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THE INADVERTENT EFFECT OF ASSURANCE ON NUCLEAR PROLIFERATION

by

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Biography

Commander Christopher G. Bohner is a U.S. Navy submariner assigned to the Air War College, Air University, Maxwell AFB, AL. He graduated from North Carolina State University in 1996 with a Bachelor of Science degree in Electrical Engineering, and the Massachusetts Institute of Technology in 2003 with a Masters of Science degree in Oceanographic Engineering jointly conferred by the Woods Hole Oceanographic Institute. Following initial training, he reported aboard the USS HARTFORD (SSN 768), where he qualified in submarines and served in various division officer positions. Subsequent sea tours included USS HARTFORD as Navigation and Operations Officer, USS ALBUQUERQUE (SSN 706) as Engineer Officer and USS ALASKA (SSBN 732)(GOLD) as the Executive Officer. He has been selected for Command at Sea of a submarine upon graduation from the Air War College.

Abstract

This paper examines the potential for assurance guarantees to drive nuclear proliferation. In their quest to better understand nuclear nonproliferation, scholars often isolate their analytic focus to the effectiveness of assurances at preventing an ally's acquisition of nuclear weapons and do not consider how these assurances can simultaneously compel an adversary to proliferate. Assurance of the ally can exacerbate a security dilemma between the U.S. and an adversary to a point that increases an ally's incentive to possess a nuclear weapon. Paradoxically, this could then mean that an initially effective assurance guarantee can compel the assurer to invest even more time and resources into assuring the ally to further nonproliferation ad infinitum. This paper provides a deductive evaluation of existing nonproliferation models and then demonstrates the argument through historical analysis of U.S. policy decisions on the U.S.-Japan and U.S.-India alliances. A discussion on the application behavioral economics in national decision making is proposed to explain why the U.S. responds to allies that are notoriously insecure about our commitment to their defense.

Introduction

"Gentlemen, we have run out of money; now we have to think."
Sir Winston Churchill

There is general consensus among many world leaders that preventing nuclear proliferation is a top international security challenge of the 21st century. Despite this priority, however, the causal dynamics of proliferation and nonproliferation are not well understood.[1] Intuitively, when a nuclear weapon state (NWS) extends a security assurance to an ally it may also compel their adversary to proliferate and therefore cause the ally to feel even more threatened than before. Unfortunately, scholars tend to artificially constrain assurance discussions to the ally and therefore often arrive at the wrong conclusions of their effect on nuclear proliferation. According to conventional wisdom, assurance of an ally furthers their nonproliferation because the combination of the extended nuclear umbrella and a state's normative desire to be viewed and treated favorably by the international community dissuades nuclear weapons development.[2] Conversely, conventional wisdom holds that if assurance of an ally fails to prevent their proliferation, it is because the nuclear umbrella cannot be trusted or a state's domestic interests for pursuing a nuclear weapon far outweigh the influencing value of any assurance guarantee whatsoever.[3]

This paper examines the potential for assurance to drive nuclear proliferation. Assurance and deterrence can be thought of as two sides of the nuclear proliferation coin: alliances and security arrangements, such as an extended nuclear umbrella or ballistic missile defense (BMD), are meant simultaneously to deter adversaries from attacking the vital interests of allies and to assure allies that any need they might have for nuclear weapons has already been addressed. Ridging the coin's edge are the often biased diplomatic and economic assurances that spawn

from these alliance arrangements, such as improved international prestige or access to legitimate civilian nuclear power technology. These assurances of the ally can exacerbate regional security dilemma to the point where at some point in the future, the ally may foreswear nuclear restraint because of the proliferating effect the present assurance guarantee had on their adversary. Paradoxically, following such a response by an adversary, the assurer may be compelled to invest even more time and resources into assuring the ally to further nonproliferation. So why does an ally fail to consider that while they feel insecure now, receiving additional military support from a world power such as the U.S. will only make them a bigger target in the future, which makes them even less secure? Why do neither the leaders of the assuring state, nor those of the assured state, take heed of the obvious potential "boomerang effect" where actions taken by the assurer, aimed at influencing an ally, may simultaneously agitate an adversary?

In their quest to better understand nuclear nonproliferation, scholars tend to constrain their analytic focus to the effectiveness of assurances at ameliorating alliances and, consequently, they undervalue how these assurances may compel an adversary to proliferate. In examining this proliferation dynamic, U.S. foreign policy decisions with Japan and India are analyzed to demonstrate how assurance guarantees weakened regional nonproliferation efforts. Second, nonproliferation literature is examined to expose how scholars artificially constrain the determinants of assurance effectiveness to the ally while largely ignoring its effect on adversaries. Third, a discussion on behavioral economics is offered to explain why national security decision-makers hastily respond to allies who are evidently unconvinced of U.S. resolve. In conclusion, U.S foreign policy recommendations that further nonproliferation vis-à-vis both allies and adversaries are presented within the context of behavioral economic principles.

Assurance Can Drive Nuclear Proliferation

In nuclear proliferation literature, there are academic scholars that examine security assurance in international relations theory and there are regional scholars that evaluate the effectiveness of U.S. security assurance in different countries, but neither discusses the failure of assurance in restraining nuclear proliferation because of the security dilemma it can exacerbate. What is missing is an ex post facto assessment of ally assurances that can drive adversaries to proliferate in response. This unintended response increases the perceived threat by the ally, which can subsequently drive their future nuclear weapons development. A deductive evaluation of U.S. policy decisions on the U.S.-Japan and U.S.-India alliances illustrates the nature of this proliferation dynamic.

Proliferation in North East Asia

Since WWII, U.S. security assurances have stoked Japan's frequently debated desire for nuclear weapons. Much of the scholarly thought on Japanese security strategy claims that when Japan feels threatened, they immediately look to the U.S. to reaffirm its commitment to their defense – and the U.S. immediately responds in kind. [4] The U.S. security assurances extended to Japan in the early 1960s may have provoked China, spurring their proliferation more as a function of the (historical) Japanese threat than the Soviets. In 1960, the Treaty of Mutual Cooperation and Security between the U.S. and Japan granted the U.S. military basing rights within Japan in return for security.[5] By 1963, both were exercising joint military planning options in the region to stem the "rise of the Communist power in China" while supporting the "Republic of [Taiwan]."[6] Shortly thereafter, China announced in October 1964 that it had detonated a nuclear weapon "in the face of the ever increasing nuclear threats from the United States."[7] Japan immediately sought security assurances from the U.S. while debating the

development of an indigenous nuclear weapon.[8] A similar series of events would again unfold in 1995 in the aftermath of the North Korean nuclear crisis and further nuclear testing by China. In this debate, however, the prospect of more nuclear weapon states in the region following the expected expiration of the Non-Proliferation Treaty (NPT) in 1995 may have been the determinant factor in tension with Japan's desire to remain non-nuclear.

U.S. security assurances consisting of military hardware aimed at deterring North Korea may have provoked China's proliferation, which in turn compelled Japan to reconsider its choice to remain non-nuclear. Although little documentation of Chinese military strategy exists, their accelerated modernization and deployment of sophisticated missiles in large numbers opposite the Taiwan Strait clearly indicated their objective to defend challengers of Taiwan's unification. Any foreign ballistic missile defense system within the reach of Taiwan would challenge this objective. In February 2005, the U.S. and Japan issued their first ever joint statement on the strategic objectives of the alliance, which included the peaceful resolution of the Taiwan issue.[9] What unnerved China most was Japan's eagerness to deepen the alliance with military hardware.[10] By October 2005, the U.S. and Japan reshaped the alliance by expanding major troop deployments, more joint exercises, and the development of regional ballistic missile defenses (BMD).[11] In 2006, notable events such as the basing of a nuclear powered aircraft carrier and deployment of Patriot Advanced Capability-3 missiles in Japan placed the U.S. pivot towards Asia on China's front doorstep.[12] In response, China's military budget doubled overnight despite steady Gross Domestic Product (GDP) growth.[13] Moreover, China's space intercept of a defunct weather satellite, fielding of advanced BMD countermeasures, and inadvertent disclosure of tunnels hiding a growing nuclear arsenal indicated the Asian welcome mat was not out. Concerned over the darkening shadow of China's nuclear arsenal, Japan

subsequently expressed a desire to exercise some control over U.S. nuclear weapon strategy; a desire which could complicate future regional security.[14] This shift in Japan's perceived salience of a nuclear arsenal induces further uncertainty into an all-important question: will Japan's future debates conclude with "no" for an indigenous nuclear weapon?

Proliferation in South Asia

Similarly, by fuelling the security dilemma between India and Pakistan, U.S. security assurances towards India can also be seen as a factor undermining international nonproliferation goals.[15] The conventional wisdom on South Asian nuclear proliferation says India built a nuclear bomb for security and international prestige, and Pakistan built the bomb because of India.[16] The causal logic continues that if India does something to improve its security, then Pakistan will counter in kind. U.S. foreign policy in 2005 marked the pivot towards Asia with expansive security assurances to both the U.S.-Japan and U.S.-India alliances that included, among other things, conventional nuclear power and missile defense cooperation for both nations.[17] In July 2005, the U.S. opened the door for nuclear enterprise by announcing "we will work to achieve full civil nuclear energy cooperation with India."[18] Seeking a similar door, Pakistan President Gen. Pervez Musharraf confirmed for the first time that Dr. A. Q. Khan provided P-1 centrifuges to North Korea for uranium enrichment, but insisted their nuclear bomb design was from "somewhere else - not from Pakistan."[19] Two weeks later, the Pakistani Ambassador to the U.N. called upon the U.S. to extend the same nuclear deal to Pakistan before "Pakistan has to start taking extraordinary measures to ensure a capability for deterrence and defense."[20] With the war in Afghanistan, China vocally objected to being "encircled by U.S. influence" and seized the opportunity to push back against the U.S. pivot by negotiating with Pakistan to build 8 new reactors – at a time when the U.S was critical of Pakistan's expanding

fissile material while debating legislative changes for the Indian nuclear deal.[21] In response, Pakistan frustrated U.S. nonproliferation efforts in 2006 by openly opposing U.N. sanctions against Iran by stating "Iran has the right to pursue nuclear technology for peaceful purposes."[22] Furthermore, their lone defiant stance in blocking the Fissile Material Cutoff Treaty (FMCT) at the Conference on Disarmament (CD) in Geneva clearly indicates their strategic desire to continue nuclear weapon development, independent of international resolve, because they believe it targets only Pakistan.[23]

Nuclear Proliferation Dynamics

Scholars examine how assurance guarantees may or may not succeed in influencing the ally by analyzing the quality of the signal being sent by the assurer, but exclude analysis that even if the assurance guarantee is effective, perhaps too much so, it can provoke the adversary and in turn undermine the effectiveness of that initial assurance guarantee.

Assurance Furthers Nonproliferation

Assurance of an ally furthers their nonproliferation because the extended nuclear umbrella or a state's normative desire to be viewed and treated favorably by the international community dissuades nuclear weapons development.[24] Tatsumi and Schoff suggest the best strategy to continue dissuading Japan from going nuclear, despite growing nuclear threats from China and North Korea, is to continue strengthening the credibility of U.S. security assurances.[25] Sagan agrees, but concludes any U.S. assurance will become increasingly less reliable in a multipolar world since the ally would be able to choose from an assortment of assurers.[26] Knopf qualifies the argument by asserting the effectiveness of this assurance depends on how the assured state rationalizes the security value of an indigenous nuclear weapon against the

international political cost of ignoring the Non-Proliferation Treaty (NPT).[27] Their strategies assume the persuasive resolve of the assurer is the determinant factor in nonproliferation decision, but this strategy can send mixed signals to their adversaries. Schoff posits the U.S. and its allies can do little to stop China's nuclear modernization, yet he acknowledges that U.S. ballistic missile defense is likely the reason for the modernization that Japan fears.[28] Chanlett, Cooper and Manyin also stress the continued need for ballistic missile defense in Japan to defend against North Korea despite Beijing's regular complaints against any indication that Japan is strengthening its defensive capabilities to defend Taiwan.[29] Nevertheless, their policy recommendations to Congress narrowly focus on assurances that bolster the Japanese alliance instead of regional security.[30] Alagappa suggests the increased nuclear posturing between the U.S. and China ultimately provides stability in East Asia, but emphasizes that Japan's increased pressure to control the salience of the U.S. extended deterrent could intensify security dilemmas in North East Asia.[31] These policy dilemmas suggest the determinants of assurance effectiveness focus on ameliorating alliances while marginalizing regional security dilemmas.[32]

Some scholars underestimate how assurance can drive regional proliferation. Rajagopalan contends the U.S.-India nuclear deal, while important in restraining South Asian proliferation by bring India's nuclear weapons complex under International Atomic Energy Agency (IAEA) safeguard controls, allowed India to expand its nuclear arsenal.[33] Kerr and Nikitin likewise assert the agreement, along with favorable decisions by the Nuclear Suppliers Group (NSG), provided India access to the international uranium market, permitting their indigenous stockpiles to be used for weapon production.[34] Their assumption is U.S. assurances constrain Indian proliferation, but do not consider its unintended effect on Chinese and Pakistani proliferation – the world's fastest proliferators. Kronstadt's 2012 report on Pakistan highlights

the policy dilemma this deal has imposed as the U.S. sought sanctions against China for a similar deal in Pakistan.[35] Paradoxically, Kerr's 2012 report on India contradicts Kronstadt's assessment that "harmonizing export controls [have] played a key role in U.S. counter- and non-proliferation policies" in South Asia.[36] Khan and Lavoy, however, clearly point out that as India's nuclear capabilities increase, so does Pakistan's.[37] This seeming disconnect between regional scholars suggests national decision-makers could better achieve nonproliferation goals by broadly fusing these nuanced insights of regional security dilemma and proliferation dynamics into a coherent policy strategy.

Assurance Does Not Further Nonproliferation

Another view holds that assurance of an ally does not further their nonproliferation because the nuclear umbrella cannot be trusted or a state's domestic interests for forswearing, or pursuing, nuclear weapons far outweigh the influencing value of any assurance guarantee whatsoever.[38] A strain of this nonproliferation thought assumes that many states forego nuclear weapons because they want to be viewed as "good international citizens" within the nonproliferation regime.[39] Rublee argues that a security guarantee by itself does not lead to nuclear forbearance, but rather a "transformed view of security, one in which nuclear weapons are devalued rather than valued" by society.[40] Solingen dismisses assurance as a determinant in nonproliferation by arguing the political strategy of domestic elites dominates a state's decision to develop nuclear weapons.[41] In contrast, international attention to nonproliferation can also raise the perceived value nuclear weapons, compelling non-nuclear weapon allies to secure the ultimate security guarantee of an indigenous nuclear weapon.[42] In an anarchic, self-help world, how can you be assured that your ally today will not be your enemy tomorrow?[43] Green and Furukawa contend the Japanese debate over a nuclear option in the late 1960s was dominated

more by discussions of how not to appear as a "second-tier nation" with a "first-class economy" before the NPT was ratified by the world, and less because of China's detonation of a nuclear weapon.[44] Moreover, just because a state ratifies the NPT does not mean it has foresworn nuclear weapons because legitimate access to civilian nuclear power technology could be transformed into a nuclear weapons program – all that is required is a transformed view of their future security.[45] U.S. policy-makers must also transform their cultural view of the world to remain relevant and agile in combating nuclear proliferation. U.S. military leaders were slow to recognize how a nuanced understanding of regional cultural norms of security and their coherent application in policy was vitally important to achieving strategic objectives in Iraq and Afghanistan. If assurances, or any other U.S. diplomatic efforts, are to be successful in furthering national nonproliferation objectives, then U.S. policy-makers, just like their military leaders, must first reconcile their cultural differences with allies before developing a coherent nonproliferation strategy.

Reconciling Seemingly Incoherent Nonproliferation Policy Decisions

Allies are notoriously insecure about our commitment to their defense. It was harder for the U.S. to assure Berlin of our commitment to their defense than it was to deter Moscow, just as Chinese officials now quizzically ponder why the U.S. would want to swap Los Angeles for Taipei. In an uncertain and multi-polar world containing proliferating nuclear weapon states, the inextricable linkage between nuclear deterrence and assurance will continue to grow in importance – and so will the demand for tangible assurance from U.S. allies.[46] Deterrence involves getting inside the mind of an enemy, whereas assurance involves getting inside the mind of a friend and convincing him that you will use all means at your disposal, and even put

your own vital interests at risk, to defend him. Tangible assurance, by its very nature, implies more than words when defining commitment. The U.S. must inevitably commit national treasure towards physical manifestations that demonstrate our resolve because commitment, not unlike love and deterrence, is an abstract concept that is hard to demonstrate convincingly in the eyes of an ally. This could explain why U.S. policy circles appear to artificially constrain assurance discussions to the ally while overlooking the adversary, because signaling our commitment to the ally must be visible, tangible, and immediate to attain U.S. objectives. Unfortunately, when adversaries respond to these "lovely" assurances, allies will likely fixate on securing even more assurances to allay their growing fears.

Security commitments can often result in a discount on a state's future security because politicians rarely look that far into the future when making decisions. Political leaders, in particular, are motivated to secure tangible commitments from allies because it can bolster their state's international prestige and legitimacy – and the domestic support of their constituency for re-election. There is a formidable body of literature on the study of behavioral economics that examines the psychology of how people rationalize immediate and delayed consequences – and why people seem to discount future benefits in favor of immediate gratification. Assurance decisions are no different. The potential value of these studies in explaining (and improving) national security decision making can be seen in the argument forwarded by Elster and Loewenstein:

> Many of our most urgent national problems suggest a widespread lack of concern for the future. Alarming economic conditions, such as low national savings rates, declining corporate investment in long-term capital projects, and ballooning private and public debt are matched by such social ills as diminished educational achievement, environmental degradation, and high rates of infant mortality, crime, and teenage pregnancy. At the heart of all these troubles lies an important behavioral phenomenon: in the role of consumer, manager, voter, student, or parent, many Americans choose inferior but immediate rewards over greater long-term benefits.[47]

While a nuanced understanding of the underlying cultural differences between allies and adversaries is important in bounding their security dilemma, an even more nuanced appreciation of the decision strategies of all parties involved is vitally important in resolving their dilemma long-term. Hastie and Dawes work on "how" people make choices categorically dissects major decision strategies by the mental effort required to arrive at a decision, the compensations expected by the decision, the partisanship of competing solution sets, and the exhaustive inclusion of choices within the decision space.[48] Their findings conclude that diverse people in very different situations often "think about" their decisions in the same way, but more important than their cultural biases, cognitive limitations within their "thinking skills" in reconciling the cause-effect or risk-reward of their decisions, particularly when making decisions that are unlike those they are use to making within their social evolution, often result in choices that are far from optimal.[49] Thus, with so many issues vying for political attention, it is easy to see how insufficient dwell time to think through a security dilemma, partisan politics or the exclusion of a diverse (or competing) set of authoritative experts may limit the critical thought of elected officials to only the first-order effects of an alliance decision. Similar parallels can be drawn within the analytic approaches undertaken by nuclear proliferation scholars. Many of the regional scholars go to great length detailing "how" a state's history and culture can explain why they arrived at a nonproliferation decision, but little is discussed as to "how" the decision strategies of a state's elite constrained their decision space. Similarly, some scholarly works on assurance and proliferation dynamics tend to narrowly focus on "how" the signal being sent to the ally furthered their nonproliferation, and less on "how" the ally's decisions were formulated within the context of any potential future response from an adversary. While scholars agree that no one theory by itself is correct, the multiple nuanced, albeit artificially constrained, threads of

nuclear proliferation thought often translate into narrow, biased, and seemingly incoherent political decisions that tend to compensate the ally in lieu of resolving the regional security dilemma with their adversary. In contrast to the realities of politics, their collective expertise on nuclear proliferation dynamics and regional security dilemma could be broadly integrated into a coherent U.S. national security decision making processes, thereby improving the effectiveness of nuclear nonproliferation strategies. Nevertheless, there are several policy principles that should be integrated into U.S. national decision making processes to improve the effectiveness of nuclear nonproliferation strategies while minimizing the potential for proliferation by adversaries.

- Resolve regional security dilemma while avoiding favoritism or double standards. For example, Pakistan's rapid nuclear proliferation in close proximity to extremist elements and its unstable relationship with India are a major U.S. concern. Despite massive amounts of aid over the year, Islamabad remains distrustful of the U.S. because of our erratic interest in the region. Remembering their experiences in Afghanistan during the Cold War, Pakistanis perceive the U.S. as an unreliable partner who will engage in the region for a period of time, and then shift their interests and support to that of another partner – such as India. To regain this trust, the U.S. should aggressively mediate Indian-Pakistani efforts to resolve the Kashmir issue while avoiding the impression that one or the other country receives preferential treatment, particularly in regards to civilian nuclear power technology and BMD. In dealing with Iran's nuclear proliferation, the U.S. should aggressively revitalize Israeli-Palestinian efforts to resolve regional disputes through multilateral

consultations with international partners sympathetic to the Israelis, while including equal partners sympathetic to the Palestinians.

- Develop a strategy for communicating U.S. resolve to an ally in consultation with a broader array of regional experts and scholars tailored to the regional security dilemma, and not just the ally. The U.S. exerts more energy convincing allies than it does adversaries of the credibility of our security guarantees. Adversaries can be just as affected by alliance solidarity and commitment as by promises of security. A more nuanced approach to communicating resolve can minimize the costly investment and forward deployment of U.S. military capabilities as tangible icons of U.S. commitment while simultaneously avoiding potential adversarial provocations.

- Provide international transparency of assurance discussions to minimize the potential for false signaling to adversaries before mobilizing military hardware, such as early warning radars or missile defense batteries. When formulating new security guarantees, the U.S. should set up mechanisms for such discussions early on to force regional allies to consider the long-term effects of these agreements on their future regional security.

- Reduce the salience of the U.S. nuclear arsenal in alliance discussions. The U.S. needs to educate allies in nuclear strategy and be realistic from the start about the highly limited set of circumstances in which nuclear weapons are useful in resolving regional security dilemma.

- Implement mechanisms that preserve the institutional knowledge of foreign policy issues between the National Security Councils (NSC) of successive administrations. There is broad consensus within U.S. policy and intelligence circles that U.S. influence abroad is hampered by a growing "trust deficit" because of quadrennial vacillations in U.S. foreign policy. In practice, successive NSCs do not share institutional knowledge of foreign policy issues: no documents or electronic media of any kind are shared, and few if any people knowledgeable of the issues are retained through successive administrations. To regain international trust and influence, the U.S. should develop a method to archive and share this institutional knowledge to provide a consistent, "whole of nation" understanding to U.S. foreign policy decision makers that lives beyond the currently elected administration.

Conclusion

Assurance of the ally can exacerbate the security dilemma to the point where sometime in the future, the ally may foreswear nuclear restraint because of the proliferating effect the present assurance guarantee had on their adversary. Existing gaps in our understanding of the effects of assurance on nuclear proliferation, and its subsequent application in policy decisions may mean that for every dollar we invest *today* in assuring an ally we may need to spend again *tomorrow* to assure their security. Further research into the linkage between behavioral economics and national decision making can bolster our diplomatic power to peacefully resolve regional security dilemma while promising tremendous savings in federal discretionary spending. In today's fiscally austere times, we are running out of money; so we better start critically thinking about how today's investments in assurance affect tomorrow's security.

Notes

[1] Sagan concludes that despite a recent "renaissance" in nuclear proliferation studies, there exist serious gaps in explaining why states choose to develop nuclear weapons. Scott D. Sagan, "The Causes of Nuclear Weapons Proliferation," *Annual Review of Political Science*, Vol. 14 (June 2011): 241. Knopf states the "findings in this literature regarding the impact of assurances have been highly contradictory; suggesting that more research is needed in any case." Jeffrey W. Knopf, *Security Assurances and Nuclear Nonproliferation* (Stanford, CA: Stanford University Press, 2012), 4.

[2] See Keith B. Payne, "On Nuclear Deterrence and Assurance," *Strategic Studies Quarterly* (Spring 2009): 43-80; Jeffrey W. Knopf, *Security Assurances and Nuclear Nonproliferation* (Stanford, CA: Stanford University Press, 2012); Muthiah Alagappa, *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia* (Stanford, CA: Stanford University Press, 2008); Colin S.Gray, *Modern Strategy* (New York, NY: Oxford University Press, 1999); Lawrence Freedman, *Deterrence* (Malden, MA: Polity Press, 2004); Patrick M. Morgan, *Deterrence Now* (New York, NY: Cambridge University Press, 2003); Kenneth N. Waltz, "More May Be Better" in *The Spread of Nuclear Weapons*, by Scott D. Sagan and Kenneth N. Waltz (New York, NY: W.W. Norton & Company, 2003)

[3] See Maria R. Rublee *Nonproliferation Norms: Why States Choose Nuclear Restraint* (Athens, GA: University of Georgia Press, 2009); Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia & the Middle East*, (Princeton, NJ: Princeton University Press, 2007); Jacques E. C. Hymans, "Theories of Nuclear Proliferation: The State of the Field," *The Nonproliferation Review Vol. 13*, No. 3 (November 2006); T.V. Paul, *Power vs. Prudence: Why States Forgo Nuclear Weapons* (Montreal, Canada: McGill-Queen's University Press, 2000).

[4] See Maria R. Rublee *Nonproliferation Norms: Why States Choose Nuclear Restraint* (Athens, GA: University of Georgia Press, 2009), 61-3; Muthiah Alagappa, *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia* (Stanford, CA: Stanford University Press, 2008), 482; Michael J. Green and Katsuhisa Furukawa, "New Nuclear Realism," in *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, ed. Muthiaha Alagappa (Stanford, CA: Stanford University Press, 2008), 348.

[5] *Treaty of Mutual Cooperation and Security between Japan and the United States of America*, (19 January 1960).

[6] President John F. Kennedy, "Luncheon in Honor of a Japanese Trade Delegation," (address, State Dining Room at the White House, Washington, DC, 3 December 1962).

[7] Statement of the Government of the People's Republic of China, "The Atomic Bomb," (16 October 1964).

[8] President Lyndon Johnson, "Joint Statement of Japanese Prime Minister and U.S. President Johnson," (statement, Washington, DC, 13 January 1965).

[9] While much of the communique was directed towards North Korea, this marked the first time the U.S. and Japan publicly announced their willingness to commit their alliance towards maintaining peace and stability in the Taiwan Strait. Sec. Donald Rumsfeld, "Joint Statement of U.S.-Japan Security Consultative Committee," (statement, Washington, DC, 19 February 2005).

[10] Chanlett-Avery on the target audience: "North Korea has played a singular role in driving Japan's security policy, usually pushing Japanese leaders to pursue and the public to accept a more forward-leaning defense posture." Emma Chanlett-Avery, *Japan-U.S. Relations: Issues for Congress*, CRS Report RL33436 (Washington, DC: Congressional Research Service, 04 May 2012), 7; Schoff continues: "From an American perspective, the most significant change is the fact that America and its allies are in the midst of a multi-front war against an enemy [North Korea] that thrives in despotic or failed-state situations." James L. Schoff, "The Current State of U.S.-Japan Strategic Dialogue: A Strategic Pause, or an Opportunity Slipping Away?" *Sekai Shuho Magazine* (25 October 2005), 2; Christensen on the Chinese perspective of Japan's military strength: "Chinese analysts correctly point out that, excluding U.S. deployments in the region, these [Japan's] weapon systems constitute the most technologically advanced arsenal of any East Asian power. They also cite the Japanese defense budget, which, although small as a percentage of GNP, is second only to U.S. military spending in absolute size." Thomas J. Christensen, "China, the U.S.-Japan Alliance, and the Security Dilemma in East Asia," *International Security* 23, no. 4 (Spring 1999): 49–50.

[11] Department of Defense, *U.S.-Japan Alliance: Transformation and Realignment for the Future*, (Washington, DC: Secretary of Defense, 29 October 2005).

[12] Emma Chanlett-Avery, *Japan-U.S. Relations: Issues for Congress*, CRS Report RL33436 (Washington, DC: Congressional Research Service, 04 May 2012), 7.

[13] China's GDP and military budget over the decade between 1996 and 2006 grew at a steady rate 9.7% and 9.6% respectively, but their 2007 military budget doubled to 17.8% while GDP growth remained steady. Department of

Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2007*, (Washington, DC: Office of Secretary of Defense, July 2007).

[14] Japan possesses all the technological, economic, and organizational resources for nuclear weapons, but their lack of debate for a nuclear weapon and desired involvement in U.S. nuclear strategy in response to China's buildup demonstrates a shifting perception in the salience of nuclear weapons. Michael J. Green and Katsuhisa Furukawa, "New Nuclear Realism" in *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, ed. Muthiaha Alagappa, (Stanford, CA: Stanford University Press, 2008), 349; Muthiah Alagappa, *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, (Stanford, CA: Stanford University Press, 2008), 482; Schoff comments on how a failure to reassure Japan would trigger further proliferation in the region. "Japan knows this, and that's why Japanese policy makers occasionally remind their U.S. and regional counterparts (privately and publicly) about the importance of the U.S. nuclear umbrella and Japan's own capabilities to go nuclear if necessary." James L. Schoff, **"**Does the Nonproliferation Tail Wag the Deterrence Dog," *Pacific Forum CSIS, no. 9* (05 February 2009): 1.

[15] Paul K. Kerr and Mary Beth Nikitin. *Pakistan's Nuclear Weapons: Proliferation and Security Issues*, CRS Report RL34248 (Washington, DC: Congressional Research Service, 26 June 2012), 6; "Pakistan's nuclear weapons may fall into hands of terrorist: Leon Panetta." *The Economic Times*, 15 August 2012; Alex Rodriguez, "Attack on Pakistan base raises fear about nuclear arsenal." *Los Angeles Times*, 16 August 2012; In addition, several unofficial statements by government officials indicated that Pakistan, more than any other country, keeps them awake at night.

[16] Pakistan's motivations were far less nuanced to debate: "we will eat grass, even go hungry, but we will get one of our own [bomb]."

[17] Department of Defense, *U.S.-Japan Alliance: Transformation and Realignment for the Future*, (Washington, DC: Secretary of Defense, 29 October 2005).; President George H. Bush, "Joint Statement Between President George W. Bush and Prime Minister Manmohan Singh," (statement, Washington, DC, 18 July 2005); "In the area of missile defense, efforts will begin with efforts to secure approval of Patriot PAC-3 missiles for India." "U.S. & India Sign 10-Year Defense Pact," Defense Industry Daily, 30 June 2005.

[18] Kronstadt states: "the Bush Administration's argument for moving forward with the U.S.-India nuclear initiative appeared rooted in an anticipation/expectation that New Delhi would in coming years and decades make policy choices that are more congruent with U.S. regional and global interests (a desire for such congruence is, in fact, written into the enabling legislation, P.L. 109-401)." Kronstadt, K. Alan, Paul K. Kerr, Michael F. Martin, and Bruce Vaughn. *India: Domestic Issues, Strategic Dynamics, and U.S. Relations*, CRS Report RL33529 (Washington, DC: Congressional Research Service, 01 September 2011), 80; However, India has shown they have no interest in abiding by the safeguards written into the agreement. See Ibid 81 and Rajesh Rajagopalan, "The Logic of Assured Retaliation" in *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, ed. Muthiaha Alagappa, (Stanford, CA: Stanford University Press, 2008), 207.

[19] "Khan 'gave N Korea centrifuges," *BBC World News*, 24 August 2005.

[20] "Pakistan Wants Civilian Nuke Deal Ambassador Says," *USA Today*, 8 September 2005.

[21] "The Chinese are increasingly wary over the growing strategic relationship between the United States and India, and Beijing has expressed concern over potential alignments in Asia that could result in the "encirclement" of China." Kronstadt, K. Alan, Paul K. Kerr, Michael F. Martin, and Bruce Vaughn. *India: Domestic Issues, Strategic Dynamics, and U.S. Relation*, CRS Report RL33529 (Washington, DC: Congressional Research Service, 01 September 2011), 23; "Pakistan has denied a report it is in talks to buy between six and eight nuclear reactors from China in a deal worth up to $10bn (£5.8bn)." from "Pakistan Denies New Reactor Plan," *BBC World News*, 3 January 2006. "The White House on Monday sought to discourage Pakistan from expanding its nuclear weapons program after a published report that it was building a powerful new reactor that could generate plutonium for 40 to 50 nuclear bombs a year." from "Report: Pakistan Working on Big Increase in Nuclear Weapons," *USA Today*, 24 July 2006.

[22] "Pakistan Says Iran Has Right to Nuclear Technology for Peaceful Purposes," *New York Times*, 26 December 2006.

[23] Rose Gottemoeller, "Progress on Commencing Fissile Material Cut-Off Treaty Negotiations," (address, Wilton Park Conference: Challenges of the Nuclear Nonproliferation Regime, West Sussex, United Kingdom, 13 December 2011).

[24] See Keith B. Payne, *The Great American Gamble: Deterrence Theory and Practice from the Cold War to the Twenty-First Century* (Fairfax, VA: National Institute Press, 2008); Colin S.Gray, *Modern Strategy* (New York,

NY: Oxford University Press, 1999); Lawrence Freedman, *Deterrence* (Malden, MA: Polity Press, 2004); Patrick M. Morgan, *Deterrence Now* (New York, NY: Cambridge University Press, 2003); Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington, KY: University Press of Kentucky, 2001).

[25] Yuki Tatsumi, "Maintaining Japan's Non-Nuclear Identity: The Role of U.S. Security Assurances," in *Security Assurances and Nuclear Nonproliferation*, ed. Jeffrey W. Knopf (Stanford, CA: Stanford University Press, 2012): 138; James L. Schoff, *Realigning Priorities: The U.S.-Japan Alliance & the Future of Extended Deterrence* (Cambridge, MA: Institute for Foreign Policy Analysis, 2009), 7.

[26] Scott D. Sagan, "Why Do States Build Nuclear Weapons: Three Models in Search of a Bomb," *International Security*, Vol. 21, No. 3 (1997): 62.

[27] Jeffrey W. Knopf, *Security Assurances and Nuclear Nonproliferation* (Stanford, CA: Stanford University Press, 2012), 6.

[28] "This could prompt China, for example, to develop a missile strike force larger than it otherwise would, further exacerbating Japan's and Taiwan's feelings of vulnerability." James L. Schoff, *Realigning Priorities: The U.S.-Japan Alliance & the Future of Extended Deterrence* (Cambridge, MA: Institute for Foreign Policy Analysis, 2009), 37. "The allies cannot directly control the trajectory of China's conventional or nuclear military modernization." Ibid, 41.

[29] Emma Chanlett-Avery, *The U.S.-Japan Alliance*, CRS Report RL33740 (Washington, DC: Congressional Research Service, 18 January 2011), 3 and 11.

[30] Ibid, 14.

[31] Alagappa claims that China has tempered their nuclear posturing towards Japan to further regional nonproliferation because Japan is viewed as their future threat, and the U.S. their present threat. Muthiah Alagappa, *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia* (Stanford, CA: Stanford University Press, 2008), 482, 488, 503.

[32] Knopf points out existing "studies consider only assurances conveyed by bilateral defense pacts" and asserts their conclusions on the "impact of assurances has been highly contradictory, suggesting more research is needed in any case." Ibid, 4.

[33] Rajesh Rajagopalan, "The Logic of Assured Retaliation" in *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, ed. Muthiaha Alagappa, (Stanford, CA: Stanford University Press, 2008), 206.

[34] Paul K. Kerr and Mary Beth Nikitin. *Pakistan's Nuclear Weapons: Proliferation and Security Issues*, CRS Report RL34248 (Washington, DC: Congressional Research Service, 26 June 2012), 7.

[35] "Pakistan's appears to be the world's most rapidly growing nuclear arsenal at a time that China is planning to build two new nuclear reactors there in apparent violation of Nuclear Suppliers Group guidelines. The proposed deal poses a dilemma for the Obama Administration, which has requested that Beijing justify the plan and seeks its approval through international fora." Alan K. Kronstadt, *Pakistan-U.S. Relations*, CRS Report R41832 (Washington, DC: Congressional Research Service, 24 May 2012), 46.

[36] Paul K. Kerr, *U.S. Nuclear Cooperation with India: Issues for Congress*, CRS Report RL33016 (Washington, DC: Congressional Research Service, 26 June 2012), 37.

[37] Feroz H. Khan and Peter R. Lavoy, "The Dilemma of Nuclear Deterrence" in *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, ed. Muthiaha Alagappa, (Stanford, CA: Stanford University Press, 2008), 229.

[38] "If a state is faced with existential threats and cannot rely on the help of a nuclear-armed ally, given sufficient means it will have to ignore the potential difficulties and go nuclear itself." T.V. Paul, *Power vs. Prudence: Why States Forgo Nuclear Weapons* (Montreal, Canada: McGill-Queen's University Press, 2000), 38. "Because nuclear proliferation is so threatening to power-projecting states, nuclear proliferation imposes an additional, secondary cost on power-projecting states: further nuclear proliferation. When a state acquires nuclear weapons, other states may seek to develop town nuclear arsenal in response, setting off a chain reaction of nuclear proliferation." Matthew Kroenig, "Beyond Optimism and Pessimism: The Differential Effects of Nuclear Proliferation," *Managing the Atom Working Paper Series no. 2009-14* (November 2009), 20.

[39] Jacques E. C. Hymans, "Theories of Nuclear Proliferation: The State of the Field," *The Nonproliferation Review Vol. 13*, No. 3 (November 2006): 455.

[40]Crediting the value of nonproliferation regime norms, Rublee concludes that in case of democratic states "international legitimacy was linked to nuclear nonproliferation; members of the international community were expected to comply" and thus a state's efforts at developing an indigenous nuclear option were met with overwhelming domestic public opposition leaving conservative political elites to instead seek comfort under a U.S.

nuclear umbrella. Maria R. Rublee, *Nonproliferation Norms: Why States Choose Nuclear Restraint*. (Athens, GA: University of Georgia Press, 2009), 47.

[41] Solengen's thesis is that domestic elites representing constituencies predisposed toward outward-looking political and economic strategies tend to disfavor the pursuit of nuclear weapons because proliferation brings with it costs in terms of economic isolation and geopolitical instability – costs that threaten the outward survival strategies of these elites. In contrast, elites favoring inward-looking policies tend to favor nuclear weapons as a tool for consolidating state power. Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia & the Middle East*, (Princeton, NJ: Princeton University Press, 2007), 295-7.

[42] "The very tone and content of nonproliferation policy reaffirms that nuclear weapons have immense political and strategic significance. As examples, consider the attention that was devoted to North Korea, Iraq, Pakistan and India during the last decade." Willam C. Martel, "Proliferation and Pragmatism: Nonproliferation Policy for the Twenty First Century," ed. Stephen J. Cimbala, *Deterrence and Nuclear Proliferation in the Twenty-First Century* (Westport, CT: Praeger, 2001), 108.

[43] See Kenneth N. Waltz, "More May Be Better" in *The Spread of Nuclear Weapons*, by Scott D. Sagan and Kenneth N. Waltz (New York, NY: W.W. Norton & Company, 2003) and Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction*. (Lexington, KY: University Press of Kentucky, 2001)

[44] Ibid, 349.

[45] "All types of civilian nuclear assistance raise the risks of proliferation. Peaceful nuclear cooperation and proliferation are causally connected because of the dual-use nature of nuclear technology and know-how." Fuhrmann, Mathew, "Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements," *International Security* Vol. 34, no. 1 (Summer 2009): 8.

[46] "Assurance is critical to US non-proliferation goals and will likely grow as a national priority. These goals do not have "warfighting" driven requirements and we currently have limited analytical methods to derive those requirements." Maj Gen W. A. Chambers, executive, USAF AF/A10, to Honorable E. C. Conaton, Secretary of the Air Force, letter, 25 October 2011.

[47] Jon Elster and George Loewenstein, *Choice Over Time* (New York, NY: Russel Sage Foundation, 1992). For a full description of behavioral economics issues and links to notable scholarly works refer to Psychology Today's website dedicated to the subject at http://www.psychologytoday.com/basics/behavioral-economics.

[48] Reid Hastie and Robyn M. Dawes, *Rational Choice in an Uncertain World* (Thousand Oaks, California: Sage Publications Inc., 2001), 232-4.

[49] Ibid, 17.

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