Kelemen, "The Study of Critical Junctures: Theory, Narrative, and Counterfactuals in Historical Institutionalism," *World Politics* 59, No. 3 (2007): 341-369; and Kathleen Thelen, "Historical Institutionalism in Comparative Politics," *Annual Review of Political Science* 2, No. 1 (1999): 369-404.

³ See Solingen, *Nuclear Logics*, and Paul, *Power Versus Prudence*.

empirical testing has been rare.⁴ Moreover, the findings help resolve a puzzle in the nuclear proliferation literature: namely the disconnect between theoretical and qualitative empirical works that emphasize the role of allied security commitments and international trade openness in reducing motivations for nuclear proliferation⁵ and quantitative studies that find these variables to be insignificant.⁶ The findings suggest that international integration and security commitments may inhibit proliferation only to the extent that their continuation is contingent on nuclear abstinence, a condition that arguably did not exist until the advent of U.S. sanctions policies in the late 1970s. The key point is that many states quite rationally may prefer an independent nuclear arsenal, a nuclear ally, *and* an internationally integrated economy. Only when well-established sanctions policies make states choose between a nuclear arsenal and the latter two luxuries should international integration and allied security commitments significantly inhibit proliferation. More broadly, the results suggest the importance of historicizing the study of nuclear proliferation, particularly because the disincentives to pursue nuclear weapons have not been constant over time.

A second theoretical implication for the study of nuclear proliferation is that nuclear domino effects may have failed to materialize largely because of determined efforts to prevent their occurrence by the United States. As illustrated in the body of the dissertation, fears of nuclear domino effects were a crucial motivation for advances in US nonproliferation policy in

⁴ An exception on sanctions is Solingen, *Sanctions, Statecraft, and Nuclear Proliferation*.

⁵ On the role of security commitments, see Betts, "Paranoids, Pygmies, Pariahs & Nonproliferation," Benjamin Frankel, "The Brooding Shadow: Systemic Incentives and Nuclear Weapons Proliferation," *Security Studies* 2, No. 3-4 (1993): 37-78; Sagan, "Why Do States Build Nuclear Weapons?" On the importance of international integration, see Solingen, *Nuclear Logics*.

⁶ See Singh and Way, "The Correlates of Nuclear Proliferation," Jo and Gartzke, "Determinants of Nuclear Weapons Proliferation," and Muller and Schmidt, "The Little Known Story of De-Proliferation." For an exception on security commitments, see Bleek and Lorber, "Security Guarantees and Allied Nuclear Proliferation."

the 1960s and 1970s. These policy changes, in particular the threat of sanctions instituted in the 1970s, have been largely responsible for the declining rate of nuclear pursuit in the last several decades. Fully confirming this implication, of course, would require establishing that nuclear domino effects are real. After all, if nuclear domino effects exist only in the heads of US policymakers, then nonproliferation policies may be preventing proliferation—but proliferation whose causes are unrelated to nuclear domino effects. Despite the recent scholarly consensus that domino effects are nonexistent or overstated, there is significant evidence that at least in the case of the 1964 Chinese nuclear test, domino effects were real and were arrested by US action.⁷ The role of the United States in preventing further proliferation fits with a growing literature in recent years on the processes by which international diffusion occurs or is deliberately inhibited.⁸

Finally, in terms of theoretical implications for the study of sanctions, the findings suggest that sanctions can be effective even in the realm of national security, contrary to popular realist arguments. Thus, while extant research has shown that selection effects understate the true efficacy of sanctions with regard to trade and environmental issues,⁹ we can now extend this argument to the realm of nuclear proliferation where security is more directly at stake. Existing research on sanctions and nonproliferation has recognized that a selection effect may be at play

⁷ See Miller, “Nuclear Dominoes: A Self-Defeating Prophecy?”

⁸ See, for example, Etel Solingen, “Of Dominoes and Firewalls: The Domestic, Regional, and Global Politics of International Diffusion,” *International Studies Quarterly* 56, No. 4 (2012): 631-644; Covadonga Meseguer, “Policy Learning, Policy Diffusion, and the Making of a New Order,” *Annals of the American Academy of Political and Social Sciences* 598, No. 1 (2005): 67-82; Michael Horowitz, *The Diffusion of Military Power: Causes and Consequences for International Politics* (Princeton, NJ: Princeton University Press, 2010); Beth Simmons and Zachary Elkins, “The Globalization of Liberalization: Policy Diffusion in the International Political Economy,” *American Political Science Review* 98, No. 1 (2004): 171-189; and Kristian Skrede Gleditsch and Michael Ward, “Diffusion and the International Context of Democratization,” *International Organization* 60, No. 4 (2006): 911-933.

⁹ Daniel Drezner, “The Hidden Hand of Economic Coercion,” *International Organization* 57, No. 3 (2003): 643-659.

whereby those targeted with sanctions may be the states least vulnerable to their effects, but nonetheless has focused entirely on cases where sanctions were in fact imposed.¹⁰

Policy Implications

Turning to policy implications, three in particular stand out. First, if the aim is to prevent proliferation, then nonproliferation sanctions should continue to be employed by the United States, even though they are unlikely to halt active nuclear weapons programs. After all, the threat of sanctions is credible only to the extent that the United States actually employs them. The importance of credible signals also suggests that recent US decisions to waive sanctions against India and Pakistan in 2001 and sign a major civilian nuclear deal with India in 2006 may reduce the efficacy of sanctions in the future—it should be harder to deter states to the extent that the actual imposition of sanctions is less automatic. On the other hand, both India and Pakistan suffered under years of sanctions prior to reaching this point, and most states cannot count on an exception being made for them. Depending on the importance of relations with the United States, the ‘threat that leaves something to chance’ may be enough. Moreover, although this dissertation has focused on the United States because they have the most extensive nonproliferation sanctions track record, the findings should be generalizable to other important bilateral relations. For example, if China and Russia had credible sanctions policies in the early 1980s, Iran may not have pursued nuclear weapons in the first place.

Second, US international engagement provides critical leverage in the realm of nonproliferation—sanctions deter only states that are dependent on the United States

¹⁰ See Etel Solingen, ed., *Sanctions, Statecraft, and Nuclear Proliferation* (Cambridge: Cambridge University Press, 2012).

economically and/or militarily. In other words, to the extent that the United States reduces its global economic and security commitments, a position that has become more attractive in recent years due to budget crisis and recent experiences in Afghanistan and Iraq, it should expect a corresponding lack of nonproliferation leverage.

Third and finally, gauging the success of sanctions solely by studying cases where they were imposed against states like Iran and North Korea is theoretically misguided; success should not be expected in such cases. In these “adversary” cases where the United States had little relationship with the proliferating state to begin with, multilateral sanctions involving important partners of the proliferating state or inducements (whether in the form of economic assistance or security assurances) are likely to be more effective since the United States has little to threaten in the way of sanctions on its own.

Questions for Future Research

The theory and evidence presented in this dissertation suggest a number of fruitful avenues for future research. This section will briefly discuss four issues that deserve further study: (1) the role of preventive military strikes in limiting proliferation, (2) disaggregating types of nonproliferation sanctions, (3) the strength of various mechanisms through which nuclear domino effects operate, and (4) the generalizability of the theory and findings to Soviet nonproliferation policy during the Cold War.

As discussed in Chapter 2, the use of military force to prevent proliferation is a topic of considerable controversy, complicated further by the outcomes of the US invasion of Iraq in 2003 and current debates over the use of force against Iran. While extant research has largely

focused on the effect of preventive strikes on existing nuclear weapons programs,¹¹ the deterrent effect of sanctions examined in this dissertation raises the possibility that vulnerability to preventive strikes may deter states from starting nuclear weapons in the first place, assuming the threat of military force is credible. While ongoing research is beginning to incorporate the threat of force into a strategic theory of nuclear proliferation, arguing that weak states without allies will be unable to acquire the bomb because of their vulnerability to attack,¹² it overlooks the sources of threat credibility other than relative power. After all, given that preventive force against nuclear programs has been rare, particularly outside the context of an ongoing war—only Iraq and Syria have been targeted by counterproliferation strikes in peacetime—it is worth asking when and why potential proliferators would find the threat of preventive force credible. For example, were Middle Eastern states deterred from proliferating following Israel’s strike on Iraq in 1981 (given Iranian, Libyan, Iraqi, and Syrian proliferation thereafter, the clear answer seems to be no)? Are US adversaries deterred from doing so following the US invasion of Iraq and threats against Iran? To answer these questions, more research on the potential deterrent effects of preventive strikes is needed.

A second avenue for future research involves disaggregating different types of nonproliferation sanctions. While this dissertation has pooled different types of sanctions—whether they be threats of aid cutoffs, trade embargos, financial penalties, or cutoffs of peaceful nuclear cooperation, it is possible that different types of sanctions have different effects and rates of success, both at the threat and imposition stage. Moreover, if this dissertation’s theory is

¹¹ For example, Kreps and Fuhrmann, “Attacking the Atom,” and Malfrid Braut-Hegghammer, “Revisiting Osirak: Preventive Attacks and Nuclear Proliferation Risks,” *International Security* 36, No. 1 (2011): 101-132.

¹² Debs and Monteiro, *Nuclear Politics*.

correct, multilateral sanctions should be more effective against states outside the US sphere like recent proliferators such as Iran and North Korea.¹³

A third topic for future research would examine the multiple different mechanisms through which nuclear domino effects can operate and analyze the strength of each and the conditions under which they are likely to occur. As discussed in Chapter 2, there are a wide variety of pathways through which domino effects can conceivably function, yet the extant literature has largely overlooked this, tending to focus solely on the security mechanism whereby domino effects occur when a rival proliferates.¹⁴ To what extent does reactive proliferation occur simply because it seems more politically or technically feasible once there is a new entrant to a nuclear club? How big of a role does technological assistance from new nuclear states play? Do new nuclear states that refrain from testing spur weaker domino effects by minimizing the strength of prestige and domestic political motives to reactively proliferate?

Finally, a fourth research question would explore the extent to which the motives and effects of US nonproliferation policy are mirrored in Soviet policy during the Cold War. Was Soviet nonproliferation policy similarly motivated by fears of nuclear domino effects and did the Chinese and Indian nuclear tests have similar effects on Soviet policy? Was the Soviet Union able to deter proliferation in its own sphere of influence much like the United States did?

The theory and findings in this dissertation represent only a modest step toward a better understanding of the origins and efficacy of great power nonproliferation policy. Given the

¹³ On multilateral vs. unilateral sanctions, see Daniel Drezner, "Bargaining, Enforcement, and Multilateral Sanctions: When is Cooperation Counterproductive?" *International Organization* 54, No. 1 (2000): 73-102; Navin Bapat and T. Clifton Morgan, "Multilateral versus Unilateral Sanctions Reconsidered: A Test Using New Data," *International Studies Quarterly* 53, No. 4 (2009): 1075-1094; and Lisa Martin, "Credibility, Costs, and Institutions: Cooperation on Economic Sanctions," *World Politics* 45, No. 3 (1993): 406-432.

¹⁴ Most recently, see Bleek, "Does Proliferation Beget Proliferation?"

urgency and importance of efforts to prevent the further spread of nuclear weapons, this dissertation will hopefully serve as a springboard for future work on the topic.

Appendix

Robustness Checks, Part 1

	ReLogit	Probit	LPM	LPM + Country Fixed Effects
Dependence Score	0.481 (0.301)	0.232 (0.109)*	0.001 (0.001)	0.001 (0.002)
Post-1976 Dummy	2.572 (1.509)	1.027 (0.493)*	0.009 (0.005)	0.007 (0.008)
Dependence Score * Post 76	-1.426 (0.573)*	-0.642 (0.213)**	-0.004 (0.002)*	-0.005 (0.002)*
NCA	0.066 (0.042)	0.011 (0.015)	-0.000 (0.000)	-0.000 (0.000)
NCA * Past MIDs	0.036 (0.020)	0.020 (0.007)**	0.000 (0.000)	0.000 (0.000)
Past MIDs	0.308 (0.089)**	0.158 (0.033)**	0.009 (0.002)**	0.005 (0.003)
GDP per Capita	0.000 (0.000)	0.000 (0.000)*	0.000 (0.000)	-0.000 (0.000)
Industrial Capacity Threshold	1.544 (0.667)*	0.706 (0.252)**	0.010 (0.004)*	0.011 (0.006)
GDP per Capita Squared	-0.000 (0.000)	-0.000 (0.000)*	-0.000 (0.000)	-0.000 (0.000)
Polity Score	0.007 (0.048)	-0.004 (0.017)	-0.000 (0.000)	-0.000 (0.000)
Nuclear Ally	-0.210 (0.698)	0.062 (0.224)	0.002 (0.002)	0.006 (0.004)
Interstate Rivalry	1.544 (0.864)	0.491 (0.275)	-0.000 (0.002)	0.003 (0.006)
Trade Openness	0.001 (0.011)	-0.001 (0.004)	0.000 (0.000)	-0.000 (0.000)
Change in Polity Score	-0.101 (0.080)	-0.030 (0.028)	-0.000 (0.000)	-0.000 (0.000)
Change in Trade Openness	0.032 (0.013)*	0.007 (0.005)	0.000 (0.000)	0.000 (0.000)
No Proliferation Years	-0.008 (0.023)	0.001 (0.008)	0.000 (0.000)	0.001 (0.000)**
Constant	-8.851 (1.368)**	-4.497 (0.512)**	-0.007 (0.003)*	-0.009 (0.006)
N	5,156	5,156	5,156	5,156

* $p < 0.05$; ** $p < 0.01$

Robustness Checks, Part 2

	Economic Dependence	Military Dependence	Dependence Score + US Alliance
Economic Dependence	0.627 (0.471)		
Post-1976 Dummy	0.991 (1.320)	1.841 (1.325)	1.630 (1.412)
Economic Dependence * Post-76	-2.273 (1.038)*		
Military Dependence		0.745 (0.554)	
Military Dependence * Post-76		-2.373 (0.908)**	
Dependence Score (+Alliance)			0.292 (0.219)
Dependence (+Alliance) * Post-76			-1.010 (0.438)*
NCA	0.035 (0.045)	0.047 (0.041)	0.042 (0.043)
NCA * Past MIDs	0.049 (0.018)**	0.046 (0.019)*	0.047 (0.019)*
Past MIDs	0.277 (0.075)**	0.334 (0.090)**	0.305 (0.079)**
GDP per Capita	0.000 (0.000)	0.001 (0.000)*	0.000 (0.000)
Industrial Capacity Threshold	1.739 (0.736)*	1.472 (0.675)*	1.562 (0.680)*
GDP per Capita Squared	-0.000 (0.000)*	-0.000 (0.000)**	-0.000 (0.000)*
Polity Score	-0.007 (0.047)	0.007 (0.044)	0.003 (0.047)
Nuclear Ally	0.043 (0.675)	-0.033 (0.684)	-0.072 (0.667)
Interstate Rivalry	1.755 (0.861)*	1.666 (0.869)	1.756 (0.879)*
Trade Openness	-0.006 (0.012)	-0.004 (0.011)	-0.004 (0.012)
Change in Polity Score	-0.091 (0.073)	-0.103 (0.081)	-0.103 (0.085)
Change in Trade Openness	0.026 (0.015)	0.023 (0.013)	0.023 (0.013)
No Proliferation Years	-0.001 (0.022)	0.004 (0.021)	0.001 (0.022)
Constant	-9.134 (1.340)**	-9.699 (1.041)**	-9.369 (1.172)**
<i>N</i>	5,156	5,300	5,156

* $p < 0.05$; ** $p < 0.01$

Robustness Checks, Part 3

	1973 Cutoff	1970 Cutoff	1964 Cutoff	1978 Cutoff
Dependence Score	0.542 (0.311)	0.782 (0.400)	0.115 (0.251)	0.360 (0.264)
Post-1973 Dummy	1.860 (1.508)			
Dependence Score * Post-73	-1.614 (0.589)**			
Post-1970 Dummy		3.020 (1.370)*		
Dependence Score * Post-70		-1.442 (0.568)*		
Post-1964 Dummy			0.611 (1.057)	
Dependence Score * Post-64			-0.262 (0.379)	
Post-1978 Dummy				1.433 (1.726)
Dependence Score * Post-78				-2.429 (0.786)**
NCA	0.055 (0.050)	0.035 (0.037)	0.008 (0.042)	0.055 (0.065)
NCA * Past MIDs	0.037 (0.019)*	0.039 (0.020)*	0.059 (0.019)**	0.039 (0.022)
Past MIDs	0.342 (0.092)**	0.383 (0.121)**	0.264 (0.093)**	0.326 (0.071)**
GDP per Capita	0.001 (0.000)	0.000 (0.000)	0.001 (0.000)	0.000 (0.000)
Industrial Capacity Threshold	1.624 (0.670)*	1.530 (0.729)*	1.367 (0.744)	1.740 (0.645)**
GDP per Capita Squared	-0.000 (0.000)*	-0.000 (0.000)*	-0.000 (0.000)*	-0.000 (0.000)
Polity Score	-0.002 (0.050)	-0.019 (0.048)	-0.012 (0.044)	0.031 (0.046)
Nuclear Ally	-0.102 (0.664)	0.074 (0.658)	0.322 (0.657)	-0.322 (0.711)
Interstate Rivalry	1.714 (0.923)	1.608 (0.874)	1.709 (0.827)*	1.663 (0.880)
Trade Openness	-0.000 (0.012)	-0.005 (0.012)	-0.013 (0.012)	-0.001 (0.010)
Change in Polity Score	-0.099 (0.088)	-0.101 (0.077)	-0.097 (0.072)	-0.107 (0.078)
Change in Trade Openness	0.022 (0.012)	0.024 (0.012)*	0.027 (0.014)	0.026 (0.013)*
No Proliferation Years	0.020 (0.029)	-0.003 (0.020)	-0.017 (0.017)	0.043 (0.033)
Constant	-10.296 (1.499)**	-10.780 (2.047)**	-8.405 (1.368)**	-9.903 (1.199)**
N	5,156	5,156	5,156	5,156

* $p < 0.05$; ** $p < 0.01$

Robustness Checks, Part 4

	Exploration DV	Jo and Gartzke DV	Ongoing Nuclear Program DV	Way 2012 DV
Dependence Score	-0.085 (0.297)	0.557 (0.488)	0.203 (0.170)	0.568 (0.292)
Post-1976 Dummy	0.544 (1.202)	2.435 (1.931)	2.391 (0.810)**	1.618 (1.462)
Dependence Score * Post 76	-1.302 (0.587)*	-2.000 (0.747)**	-1.794 (0.421)**	-1.223 (0.492)*
NCA	0.077 (0.044)	0.127 (0.054)*	0.072 (0.018)**	0.038 (0.045)
NCA * Past MIDs	0.044 (0.033)	0.006 (0.023)	0.076 (0.020)**	0.032 (0.021)
Past MIDs	0.156 (0.101)	0.345 (0.111)**	0.187 (0.079)*	0.367 (0.099)**
GDP per Capita	0.001 (0.000)**	0.001 (0.000)	0.000 (0.000)*	0.001 (0.000)
Industrial Capacity Threshold	0.571 (0.874)	1.733 (0.806)*	1.623 (0.690)*	1.456 (0.738)*
GDP per Capita Squared	-0.000 (0.000)**	-0.000 (0.000)**	-0.000 (0.000)	-0.000 (0.000)*
Polity Score	-0.053 (0.051)	-0.020 (0.060)	-0.104 (0.050)*	-0.017 (0.051)
Nuclear Ally	-0.460 (0.737)	-0.374 (0.802)	0.947 (0.533)	0.059 (0.688)
Interstate Rivalry	1.698 (0.754)*	3.019 (1.071)**	1.516 (0.594)*	1.635 (0.858)
Trade Openness	0.003 (0.010)	-0.017 (0.022)	0.010 (0.005)*	-0.003 (0.012)
Change in Polity Score	0.011 (0.052)	0.116 (0.053)*	-0.037 (0.052)	-0.021 (0.056)
Change in Trade Openness	-0.009 (0.012)	0.045 (0.022)*	-0.008 (0.009)	0.019 (0.013)
No Proliferation Years	-0.022 (0.024)	0.025 (0.033)	-0.344 (0.055)**	0.017 (0.024)
Constant	-7.609 (1.491)**	-11.774 (1.814)**	-5.861 (0.852)**	-10.364 (1.591)**
<i>N</i>	4,950	5,162	5,356	5,160

* $p < 0.05$; ** $p < 0.01$

Robustness Checks, Part 5

	100 Troop Threshold	1000 Troop Threshold	Dependence Score w/o Troops measure	Adding t, t ² , t ³
Dependence Score	0.329 (0.375)	0.341 (0.395)	0.522 (0.348)	0.500 (0.287)
Post-1976 Dummy	1.514 (1.372)	1.467 (1.363)	1.402 (1.342)	3.315 (1.408)*
Dependence Score * Post 76	-1.572 (0.595)**	-1.581 (0.588)**	-1.709 (0.686)*	-1.401 (0.526)**
NCA	0.039 (0.047)	0.041 (0.046)	0.038 (0.045)	0.043 (0.049)
NCA * Past MIDs	0.051 (0.018)**	0.052 (0.018)**	0.050 (0.017)**	0.043 (0.015)**
Past MIDs	0.293 (0.085)**	0.291 (0.090)**	0.301 (0.081)**	0.410 (0.111)**
GDP per Capita	0.000 (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Industrial Capacity Threshold	1.510 (0.699)*	1.505 (0.708)*	1.665 (0.704)*	1.630 (0.700)*
GDP per Capita Squared	-0.000 (0.000)*	-0.000 (0.000)*	-0.000 (0.000)*	-0.000 (0.000)*
Polity Score	0.012 (0.051)	0.010 (0.052)	-0.000 (0.048)	0.029 (0.055)
Nuclear Ally	-0.128 (0.686)	-0.117 (0.653)	-0.081 (0.673)	-0.099 (0.749)
Interstate Rivalry	1.812 (0.913)*	1.770 (0.923)	1.690 (0.881)	1.609 (0.892)
Trade Openness	-0.004 (0.011)	-0.004 (0.012)	-0.004 (0.012)	-0.007 (0.014)
Change in Polity Score	-0.109 (0.077)	-0.110 (0.077)	-0.098 (0.078)	-0.104 (0.078)
Change in Trade Openness	0.024 (0.013)	0.024 (0.014)	0.024 (0.014)	0.035 (0.018)*
No Proliferation Years	0.003 (0.025)	0.001 (0.024)	-0.002 (0.024)	0.131 (0.278)
No Proliferation Years ²				0.003 (0.014)
No Proliferation Years ³				-0.000 (0.000)
Constant	-9.210 (1.395)**	-9.143 (1.410)**	-9.356 (1.227)**	-12.069 (2.565)**
N	5,156	5,156	5,156	5,156

* $p < 0.05$; ** $p < 0.01$

Robustness Checks, Part 6

	COW Trade Data	Average of COW + Gleditsch Trade Data	Singh and Way 2004 DV	Controlling for Past MID's with China and USSR
Dependence Score	0.479 (0.357)	0.542 (0.299)	0.451 (0.396)	0.629 (0.313)*
Post-1976 Dummy	2.147 (1.740)	2.808 (1.502)	2.893 (1.641)	3.668 (1.657)*
Dependence Score * Post 76	-1.596 (0.709)*	-1.873 (0.693)**	-1.284 (0.579)*	-2.047 (0.601)**
NCA	0.050 (0.042)	0.052 (0.042)	0.071 (0.030)*	0.043 (0.051)
NCA * Past MID's	0.047 (0.015)**	0.034 (0.020)	0.020 (0.024)	0.053 (0.032)
Past MID's	0.307 (0.079)**	0.338 (0.088)**	0.312 (0.092)**	0.556 (0.233)*
GDP per Capita	0.001 (0.000)**	0.000 (0.000)*	0.001 (0.000)	0.001 (0.000)**
Industrial Capacity Threshold	1.522 (0.614)*	1.676 (0.664)*	1.853 (0.700)**	1.326 (0.699)
GDP per Capita Squared	-0.000 (0.000)**	-0.000 (0.000)*	-0.000 (0.000)**	-0.000 (0.000)**
Polity Score	0.017 (0.052)	0.009 (0.049)	0.007 (0.054)	-0.017 (0.044)
Nuclear Ally	-0.527 (0.772)	-0.117 (0.702)	-0.237 (0.709)	0.473 (0.719)
Interstate Rivalry	1.711 (0.968)	1.692 (0.856)*	2.583 (1.165)*	1.379 (0.898)
Trade Openness	-0.019 (0.013)	-0.003 (0.011)	-0.009 (0.019)	-0.006 (0.016)
Change in Polity Score	-0.114 (0.098)	-0.103 (0.082)	-0.044 (0.070)	-0.127 (0.076)
Change in Trade Openness	0.041 (0.013)**	0.026 (0.013)	0.026 (0.021)	0.029 (0.019)
Past MID's with China				1.018 (0.351)**
Past MID's with USSR				-0.871 (0.389)*
No Proliferation Years	0.003 (0.026)	0.003 (0.024)	-0.010 (0.021)	0.003 (0.029)
Constant	-9.242 (1.390)**	-10.003 (1.319)**	-10.366 (1.514)**	-12.329 (1.893)**
N	4,748	5,281	5,193	4,786

* $p < 0.05$; ** $p < 0.01$

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