

Stanton Nuclear Security Fellows Seminar

PANEL 3: Proliferation and De-Proliferation

1. Rupal Mehta, BCSIA

Deproliferation Dynamics: Why States Give Up Nuclear Weapons Programs

Objectives: Academic scholarship has been largely successful in understanding and identifying the primary motivations behind nuclear weapons exploration and acquisition and has made significant strides in analyzing the substantial impact that nuclear weapons have had on various other issue areas - suggesting that nuclear weapons have important political effects for their possessors in conflict and broader bargaining interactions. A less-studied phenomenon, though equally interesting and policy-relevant, is that of deproliferation, the process by which states decide to abandon their nuclear weapons ambitions or nascent programs. Indeed, since 1945, three times as many states have started *and stopped* nuclear weapons programs than have successfully proliferated. This book project aims to analyze the unique process of deproliferation and present a theory and preliminary findings that suggest that the international community can successfully induce nuclear reversal with the offer of positive policy levers.

Overview: The introduction of nuclear weapons into the international system has sparked a long-standing debate about their consequences on interstate relations, specifically, how nuclear proliferation affects the likelihood of conflict. While there are contradictory findings on whether nuclear weapons increase the prevalence of nuclear or conventional conflict, there is sufficient evidence that nuclear weapons are effective tools for interstate bargaining and more often than not, provide a great advantage in winning conventional disputes and crises. Despite this, there have been only eight instances of successful and permanent proliferation and while more states attempt to acquire nuclear weapons, the majority of proliferators ultimately renounce their nuclear ambitions. This surprising phenomenon begs the question: given the variety of benefits that nuclear weapons can bestow to their possessors, why did these twenty-six countries choose to reverse or dismantle their nuclear weapons programs?

These questions no doubt play a significant role in contemporary US foreign policy debates about how the United States, and the international community more broadly, should deal with Iran, North Korea, and future proliferators. As the nuclear club threatens to expand, especially with the introduction of actors that engage in increasingly bellicose behavior, questions remain regarding the most effective ways of curbing nuclear proliferation and ensuring international stability. In recent decades, in the United States for example, nonproliferation policy has oscillated between calls for preemptive action against 'rogue proliferators' (following in footsteps of the Israeli destruction of the Osirak facilities in Iraq in 1981 and of the Al Kibar nuclear reactor in Syria in 2007), and demand for continued diplomacy

(mirroring US reaction to other instances of proliferation).

In this paper, I contend that a key piece of the puzzle has thus far been absent from discussions about the decision to deproliferate - the role of the international community in influencing the process. Indeed, the key question here is: if the international community can exert pressure on proliferators to abandon their nuclear programs, which set of policy levers is more likely to work? While there is consensus among policymakers and scholars regarding the necessity for diplomacy and negotiation with proliferators, there is little agreement about the best forms of statecraft for the task. Advocates of sanctions in the policy community, however, argue that inducements may actually encourage future transgressions and the diffusion of proliferation attempts in the international community, while those who favor inducements fear that the use of force against states that are already concerned about security threats will be even more resolved to pursue nuclear weapons. These multiple plausible stories beg for a closer theoretical and empirical examination to assess the types of factors that help to explain states' decisions to willingly deproliferate after years, or often decades, of significant economic and political costs.

This theory incorporates two novel additions to the prior literature on rewards and sanctions in international politics and on nuclear reversal. First, in contrast to some previous scholarship that primarily examines the role of domestic politics and changes in a domestic or regional security environment to explain instances of nuclear reversal, I center my theoretical analysis on how the international community bargains with proliferators to encourage reversal and the conditions under which some nuclear aspirants are willing to deproliferate. Second, the theoretical model attempts to differentiate between the effects of rewards and sanctions by examining the interaction of the two tools in a strategic, formalized framework. If rewards and sanctions are not solely the inverse of one another, what difference in outcome can be attributed to the decision to employ one instrument over the other lever? Indeed, positive and negative inducements can play different roles in modifying the behavior of actors and that the offer of positive inducements may actually serve an additional, coercive purpose by helping to reveal previously unknown information about the type and preferences of the actors in the strategic interaction.

This research develops a theory of nuclear reversal that examines the interactions between the international community and new proliferators that have embarked on nuclear weapons programs. The interaction begins with the international community choosing between offering a reward and coercing the proliferator. Upon receiving this deal, proliferators subsequently choose between continuing and stopping their pursuit of nuclear weapons. The interaction (and often the nuclear weapons program) concludes when the international community acts by opting to use military force against the proliferator which immediately ends the program, imposing economic sanctions against the state, providing the reward, or ostensibly doing nothing. By analyzing this interaction, I identify the core logic of the theoretical model. Rewards, offered upfront, are accepted by states with low values for acquiring nuclear weapons (doves), thus distinguishing them from hawks (states with a high value for the program). If the subsequent threat to use force is not credible, some doves may still decide to behave like hawks in hopes of acquiring a weapon. However, when the use of military force is credible, doves are more likely to accept rewards, as are the hawks that believe the use of force is more likely to be

employed against their program.

The theoretical model presented here provides the basis for the derivation of hypotheses for the empirical analysis conducted in the remainder of the dissertation. Under this theory, the international community plays a substantial role in providing incentives—either benefits that are initially offered and guaranteed upon proof of stopping or dismantling a weapons program, or heavy costs that are imposed by one or more members of the international community—to states that have embarked on some nuclear weapons activity. If the international community begins these bargaining interactions by offering rewards, rather than coercing the proliferator, this theory suggests that the offer and acceptance of rewards will cause the state to deproliferate – even among the most committed of proliferators. The theory of nuclear reversal further refines this implication: if the international community begins by coercing the proliferator, there are very few conditions under which any type of proliferator (either those with high or low values for acquiring nuclear weapons) will abandon their weapons program. While this suggests the limited efficacy of coercion with many proliferators, the theory does not imply that rewards ‘work’ every time for all types of proliferators or that coercion will never result in successful reversal.

I hypothesize, conditional the available, credible use of military force, rewards may be a better lever for the international community to encourage a state to give up its weapons program, while the use of coercion may actually backfire especially if aimed at proliferators who may be willing to go to extreme lengths to acquire nuclear weapons. This book project tests the following core hypotheses:

H1: Rewards Hypothesis: Offering rewards that are guaranteed by the international community increase the likelihood that a state will stop its nuclear program.

H2: Sanctions Hypothesis: Imposing the costs of coercion, specifically sanctions, decreases the likelihood that a state will stop its nuclear program.

I expect to find that the determinants of nuclear deproliferation are much different than those of nuclear proliferation, specifically that deproliferation is likely the result of positive policy levers rather than negative inducements. The null hypothesis for each of the hypotheses is that inducements offered by the international community, especially the United States, have no impact on the likelihood of nuclear reversal. If I find support for the null hypothesis, then there seems to be little that the international community can do to alter nuclear proliferation behavior among potential proliferators.

Research Design: To test these hypotheses, I currently focus only on states that have begun nuclear weapons activity to examine the conditions under which they choose to stop their exploration. I employ a multi-method observational research design. I undertake large-n, medium-n, and small-n analyses to identify patterns of behavior over time among all proliferators. The first of these empirical analyses includes a cross-section, time-series large-n regression analysis on the determinants of nuclear reversal. In the second analysis, I examine the role of inducements in eight archetypal proliferation/deproliferation cases. These cases are selected to broadly represent the spectrum of nuclear reversal, where positive and negative inducements were used on their own, in tandem, or where there was no identifiable action from the international community (where they essentially did

nothing). Similarly, I select four comparable cases, with the equivalent analysis of action by the international community, but where the proliferation attempts result in successful acquisition of nuclear weapons. Lastly, I include two in-depth cases studies that use original archival data. Based on primary documents collected from the National Security Archives, I conduct two detailed matching case study analyses of the Egyptian (1955-1980) and Indian (1948-) nuclear programs to further evaluate the findings and assess the causal mechanisms. To establish a valid comparison case, I closely match the two states on important domestic-level observable covariates and allow them to differ only on the outcome variable, i.e., the presence or absence of a nuclear weapons program. Thus far, across these analyses, I have found considerable support for my hypotheses. The final research project will result in a book manuscript.

Target Audience and Policy Contributions: Primarily, the audience for this research is international relations/security studies scholars and policy-makers. Though this dissertation is theory-heavy and employs a variety of methodological approaches including a formal model and statistical analysis, I aim for this research to be of interest and use to government officials and policy-makers concentrated on counter-proliferation.

This research projects broadens and contributes to the existing scholarship on nuclear proliferation in three ways. First, the extant literature on nuclear reversal has primarily centered on the role of domestic politics, especially leader or regime-specific characteristics to help explain why states may opt to end their nuclear pursuit. By focusing on a different, and previously unexamined, level of interaction (between the international community and proliferator), I am better able to better understand patterns of past proliferation behavior and to specify the types of policy instruments that the United States, and other members of the international community, may be able to use to more effectively bargain with proliferators to induce reversal.

Second, neither carrots nor sticks work all the time, and thus existing studies find mixed evidence of the effectiveness. By properly specifying when and where the international community can provide policy incentives to proliferating states, not only do I show that certain types of rewards are positively associated with deproliferation while economic sanctions often have the opposite effect, I also reveal important policy implications for current proliferators such as North Korea and Iran, specifically, the current negotiations with Iran on its nuclear weapons development. This research also contributes to a fruitful reexamination of the types of policy levers that the United States, and the international community may use to provide incentives for nuclear reversal in these and future instances.

Lastly, studying the question of nuclear reversal prompts questions about how the United States or other powerful member states in the international community can best prevent proliferation from occurring in the first place. If the international community can modify its strategies and the principles of the nonproliferation regime to stop proliferators before they begin down this path, it could work both to prevent the continued spread of nuclear weapons and, potentially, strengthen the nonproliferation regime.

2. Jayita Sarkar, BCSIA

U.S. Alliance Politics and the Supply Side of Nuclear Assistance: Franco-Pakistani and West German-Indian nuclear relations, 1973-1979

Research Objectives: This research aims to study U.S. relations with allied states that agreed to supply sensitive nuclear assistance to second-tier proliferators in the 1970s.¹ The two main case studies of this project are the Franco-Pakistani and the West German-Indian nuclear cooperation, both between 1974 and 1978. The objective of this research is three-fold: to study (a) the motivations of the allied nuclear supplier states to provide sensitive nuclear assistance to second-tier proliferators, (b) U.S. nonproliferation strategies towards the two nuclear supplier states, i.e. France and West Germany, and (c) U.S. nonproliferation strategies towards its non-NATO ally, Pakistan, and a non-ally, non-enemy, India.

The dynamics of U.S. relations with its NATO allies that aimed to supply sensitive nuclear assistance to second-tier proliferators remains an understudied area of research till today. While scholarly works on nuclear proliferation have studied the demand side, i.e. why states want nuclear weapons, the supply side did not receive much attention until the analyses by Matthew Kroenig and Matthew Fuhrmann.² However, this supply side literature, i.e. why states provide sensitive nuclear assistance, is still in its nascent stages, thus allowing scope for further research on this subject matter. A goal of this project is to contribute to this field of inquiry through historical analysis of the two cases.

Overview and Hypotheses: The two case studies are set in the context of the rising demand for nuclear energy in the wake of the 1973 oil price shock on the one hand, and the heightened U.S. nonproliferation efforts in the wake of India's 1974 nuclear test on the other.³ While both are cases of successful nonproliferation efforts, a closer examination reveals the tensions and the difficulties encountered by the United States in preventing the two nuclear cooperations agreements, and the complex negotiations— formal and informal— that were at play. The period 1973-79, while only a six-year span, can help us learn much about the motivations underlying U.S. allies' decisions to supply sensitive nuclear assistance, as well as U.S. nonproliferation strategy under conditions of high political and diplomatic limitations.

Case study A : In December 1974, French company *Saint-Gobain Nouvelle Technique* signed a nuclear cooperation agreement for the construction of a plutonium reprocessing plant in Pakistan. Following

¹ Second-tier proliferators refers to countries that developed nuclear weapons after the first five nuclear weapons states, i.e. the United States, the former Soviet Union, the United Kingdom, France and China. The second-tier proliferators are therefore India, Israel, Pakistan, North Korea and South Africa (until it dismantled its nuclear arsenal in the early 1990s).

² See Matthew Kroenig, *Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons* (Ithaca, NY and London: Cornell University Press, 2010); Matthew Fuhrmann, *Atomic Assistance : How "Atoms for Peace" Programs Cause Nuclear Insecurity*, Cornell Studies in Security Affairs (Ithaca: Cornell University Press, 2012).

³ The time period of this research ends in 1979, since by the end of that year with the Soviet invasion of Afghanistan, the Cold War entered a phase of renewed superpower confrontation, such that U.S. nonproliferation goals were soon replaced by other military and strategic priorities.

several rounds of negotiations during the Carter administration, between Gerard C. Smith and French diplomat Andre Jacomet, the Franco-Pakistani agreement was finally abrogated in the latter half of 1978.

Case study B: As Canada suspended its nuclear assistance to India following the latter's 1974 nuclear test, West German company *Borsig AG* agreed to supply unsafeguarded compressors for Indian heavy water plants. Since Borsig was headquartered in the French-controlled part of West Berlin, the United States and Canada hoped to dissuade Borsig, first through the French, and later through the Allied Kommandatura. In 1978, after compressors were incorporated into the Zangger Committee "trigger list", the agreement had to be terminated.

This project aims to develop a theory of U.S. alliance politics and supply-side nuclear assistance, on the premise that the decision in favor of supplying sensitive nuclear assistance is the result of negotiations, formal or informal, among the nuclear industry, the atomic energy commission and the foreign ministry, within each supplier state. To this end, the main working hypotheses are:

H1: The motivations in favor of supplying sensitive nuclear assistance is directly proportional to the alliance tensions between the supplier state and the United States.

H2: The closer the nature of alliance relations, higher is the limitation on the United States' overt nonproliferation options, and higher the preference for backchannels of influence.

H3: The level of success of U.S. nonproliferation goals towards an allied nuclear supplier state is inversely proportional to the level of independence of the atomic energy commission and the nuclear industry, with respect to the foreign ministry, in that state.

Research Design and Expected Final Product: This research will be based on relevant secondary literature in political science and international relations, and primary sources from archives in the United States (NARA II, and Gerald Ford and Jimmy Carter Presidential Libraries), the United Kingdom (National Archives at Kew), and Canada (Library and Archives of Canada). Preliminary archival research is complete except for the Library and Archives of Canada.

The primary and secondary source literature would be used to respond to the following key research questions:

1. What main factors on the supply side motivated the Franco-Pakistani and West German-Indian nuclear cooperation agreements?
2. What kinds of nonproliferation pressure tactics, overt and covert, did Washington along with Ottawa, adopt towards France and West Germany?
3. What kinds of strategic and economic inducements were the United States willing to offer to France and West Germany?
4. How did the inducements and the pressure tactics differ when applied to Pakistan, also a U.S. Cold War ally, but outside of the NATO, and on the demand side of nuclear assistance?

5. What kinds of inducements and pressure tactics were being applied to India, which was neither an ally nor an outright adversary of the United States?
6. How did atomic energy commissions and nuclear industry in France and West Germany try to thwart U.S. nonproliferation efforts?
7. What key factors influenced the termination of the two agreements for sensitive nuclear assistance?

The expected final product would be a couple of peer-reviewed journal articles. The first one, publishable in international relations journals, would explore the theory built upon close examination of the two case studies. The second article, publishable in international history journals, would underline the historical underpinnings of Franco-Pakistani and West German-Indian nuclear cooperation agreements, and subsequent US nonproliferation strategies. If, at a later date, the number of case studies is expanded, it might lead to a full monograph.

Target Audience and Policy Contribution: The main audience for this research comprises scholars of international security broadly speaking, which includes international relations/security studies, international and diplomatic history, and may be even history of science and technology. Moreover, the findings of this research could be beneficial to anyone studying in the politics of technology transfers in the nuclear field.

This research is policy-relevant in the following ways:

First, while the United States depends substantially on its Western allies for attaining its nonproliferation goals (e.g. the ongoing P5+1 talks on Iran's nuclear program), uncertainty is high in an anarchical international system. U.S. differences with allies posing challenges to Washington's nonproliferation goals can be a severe detriment to U.S. foreign policy goals. Policymakers could therefore benefit from a serious analytical study that takes into consideration the U.S. alliance conundrum with respect to nonproliferation efforts. This research shall be a preliminary attempt to do so, with particular reference to the supply side of nuclear assistance.

Second, by briefly exploring the nonproliferation efforts towards Pakistan—a U.S. ally outside of the NATO— this research will help bring about a better understanding of U.S. policies to dissuade proliferation tendencies of some of its allies today, notably Saudi Arabia and Turkey.⁴

Third, in the wake of India's 1974 nuclear explosion, the nuclear nonproliferation regime underwent an overhaul. New institutional frameworks emerged, like the Nuclear Suppliers Group, while older ones were reinforced.⁵ The relationship between U.S. alliance politics and institutional nonproliferation efforts, which this research shall also explore, will enhance our understanding of institutions like the

⁴ The United States attempted to contain Pakistan's proliferation tendencies throughout the 1970s, until the Soviet invasion of Afghanistan in December 1979, when Islamabad became a frontline U.S. ally. The strategic priorities of the New Cold War trumped over U.S. nonproliferation goals from then on.

⁵ This period saw the definition of "sensitive nuclear assistance" alter dramatically and expand, through the incorporation of new items of proliferation risk into the Zangger Committee "trigger list".

Nuclear Suppliers Group, which is a largely understudied yet key element to understand the politics and economics of nuclear assistance today.

3. Alexander Lanoszka, MIT

The Alliance Politics of Nuclear Statecraft

Objectives

Alliance politics is back in the news as US friends and allies in East Asia and Eastern Europe face threats from a rising China and a more assertive Russia, respectively. Analysts, scholars, and pundits presume that failing to meet such military threats satisfactorily in an era of possible US retrenchment might make those very friends and allies doubtful of the US security guarantees they receive. Yet it remains unclear whether and how major powers like the United States can actively shape perceptions of security guarantees in the nuclear age. Nor is it clear how far allies are willing to go should they distrust such guarantees. My book project aims to show that alliance credibility matters in shaping state choices to engage in nuclear posturing. It also strives to illuminate how major powers can curb such nuclear behavior when it does occur.

Overview

To gain analytical traction on the issues raised above, my research tackles the following question: why do states that enjoy a formal defense pact with a nuclear-armed patron like the United States strive towards, and sometimes back away from, nuclear weapons acquisition? To answer this question, I put forward a new theory that emphasizes credibility and alliance politics.

In *The Alliance Politics of Nuclear Statecraft*, I argue that weaker allies continuously judge the credibility of their nuclear patron's commitment. To infer credibility, they look to the nuclear patron's conventional military deployments and foreign policy doctrine. I find that allies become more likely to at least consider getting nuclear weapons when their patrons unilaterally redeploy their military assets (through troop withdrawals, primarily) away from allies' territories. Nuclear posturing is the first step allies undertake to develop an independent deterrent. It also enables the ally to manipulate the ambiguity over its nuclear intentions so as to extract new assurances from the patron. Thus, I show that even weak allies do not passively accept alterations to their patron's strategic posture if they feel that their survival is at stake. I further investigate why states sometimes fully reverse their nuclear posturing. To explain these outcomes, I emphasize the extent to which the ally depends on the patron for both its security and economic needs. These factors affect the patron's ability to direct a successful counterproliferation campaign against the ally and, in turn, the strategies the ally adopts in engaging in nuclear behavior. Nevertheless, even in coercing the ally into rejecting nuclear proliferation, the patron still has to reassert its original security guarantees.

I make several key contributions to how we understand these issues. First, I show that we are wrong to think that the United States has been historically preoccupied with ridding adversaries of nuclear weapons. It has arguably spent more time and energy depriving its own allies of such capabilities. This observation calls into question the conventional notion that alliances aggregate capabilities. Second, I

show that many popular explanations of nuclear weapons over-predict the number of proliferators. This tendency exists because the single-state perspective they often adopt neglect how the interaction states have with their patrons affect patterns of nuclear posturing.¹

Research Design

I test three main hypotheses drawn from my theory. These hypotheses are:

H1: Unforeseen and major changes in the conventional military deployments and foreign policy doctrine of the patron drive the nuclear posturing of an affected ally.

H2: The combination of economic and security dependence a nuclearizing ally has on its patron affect the patron's ability to compel nuclear reversal.

H3: The combination of economic and security dependence a nuclearizing ally has on the patron influences whether the ally engages in nuclear behavior overtly or covertly.

Throughout the intensive case studies I describe below, I test my theory against rival hypotheses that center on balance-of-threat theory and domestic politics explanations.²

Three intensive case studies on West Germany, Japan, and South Korea make up the core of the book. I chose West Germany and Japan because together they form a controlled comparative case study. They were both defeated Axis powers in the Second World War. They subsequently hosted large numbers of US troops. They became economically prosperous liberal democracies. They are thus similar in a number of key dimensions that we think matter for shaping foreign policy decisions. Differences between them did exist, of course. Their exposure to military threats varied on the basis of geography. By extension, their sensitivity to changes in US strategic posture also varied. With regards to the South Korea case, I chose it because it is a most-likely case for alternative explanations. South Korea faced a hostile security environment and was under autocratic rule, both of which are factors that other studies have alleged to be important influences on nuclear behavior.³ Yet we have important with-in case variation that allows us to adjudicate between these rival hypotheses.

For external validity, I complement these three case studies with two shadow cases on Great Britain and France and an extended discussion regarding patterns of nuclear behavior within Soviet alliances.

To test my argument against rival hypotheses, I collected over ten thousand pages of primary source documents from the Foreign Relations of the United States documentary record and multiple national repositories around the world. These primary sources serve as process-tracing evidence and encompass such documents as Memoranda of Conversations of dialogues between US officials (and US and ally officials); telegrams and cables; National Security Council reports; as well as internal memoranda from

¹ Defensive realism expects all states should strive to acquire nuclear deterrent capabilities once they are able (Waltz 1979). Not all middle powers acquire nuclear weapons (Goldstein 2000). Many countries have the economic capacity for acquiring nuclear weapons, but choose against doing so (Jo and Gartzke 2007).

² On balance-of-threat theory, see Walt (1987). On domestic politics explanations, see Solingen (2007).

³ Singh and Way (2004); and Jo and Gartzke (2004).

the Departments of State and Defense. With these documents, I can go beyond showing a correlation between changes in the US strategic posture and the nuclear behavior of ally. I can show how apprehensions and anxieties over the future direction of alliances were manifest in diplomatic exchanges between the governments.

I find support for my theory, particularly in the cases of West Germany and South Korea. In the case study on Japan, I do find strong but qualified support for domestic politics explanations. Yet even in this case I show that Japanese decision-makers operated according to a geopolitical logic consistent with my argument despite the domestic inhibitions they faced.

Target Audience and Policy Contributions

Scholars working in the field of international relations/security studies or are the primary target audience of this book project. Diplomatic historians who study US foreign policy and the Cold War will also find the book to be of interest, particularly because the large case studies contained in the book rely on archival evidence I collected and discovered at various national repositories. However, I hope that policy-makers and strategists who focus on nuclear proliferation and extended deterrence will find the analysis and policy prescriptions of value as they think through those issues.

Several policy implications flow from my research. US alliances are highly likely to experience serious adjustments. Indeed, US retrenchment has become a real possibility thanks to a public tired of war, sluggish economic growth, and fiscal crisis. And yet US friends and allies in East Asia face a more assertive China and a nuclearizing North Korea while European allies contend with a Russia willing to dismember mutual neighbors. The risks for nuclear proliferation are growing.

Three remarks are in order. First, US decision-makers would be well served to stop thinking of proliferation in dichotomous and pejorative terms. Nuclear weapons are awful, but sometimes movements towards nuclear weapons acquisition have less to do with satisfying ugly nationalist impulses and more do with compensating for shortcomings of the security guarantees these states receive. Nuclear weapons are a cry for help. Second, because perceptions of reliability matter, US defense planners must take the time to think about the effects of their moves from more than just a budgetary perspective.

And finally, a standard line used by US politicians is that allies should stop free riding. They are not doing enough to advance their own security interests. Being almost as old as the nuclear age itself, these complaints are not new and they do have some truth in them. Yet they overlook a greater evil: that is, when allies do too much to advance their own security interests. And so as much as the United States should encourage greater defense contributions from its allies, it should emphasize that these contributions would not necessarily come at the expense of the security goods that those allies deem vital for their security. Regularly consulting allies and treating them with due respect can soften the experience of alliance adjustment.

4. Henrik Hiim MIT

The Evolution of China's Approach to Nuclear Nonproliferation

Objectives: This project seeks to explain the evolution of China's nuclear diplomacy and nonproliferation policy. I analyze three key cases, namely China's approach to the nuclear programs in Iran, North Korea, and Pakistan.

A prevalent explanation of China's approach to nuclear nonproliferation is that China has been "socialized", and now accepts international nonproliferation norms. By contrast, I hypothesize that Chinese behavior is guided by realpolitik adaptation. While China has had to increase its cooperation because of Sino-U.S. relations, it tries to hinder or limit any nonproliferation efforts that have a negative impact on regional power balances.

Overview: For several decades, policymakers and scholars have debated China's commitment to nuclear nonproliferation. China's record remains mixed: On the one hand, exports of sensitive technology has been substantially reduced. Beijing is now also enmeshed in most important arms control and nonproliferation treaties and regimes. On the other hand, Chinese nuclear and missile trade with Pakistan has not been fully terminated, and trade in missile-related technology from Chinese entities to Iran and North Korea continues. Moreover, China's willingness to fully support international efforts to address the nuclear programs in North Korea and Iran remains in question.

In this project, I seek to explain the evolution of China's nuclear diplomacy and nonproliferation policy since the mid-1990s. I ask the following two research questions: (1) To what extent has China's approach to nuclear nonproliferation changed; and (2) what are the driving forces behind its policies? I seek to answer these questions by analyzing China's approach to three key nonproliferation challenges, namely the nuclear programs in Iran, North Korea, and Pakistan. The study examines both Chinese nuclear and missile proliferation, as well as Chinese diplomacy over the nuclear programs in North Korea and Iran.

A prevalent explanation of the evolution of China's policies during the last two decades is that Chinese leaders increasingly have come to accept international nonproliferation norms. According to this view, ideas have changed – whereas China previously saw little value in preventing the spread of nuclear weapons, its leaders now recognize the danger nuclear proliferation represents.¹

¹ For example, while he sees U.S. policy pressure as a major driving force, Evan Medeiros argues that China has increasingly come to accept nonproliferation "norms", and now actively supports efforts to stem the spread of nuclear weapons. Evan S. Medeiros, *Reluctant restraint : the evolution of China's nonproliferation policies and practices, 1980-2004* (Stanford: Stanford university press, 2007). Other examples of work that emphasize normative acceptance B. Gill, *Rising star : China's new security diplomacy* (Washington, D.C.: Brookings Institution Press, 2010); Ann Kent, "Beyond Compliance: China," *International Organizations, and Global Security* (2007); Wendy Frieman, *China, Arms Control, and Nonproliferation* (Psychology Press, 2004). For a detailed theoretical treatment of the theory of socialization, see Alastair I Johnston, *Social States: China in International Institutions; 1980-2000* (Princeton University Press, 2008). Johnston does not point to nonproliferation behavior vis-à-vis individual states, but he does argue that China has been socialized in other security institutions and in arms control organizations (including the Comprehensive Test Ban Treaty).

In contrast, I hypothesize that an adaptation model best explains China's approach. According to such a model, Beijing's policies have been guided by *realpolitik*, balance of power logic. Furthermore, Chinese leaders do not perceive preventing the spread of nuclear weapons an intrinsic value.² These two competing hypotheses can be sketched out as follows:

H1: The evolution of China's approach to nuclear nonproliferation is driven by an increasing acceptance of international nonproliferation norms.

H2: China's approach to nuclear nonproliferation is driven by *realpolitik*, balance-of-power considerations.

A *realpolitik* adaptation model does not necessarily predict that states are unwilling to cooperate. Rather, as states try to maximize relative military or economic power, they may engage in cooperation as long as cooperation does not constrain these goals, or as long as the losses are outweighed by gains in another area. Further fleshing out an adaptation model, I argue that when explaining how a state acts in a specific region, power distribution at both the systemic level and the regional level are likely to shape preferences.³ In some cases, these can provide states with cross-cutting incentives.

Applying this model, I maintain that at the global level, the unipolar international system has given China strong incentives to adapt and increase its cooperation with the U.S. China's status as a rising power reinforces this rationale, as rising states tend to be sources of concern in the international system. To prevent that this fear would elicit a balancing response, China has sought to reassure the U.S. Only by maintaining relative comity with the US could China secure a favorable macroclimate for its continued economic growth. To achieve this, increasing its cooperation on nonproliferation has been necessary. Getting China to cooperate in stemming nuclear proliferation has been a major U.S. foreign policy goal, and Beijing's willingness to cooperate in this area has been seen as an indication of its broader intentions.

However, at the regional level, China has had incentives to engage in power balancing policies. The Korean Peninsula, the Persian Gulf, and South Asia differ in strategic importance to China, but they are all areas where China seeks to prevent the dominance of another power and to maintain a dispersed power balance. In each of the cases I explore, I argue that this has given China incentives to limit its cooperation on nonproliferation efforts. This does not necessarily mean that China will encourage or engage in proliferation—that will depend on the potential effects of nuclear proliferation on the regional power balance. Rather, it means that China will try to hinder nonproliferation efforts that risks affecting the regional power balance to Beijing's disfavor.

² The opposing learning and adaptation models are also outlined in A.I. Johnston, "Learning Versus Adaptation: Explaining Change in Chinese Arms Control Policy in the 1980s and 1990s", *The China Journal*, No. 35 (Jan., 1996), pp. 27-61. My study aims to modify and expand Johnston's *realpolitik* model. Johnston first concluded that China's approach to arms control was one of adaptation, but later changed his mind, and argued that China had been "socialized".

³ On why aggregate level power may not be sufficient to explain state behavior in a specific domain or issue-area, See T. Fravel, *Strong Borders, Secure Nation. Cooperation and Conflict in China's Territorial Disputes*. (Princeton: Princeton University Press, 2008). p. 307.

My preliminary data from the three case studies indicate that a realpolitik model explains Chinese behavior well. China's policies vis-à-vis Pakistan provide an example. China capitulated to US demands to stop assisting the military nuclear programs in the mid-1990s, but only once Pakistan's nuclear program was largely self-reliant. Moreover, China shifted its assistance to delivery systems, which the Pakistani weapons program was in dire need of at the time. China's policies indicate that Beijing continues to see the development of a Pakistani deterrent as a useful tool to balance Indian power, and that China has found alternative ways to continue to support Pakistan's strategic program. In short, China adopted a policy with an element of increased cooperation with the U.S., but, where it has found alternate ways of achieving its power balancing objectives.

China's policies towards North Korea display a similar tendency. Because of pressure from the U.S., China has increasingly been willing to cooperate over nonproliferation efforts. As there is a risk of South Korea and Japan following suit, and because it provides the U.S. with an excuse to ramp up military presence in the area, China also views the North's nuclear weapons program as unfavorable. However, because regime collapse would have a severe negative effect on the power balance on the peninsula for China, Beijing has continued to bolster the North Korean regime. This concern has trumped Chinese worries over proliferation.

U.S. pressure also led China to abandon nuclear cooperation with Iran and scale down missile technology trade. Moreover, concerns over Sino-U.S. relations led China to support several rounds of sanctions. Nevertheless, the Chinese government has tacitly approved some continued missile support, as well as missile trade between North Korea and Iran passing through its ports. It has also watered down and delayed sanctions. Evidence suggests that China remains relatively indifferent over whether Iran develops nuclear weapons. Moreover, I argue that China quietly supports Iran because the conflict ties up U.S. resources and diverts attention away from East Asia.

Research design, sources and fieldwork: The project is a comparative study focusing on China's nuclear diplomacy towards Pakistan, North Korea and Iran, with main emphasis on the period between the mid-1990s and the present. In line with the case study approach, the data of this project is largely qualitative in nature. It builds on several types of sources, including declassified intelligence material, Chinese language source materials such as official statements, media articles and scholarly articles, IAEA documents, and memoirs from decision makers. In addition, the study draws on interviews with analysts and former officials in China, as well as officials in other countries. I have conducted more than 40 interviews with mainly Chinese sources, and plan to do some additional interviews with both Chinese and U.S. sources during my year as a Stanton fellow.

Target Audience and Policy Relevance: The primary target for this thesis is scholars interested in international security as well as East Asia. However, as China's approach to nuclear nonproliferation has been widely debated among policymakers in the past decades, the findings should also be of interest to a broader audience.

There are several policy implications from these findings. Firstly, it will provide knowledge on what stimuli is likely to encourage further Chinese cooperation on nonproliferation. If the socialization thesis

is confirmed, engagement that aims to further sensitize policymakers in Beijing to the dangers of proliferation could be pursued. If the realpolitik hypothesis is correct, on the other hand, such endeavors are less likely to succeed. Secondly, the thesis will provide further insight into proliferation strategies, and how to prevent proliferation. The Pakistan case in particular serves as an example of the different avenues a state can use to support the weapons program of another country.

More broadly, Beijing's approach to nuclear proliferation provides an indication of how Chinese leaders approach foreign policy. It also has implications for the debate in the U.S. on engagement policy towards China. China's approach to nuclear nonproliferation provides an important indication of whether, to what extent, and under which circumstances engagement is likely to affect Chinese behavior.