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## Proliferation & Instability: How Nuclear Weapons Acquisition Alters Inter-state Relations

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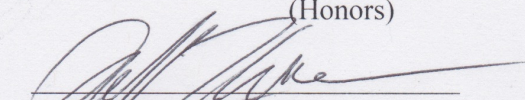
Proliferation & Instability: How Nuclear Weapons Acquisition Alters Inter-state Relations


A thesis submitted in partial fulfillment of the requirement for the degree of Bachelor of Arts in  
International Relations from  
The College of William & Mary

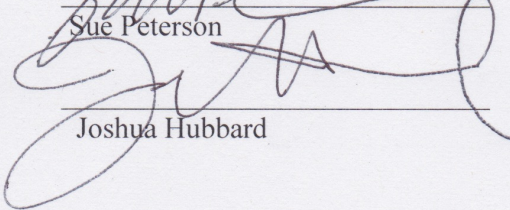
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## **Abstract**

I theorize that in a dyad of a status quo nuclear state and a new nuclear state, the stage of nuclear development of the new nuclear state affects the level of tensions that the status quo nuclear state directs at the new nuclear state. Threat perception is the variable that causes the status quo nuclear state to respond to the new nuclear state's stages of nuclear development. I hypothesize that as the new nuclear state develops its nuclear arsenal, tensions will rise until the new nuclear state's first nuclear test and then fall. This thesis tests this theory through a mixed methods approach of both quantitative analysis and case studies. The results suggest that there is some support for this theory, particularly in the cases examined.

## **Introduction**

When China commenced its nuclear weapons program in 1956, the United States was initially distressed.<sup>1</sup> Before China had even acquired a nuclear weapon the US already perceived itself as threatened by the reality of a nuclear China, and therefore felt compelled to consider a strike against China's nuclear weapons program.<sup>2</sup> However, within ten years of China becoming a nuclear state, the Sino-American relationship was more stable than it had been in decades.<sup>3</sup> So how does a nuclear weapons state go from an unstable relationship with a state developing nuclear weapons to a stable relationship with that same state once it has acquired nuclear weapons? What process occurs to bring stability into that relationship and when does it develop? Does a state's development of nuclear weapons increase its insecurity in the early stages of development? The reaction of a nuclear weapons state to another state's pursuit of nuclear weapons has important policy implications for how the US and other nuclear weapons states should respond, for example, to Iran if it re-starts its nuclear program. As well, this paper will provide deeper insights into at what time in a state's development of nuclear weapons its

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<sup>1</sup> Dong-Joon Jo and Erik Gartzke. "Determinants of nuclear weapons proliferation." *Journal of Conflict Resolution* 51.1 (2007): 167-194; Fuhrmann, Matthew, and Sarah E. Kreps. "Targeting Nuclear Programs in War and Peace: A Quantitative Empirical Analysis, 1941-2000." *Journal of Conflict Resolution* 54.6 (2010): 831-859 Appendix A pg 10.

<sup>2</sup> Lyle J. Goldstein "When China was a 'rogue state': the impact of China's nuclear weapons program on US-China relations during the 1960s." *Journal of Contemporary China* 12.37 (2003): 739.

<sup>3</sup> William Burr and Jeffrey T. Richelson. "Whether to "strangle the baby in the cradle": the United States and the Chinese nuclear program, 1960-64." *International Security* 25.3 (2001): 97.

relationship with other nuclear states will be the most unstable. It will also weigh in on the debate over whether nuclear acquisition is stabilizing because it enhances deterrence or whether it is destabilizing since it upends the security environment by attempting to merge these separate ideas into one cohesive theory.

In this paper, I will attempt to explain how tensions between a state developing nuclear weapons, also referred to as a new nuclear state, and a state that has acquired nuclear weapons before the new nuclear state has, also referred to as a status quo nuclear state, change over time. I will do this by dividing the timeline of a new nuclear state's development of nuclear weapons into multiple phases based on how I would anticipate a status quo nuclear state to respond to each milestone the new nuclear state reaches. For example, how will a new nuclear state's first nuclear test affect the status quo nuclear state's response, or how will a new nuclear state's deployment of ICBMs affect the status quo nuclear state's response? Specifically, my theory seeks to understand how much tension the status quo state is directing toward the new nuclear state based on the milestones and stages that the new nuclear state reaches in its nuclear development. Within this relationship, I will focus on the threat perception of the status quo nuclear state as the driver of its actions towards the new nuclear state. Specifically, I theorize that tensions will rise as the new nuclear state continues its nuclear weapons program up until its first nuclear test or it becomes a nuclear weapons state, and then tensions will begin to fall.

I test my hypothesis using both logit regressions and case studies. Mixing quantitative and qualitative methodologies allows me to test the entire population of cases with regressions and test intervening variables through process tracing of a diverse set of cases. Ultimately, I find mixed support for my hypothesis. The regressions show little support for my hypothesis; however, the exact composition of the data used may be why support is lacking for my

hypothesis in the quantitative section. With regards to the cases, there is much stronger support for my hypothesis, especially for the intervening variable of threat perception. Some cases, like the China-US dyad, show overwhelmingly strong support for my hypothesis. In all, the results of my regressions and cases provide some support for my hypothesis.

This thesis is an important contribution to the literature because it will provide a new understanding of how nuclear weapons proliferation affects inter-state stability. Previously, there was very little focus on the intersection of how nuclear weapons states respond to each other and how nuclear weapons states develop over time. This research will fill this gap in the scholarship and contribute to a greater understanding of the effects of nuclear weapons by looking at the intersection of those two issues. This research also seeks to combine some previous studies that look only at the instability created by a nuclear weapons program, but do not study how stability emerges as the relationship between the new nuclear state and status quo nuclear state changes over time (Fuhrmann and Kreps 2010; Beardsley and Asal 2013; Sobek, Foster and Robinson 2012). My theory and findings are useful for policymakers on nuclear weapons because they will help elucidate when the most unstable time of a relationship is for a new nuclear state. Understanding the evolution of a relationship between two nuclear states, particularly between a state that has nuclear weapons and a state that is in the process of acquiring them, is useful and necessary because it will allow policymakers to recognize what period of development in the new nuclear state's arsenal is the most prone to a crisis or dispute. The acquisition of nuclear weapons is a tumultuous and volatile process, so it is imperative to have a clear understanding of when the nuclear dyadic relationship is most at risk of spiraling into conflict, so that a crisis can be avoided.

In this thesis, I will first discuss the literature on nuclear weapons proliferation and acquisition, and then whether acquisition is stabilizing or destabilizing. In this section, I will review papers that have examined a question similar to the one examined in this paper. Next, I will propose my theory and then discuss the methodology of this thesis. Finally, I will conduct both a quantitative study of my hypothesis as well as use case studies to test my hypothesis.

## **Literature Review**

How does a status quo nuclear state react to a new nuclear state's acquisition of nuclear weapons? What effect does nuclear weapons acquisition have on a state's behavior? How do tensions between a state developing nuclear weapons and a state that has nuclear weapons change over time? To understand these questions, I will review the literature on these topics. First I will begin with why states pursue nuclear weapons, focusing on security, domestic politics, and norms as the key drivers. This is relevant because the reason for a state's acquisition of nuclear weapons informs how the status quo nuclear state will respond. Next, I will review how nuclear weapons acquisition changes relationships between states. Then, I will examine how deterrence is thought to arise in the literature. Finally, I will review what similar studies to mine have found about the effect of nuclear acquisition on state behavior.

### *I. Drivers and Determinants of Proliferation*

My theory examines the effects of the acquisition of nuclear weapons on state behavior, so it is necessary to first begin with a discussion of the drivers and determinants of proliferation. The foundational component of the demand-side literature on this topic is Sagan (1996), which offers three broad models that explain why a non-nuclear weapons state will upset the status quo, and seek nuclear weapons. In the security model, a state seeks nuclear weapons due to perceived

threats to national security.<sup>4</sup> The domestic politics model theorizes that a state is not unitary, but rather that there are different cliques with parochial aims that each believe they will be served by a nuclear weapons program.<sup>5</sup> The norms model argues that nuclear weapons will be sought as a “symbol of a state’s modernity and identity.”<sup>6</sup> These models provide insight into how the new nuclear state will interact with the status quo nuclear state. As well, the status quo nuclear state may be more likely to raise tensions with a state that seeks nuclear weapons in the norm model. The status quo state may think that it will be better able to coerce a state that does not view nuclear weapons as a necessity, as the security model does.

Jo and Gartzke (2007), using a quantitative methodology, find attributes that affect whether a state will seek nuclear weapons, which fit into Sagan’s three models. Jo and Gartzke (2007) find that a state is more likely to be driven by security interests to seek nuclear weapons if it has a conventionally superior adversary or is a major or regional power.<sup>7</sup> As well, a state that is threatened by a nuclear power is less likely to pursue a nuclear weapons program, and they hypothesize that this is potentially due to fear of a preemptive strike, another security driver.<sup>8</sup> They also find no difference between democracy and autocracy in propensity to pursue nuclear weapons, which is some evidence against a domestic politics argument.<sup>9</sup> This information provides important insight into the context and attributes of a state that affect whether a non-nuclear weapons state pursues a nuclear weapons program. The specific drivers discussed here are also useful since they add context to how tensions between the two nuclear states in my theory will develop. Balance of power and democracy, for example, will affect not just a state’s

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<sup>4</sup> Scott D. Sagan. "Why do states build nuclear weapons? Three models in search of a bomb." *International security* 21, no. 3 (1997): 55.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Jo and Gartzke “Determinants of Nuclear Weapons Proliferation” 186.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.



drive for nuclear weapons, but how a new nuclear state interacts with the status quo state once it has nuclear weapons. Also, the point about a state threatened by a nuclear power being less likely to seek nuclear weapons is relevant because it would encourage status quo nuclear states to take preventive action. Finally, drivers of proliferation are important because they allow for a more comprehensive picture of the effects of proliferation on state behavior, and allow us to understand whether nuclear weapons acquisition meets its intended purpose.

## *II. Effects of Proliferation on Inter-state Relations*

It is useful to understand how nuclear states interact and what effect proliferation has on conflict between nuclear states. The effects of proliferation can be seen clearly in how a crisis unfolds when it involves two nuclear powers. For example, a nuclear crisis was more likely to end peacefully as the number of nuclear actors in the crisis rose (Asal and Beardsley 2007).<sup>10</sup> This suggests that moving from an asymmetric nuclear dyad to a symmetric one will actually lead to crises that have a greater chance of being resolved peacefully. This process is not immediate though. Rather, it takes time for a new nuclear state to understand its newfound power and how to build stable relationships, and for other states to adjust to the new balance of power (Horowitz 2009; Gartzke and Jo 2009).<sup>11</sup> Specifically, Horowitz (2009) finds that new nuclear weapons states respond to militarized challenges at significantly higher rates.<sup>12</sup> However, this effect reverses the longer the state has nuclear weapons, states eventually adjust their decision-making when determining whether to engage in these showdowns and how often to concede.<sup>13</sup> This insight is useful because it demonstrates that there is a learning curve that new nuclear

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<sup>10</sup> Victor Asal and Kyle Beardsley. "Proliferation and international crisis behavior." *Journal of Peace Research* 44, no. 2 (2007): 139.

<sup>11</sup> Michael Horowitz. "The spread of nuclear weapons and international conflict: Does experience matter?." *Journal of Conflict Resolution* 53, no. 2 (2009): 234; Erik Gartzke and Dong-Joon Jo. "Bargaining, nuclear proliferation, and interstate disputes." *Journal of Conflict Resolution* 53, no. 2 (2009): 226

<sup>12</sup> *Ibid.* 234, 252

<sup>13</sup> *Ibid.*

states face. They must adjust their actions before they find stability in inter-state relationships. However, it is not just the new nuclear state that must adjust its behavior before stability can emerge, the status quo, or existing, nuclear weapons state must also learn how to interact with the new nuclear weapons state given its change in status. There is evidence that in an asymmetric nuclear dyad, the nuclear state achieves greater gains in a crisis than in a symmetric nuclear dyad (Beardsley and Asal 2009).<sup>14</sup> Therefore, a status quo nuclear state that now has a relationship with a new nuclear state would need to adjust to a world where it has less power. The literature suggests that there is support for the view that stability in a nuclear dyad can emerge, but it requires adjustments in behavior and the understanding of the relationship by both parties.

Although nuclear dyads may be stable, the argument that nuclear proliferation decreases the propensity for conflict among nuclear states lacks support (Bell and Miller 2015).<sup>15</sup> In fact Bell and Miller (2015) find that in asymmetric nuclear dyads, there is a greater likelihood of low-level conflict.<sup>16</sup> This finding is in opposition to the claim of nuclear optimists who argue that nuclear weapons make states more secure.<sup>17</sup> The finding that compellent threats, in which a nuclear state issues a coercive demand, are ineffective tools, also undercuts the argument of nuclear optimists that nuclear acquisition will lead to less conflict (Sechser and Fuhrmann 2015).<sup>18</sup> As well, Bell and Miller's (2015) finding raises questions about reverse causality between conflict and nuclear weapons. Conflict may not only be a driver of proliferation, as in the security model, but also an effect of proliferation. This finding lends some support to the

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<sup>14</sup> Kyle Beardsley and Victor Asal. "Winning with the Bomb." *Journal of Conflict Resolution* 53, no. 2 (2009): 278.

<sup>15</sup> Mark S. Bell and Nicholas L. Miller. "Questioning the effect of nuclear weapons on conflict." *Journal of Conflict Resolution* 59, no. 1 (2015): 74-5

<sup>16</sup> Ibid. 75

<sup>17</sup> Ibid. 76

<sup>18</sup> Todd S. Sechser and Matthew Fuhrmann. "Crisis bargaining and nuclear blackmail." *International organization* 67, no. 1 (2013): 173

argument that the act of acquiring nuclear weapons may lead to greater insecurity, the opposite of the intended purpose.

In all, the effects of proliferation vary, depending on whether a state only has a nuclear weapons arsenal, is a new nuclear state, or is an experienced nuclear state. As well, proliferation not only affects the proliferating state's behavior, but also the behavior of rivals and other states toward the proliferating state. To understand how nuclear weapons acquisition affects inter-state relationships, it is necessary to look at the period before nuclear acquisition, when there is an asymmetric nuclear dyad.

### *III. Asymmetric Nuclear Dyads*

There are two distinct arguments made about the effect of nuclear weapons acquisition on inter-state stability. One argument is that a state's acquisition of nuclear weapons dramatically reshapes the international environment as it demonstrates to status quo nuclear states that there will soon be a power shift, creating instability. The other argument is that a state's acquisition of nuclear weapons reinforces deterrence between itself and the status quo nuclear state, thus increasing stability. The question of how to react to another state's development of nuclear weapons inevitably raises the specter of preventive and preemptive strikes, and forces status quo nuclear states to decide how to act.

Arguing on the side of greater instability, Sobek, Foster and Robinson (2012) find that a status quo nuclear state will use the time after a non-nuclear weapons state begins its nuclear program, but before it has a weapon to launch a strike and to prevent a change in the bargaining environment from occurring.<sup>19</sup> Instability, and the chance that the state is attacked, increases the closer the state gets to acquiring a nuclear weapon, since this will reshape the bargaining

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<sup>19</sup> David Sobek, Dennis M. Foster, and Samuel B. Robinson. "Conventional wisdom? The effect of nuclear proliferation on armed conflict, 1945–2001." *International Studies Quarterly* 56, no. 1 (2012): 149.

environment.<sup>20</sup> Once nuclear status is achieved, the risk of an attack drops, but that risk does not fall below the risk for a non-proliferating state, implying that, at least immediately after nuclear acquisition, a status quo nuclear state still sees room to maneuver before a fully symmetric nuclear dyad emerges.<sup>21</sup> This paper looks at similar effects of proliferation to my theory and finds that the stability in a relationship deteriorates as the nuclear aspirant develops its program, but then begins to stabilize once that state achieves nuclear status, though it does not instantly re-stabilize to the level before a nuclear program was begun. However, Sobek, et al.'s (2012) argument differs from mine because it looks exclusively at a nuclear weapons program, and right afterward, not at how a new nuclear state develops its arsenal and delivery platforms. As well, it does not focus on symmetric nuclear dyads.

In their work on nuclear weapons programs and insecurity, Beardsley and Asal (2013) argue that nuclear weapons programs can be more destabilizing than nuclear weapons possession.<sup>22</sup> Their view is that nuclear weapons possession makes a state part of the status quo international environment, but that developing nuclear weapons threatens to upend the current order, and is thus deeply destabilizing.<sup>23</sup> This is because a nuclear weapons program demonstrates that the state will have greater bargaining power in the future, thus other states will seek to prevent the development of nuclear weapons. Beardsley and Asal (2013) show that a potential future opponent of the state developing nuclear weapons is more likely to enter into a crisis with it.<sup>24</sup> Furthermore, a status quo state is likely to consider attacking, or to attack, another state's nuclear facilities, when that state's acquisition of nuclear weapons is highly threatening

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<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Kyle Beardsley and Victor Asal. "Nuclear weapons programs and the security dilemma." *The Nuclear Renaissance and International Security* (2013): 266

<sup>23</sup> Beardsley and Asal "Nuclear weapons programs and the security dilemma." 266-7

<sup>24</sup> Beardsley and Asal "Nuclear weapons programs and the security dilemma." 266-7

(Fuhrmann and Kreps 2010).<sup>25</sup> Three factors increase the intensity of that threat: “prior violent militarized conflict; the presence of a highly autocratic proliferator; and divergent foreign policy interests.”<sup>26</sup> However, Fuhrmann and Kreps’ (2010) argument differs from my theory because it looks only at nuclear weapons programs, whereas I look at nuclear states also.

Additional factors that increase the likelihood of a preventive attack during the nuclear weapons program stage are “uncertain capability and intention” (Jung 2016).<sup>27</sup> The neighbors of those states developing nuclear weapons and the states that strongly desire to protect their own nuclear superiority are the most likely to launch preventive attacks.<sup>28</sup> Jung (2016) finds more support for the argument that a nuclear weapons program will be a target of preventive attacks, and that a state’s decision to develop nuclear weapons often leaves it in a precarious position, harming stability, and providing the impetus for a nuclear state to strike. This instability is accentuated by the finding that the act of developing nuclear weapons does not deter an attack, but instead leads other states to feel emboldened in their use of force (Early and Asal 2018).<sup>29</sup> This dynamic is a fundamental case of the security dilemma, whereby the development of nuclear weapons leads to greater insecurity.<sup>30</sup> The fear of a potential shift in future bargaining power that a nuclear deterrent would provide leads to an environment that makes preventive war more likely.<sup>31</sup> Beardsley and Asal (2013) ultimately find that nuclear weapons are less destabilizing than nuclear weapons programs.<sup>32</sup> These four articles provide further evidence that

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<sup>25</sup> Fuhrmann and Kreps "Targeting Nuclear Programs in War and Peace: A Quantitative Empirical Analysis, 1941-2000." 831

<sup>26</sup> Ibid.

<sup>27</sup> Sung Chul Jung. "Nuclear aggressors, nuclearizing targets: nuclear weapon development and preventive conflict." *International Relations of the Asia-Pacific* 17, no. 1 (2016): 137

<sup>28</sup> Ibid. 157

<sup>29</sup> Bryan R. Early and Victor Asal. "Nuclear weapons, existential threats, and the stability–instability paradox." *The Nonproliferation Review* 25, no. 3-4 (2018): 223.

<sup>30</sup> Beardsley and Asal “Nuclear weapons programs and the security dilemma.” 267

<sup>31</sup> Ibid. 268

<sup>32</sup> Ibid. 282

the nuclear acquisition process is destabilizing during a nuclear weapons program or right after acquisition. This section demonstrates that instability is created by the commencement of a nuclear weapons program, so nuclear acquisition may have a detrimental effect on international relations.

#### *IV. Deterrence in the Literature*

While shifts in power caused by the acquisition of nuclear weapons lead status quo nuclear states to ponder preventive strikes, if the state does acquire nuclear weapons, the status quo state must learn to live with them. Therefore, stability may actually emerge, and even be enhanced, by symmetric nuclear dyads. Deterrence is an important theoretical component to this, serving as a final point in this discussion of nuclear acquisition.

The nuclear optimists, like Kenneth Waltz, argue that nuclear weapons acquisition increases stability between states because both nuclear states in a dyad will be deterred from attacking one another. Waltz states that even an aggressive country will be deterred because it will not be willing to risk its own destruction.<sup>33</sup> Waltz (1990) argues that deterrence arises naturally between nuclear states, and does not have to be formally accepted by both sides in order to function properly.<sup>34</sup> The fundamental contention here is that deterrence works, and therefore proliferation is not much of a risk, because states act rationally and since no rational state wants to be struck by a nuclear weapon, it will not take risks that would incite such an attack.<sup>35</sup> Therefore, once an asymmetric nuclear dyad adjusts to being a symmetric one, deterrence will become stronger and the relationship will be stable. However, this takes time, and

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<sup>33</sup> Ibid. 733

<sup>34</sup> Kenneth N. Waltz. "Nuclear myths and political realities." *American Political Science Review* 84, no. 3 (1990): 737

<sup>35</sup> Ibid. 743

in the time period when the new nuclear weapons state only has a nuclear weapons program and before it has a survivable second-strike capability deterrence will be much shakier.

In the opposing camp is the nuclear pessimists, like Scott Sagan, who view nuclear proliferation as increasing risk and instability. Sagan (1994) comes to a different conclusion than Waltz. Sagan's view is that by applying organizational theory to nuclear proliferation it becomes clear that professional military organizations are not necessarily rational, so deterrence failure is possible.<sup>36</sup> Sagan also cautions that a secure second-strike capability is not the consistent end stage of all nuclear weapons states, since "organizational biases and inflexible routines" within the military mean that a state may not develop its secure second-strike.<sup>37</sup> The core of this argument, that deterrence failures can occur, explains why, in the early stages of a nuclear weapons state's development of its nuclear program and deployment of acquired nuclear weapons, an attack or a dispute can occur. Additionally, Sagan's view of Waltz's argument is that since deterrence may break down, stability does not necessarily increase with nuclear proliferation. Deterrence, in this view, may not hold even when the states in a nuclear dyad both have secure second-strikes, which is considered the ultimate requirement for deterrence. Especially because, as Karl (1996) points out, the potential for inadvertent war and crisis stability are still reasons to worry about proliferation.<sup>38</sup> Ultimately, the proliferation pessimists provide numerous reasons why, in actuality, nuclear weapons acquisition is more complex and dangerous than how simple theoretical models portray it.

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<sup>36</sup> Scott D. Sagan. "The perils of proliferation: Organization theory, deterrence theory, and the spread of nuclear weapons." *International Security* 18, no. 4 (1994): 68

<sup>37</sup> *Ibid.* 86

<sup>38</sup> David J. Karl. "Proliferation pessimism and emerging nuclear powers." *International Security* 21, no. 3 (1997): 118.

Moving toward the empirical analysis of deterrence, there is some support for both optimistic and pessimistic arguments. Berkowitz (1985) argues that deterrence stability in a nuclear dyad is dependent on specific attributes, like a state's nuclear arsenal and nuclear strategy.<sup>39</sup> This suggests that stability and instability can both emerge and that the outcome of proliferation is dependent on state behavior.

When analyzing deterrence in a nuclear dyad, it is also important to evaluate not just whether deterrence holds, but also other modes by which conflict may emerge between two nuclear states. The stability-instability paradox, for example argues "that offsetting nuclear capabilities will increase tensions between adversaries" and "that, despite increased tensions and severe crises, nuclear-armed adversaries will avoid a major conflict or nuclear exchange" (Krepon 2003).<sup>40</sup> Instead, stability at the nuclear level will open up space for lower-level conflict at the conventional level that remains unstable, but never rises to the intensity of war.<sup>41</sup> Rauchhaus (2009), in a quantitative study, finds that symmetric nuclear dyads have lower odds of war breaking out.<sup>42</sup> Therefore, deterrence may not hold for all types of conflict and symmetric nuclear dyads may still see tensions and crises, but not necessarily at the nuclear level. As well, this paper will be careful to distinguish between stability at the nuclear level, and stability at lower levels of escalation.

The security dilemma offers further insight into how conflict may arise between states. Jervis (1978) argues that two variables are necessary for determining if a security dilemma exists: whether the offense or defense has the advantage and whether an offensive posture is

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<sup>39</sup> Bruce D. Berkowitz. "Proliferation, deterrence, and the likelihood of nuclear war." *Journal of Conflict Resolution* 29, no. 1 (1985): 117

<sup>40</sup> Krepon, Michael. "The stability-instability paradox, misperception, and escalation control in South Asia." *Prospects for peace in South Asia* (2003): 262.

<sup>41</sup> Robert Rauchhaus. "Evaluating the nuclear peace hypothesis: A quantitative approach." *Journal of Conflict Resolution* 53, no. 2 (2009): 260

<sup>42</sup> *Ibid.* 258



distinguishable from a defensive one.<sup>43</sup> When offense is advantaged and the two postures are distinguishable, a security dilemma exists. Therefore, deterrence may lead to a security dilemma and arms race, increasing instability. This theory suggests that crises may still arise between states in which stability has previously prevailed.

In conclusion, the deterrence literature provides a useful insight into how inter-state relations in a nuclear dyad develop over time. As well, the proliferation optimists who argue that deterrence will be achieved and the proliferation pessimists who argue that deterrence can be undermined by instability provide a useful framework for understanding how deterrence develops between nuclear states. Deterrence can be seen as the culmination of the drivers of proliferation and effects of proliferation, as states adjust to the new reality of an additional nuclear state. As well, these findings suggest that, even though instability can still emerge in a deterrent relationship, it is not the defining characteristic of the dyad, like it is during the nuclear program period. And, the literature suggests that a symmetric nuclear dyad is more stable than an asymmetric nuclear dyad. Therefore, nuclear deterrence can improve dyadic stability. My theory will incorporate both the effects of proliferation and the occurrence of deterrence to understand how the relationship between a status quo nuclear state and a new nuclear state, that first develops a nuclear weapons program and then builds up its arsenal and diversifies its delivery platforms, will change over time by moving from instability to stability.

## **Theorizing about the Response of Nuclear States to Another State's Development of Nuclear Weapons Over Time**

Although the interactions between nuclear weapons states have been studied extensively, there has not been enough examination of how these relationships change over time. This paper

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<sup>43</sup> Robert Jervis. "Cooperation under the security dilemma." *World politics* 30, no. 2 (1978): 211

will examine how a non-nuclear weapons state's development of nuclear weapons affects its relationship to a state that already has nuclear weapons. Relationships between nuclear states over time have been studied (Horowitz 2009) and relationships between a nuclear state and a state with a nuclear weapons program have been studied (Fuhrmann and Kreps 2010), but a holistic understanding of these two components of a dyadic relationship have not been.

This theory also seeks to fill a gap in the understanding of deterrence. Deterrence has been traditionally understood as occurring or not occurring (Waltz 1990) with little gray area in between. This paper will contribute to a theory of deterrence as a process that occurs over time. Deterrence takes time to become fully established in a dyadic relationship between nuclear states. Rather than being an inherent attribute of nuclear dyads, deterrence is a fluid concept that is developed and incorporated into a relationship over time. This paper will attempt to examine nuclear deterrence by studying how it arises, through the relationship of a nuclear state and a state that is in the process of developing nuclear weapons.

### *Theory Background*

A nuclear power's decision to increase tensions with a state that is either developing or possesses nuclear weapons would be impacted by the stage of development of that state's nuclear weapons. These dyads allow us to look at the interaction between two states, a status quo nuclear state that has already become a nuclear weapons state and a new nuclear state that is in the process of developing nuclear weapons or became a nuclear weapons state after the status quo state. The new nuclear state's decision to acquire nuclear weapons raises the question, why should any status quo nuclear state care about the new nuclear state's acquisition? Given the change in the security environment that another nuclear state would bring, the commencement of a nuclear weapons program by a non-nuclear power would be detrimental to the interests of

nuclear powers. Another state's development of nuclear weapons would diminish the power and influence of the status quo states' nuclear status. More importantly, though, another state's nuclear weapons program would be perceived as a threat by the status quo nuclear state. The arrival of a new nuclear state, particularly one that has had a history of antagonism with the status quo nuclear state, would be a cause for concern because the new nuclear state may seek to use its newfound nuclear status to attempt to coerce the status quo state or be emboldened to engage in more risky behavior, than it otherwise would have, that is harmful to the status quo state's interests (Bell 2015).<sup>44</sup> While this logic holds true for all status quo nuclear states, it is more salient for status quo nuclear states who are adversaries of the new nuclear state. These adversaries would have the most to lose from a shift in the balance of power. Non-adversaries would likely not want another state to acquire nuclear weapons too because that would mean another state it would probably have to deter, which is financially expensive. This is likely part of the reason why the statutory nuclear powers of the Non-Proliferation Treaty have agreed not to share nuclear weapons or nuclear technology. Despite a status quo nuclear state's preference for the non-nuclear state not to acquire nuclear weapons, once that non-nuclear state does acquire nuclear weapons and diversifies its delivery platforms, the status quo state will enter into a nuclear deterrent relationship with the new nuclear state. The reality that all status quo nuclear states have entered into nuclear deterrent relationships with new nuclear states – in which the status quo states have stopped attempting to undermine the new nuclear states' nuclear program and arsenal – begs the question of why a status quo nuclear state would want to prevent a non-nuclear state from acquiring nuclear weapons? The answer likely comes down partially to status quo nuclear states not wanting to see the power that nuclear status confers diminished by another

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<sup>44</sup> Bell, Mark S. "Beyond emboldenment: how acquiring nuclear weapons can change foreign policy." *International Security*. 40.1 (2015): 90.

state entering the nuclear club, since that would dilute the influence of the status quo state's nuclear status. Therefore, status quo nuclear states will attempt to prevent a non-nuclear state from acquiring nuclear weapons, and only once nuclear deterrence is clear will the status quo nuclear state accept it.

A status quo nuclear state would prefer to prevent a non-nuclear state from acquiring nuclear weapons, but it would have to consider when the most opportune time is to take action to reduce the non-nuclear state's ability to acquire nuclear weapons. Since nuclear deterrence is much more likely to succeed than nuclear compellence (Sechser and Fuhrmann 2013), status quo nuclear states will take action to deter the new nuclear state from acquiring nuclear weapons rather than attempt to compel them to give up their nuclear weapons. Therefore, it would be advantageous for a status quo nuclear state to raise tensions early on in the new nuclear state's development of nuclear weapons, rather than later. The timing of the status quo nuclear state's decision to raise tensions suggests that nuclear acquisition is destabilizing early on in the new nuclear state's development of nuclear weapons. However, once the new nuclear state does acquire nuclear weapons, the status quo state will recognize that its best choice at this point is to enter a deterrent relationship. Nuclear acquisition is destabilizing first then stabilizing later in the relationship.

The status quo nuclear state's decision to increase tensions with the new nuclear state is its response mechanism to the new nuclear state's nuclear weapons development. Increasing tensions is used because it is a broader concept than simply contemplating an attack. Increasing tensions can be anything from sanctions, to a military buildup as a way to balance against the new nuclear state's newfound power, to numerous other actions that increase dyadic instability. The heightening of tensions, though, can be separated into two responses that the status quo state

can make, both of which are intended to increase the new nuclear state's trepidation about carrying forward with its nuclear development. The first response is to initiate a coercive threat, or other less direct action or form of pressure, that is intended to persuade the new nuclear state that it is better off not pursuing nuclear weapons further. Action and pressure with this intention will attempt to convince the new nuclear state that it will be harmed, and diminish in power. Therefore, the new nuclear state would be worse off if it continued its nuclear weapons development due to the status quo state's response to that development. These less direct actions and pressure can also be the loss of certain economic, development, or military assistance that the status quo state was offering the new nuclear state, since this would also harm the new nuclear state. Direct forms of action include when the status quo nuclear state: reviews plans for or discusses the option of a strike; mobilizes forces for a strike; executes a strike; engages in territorial disputes or border conflicts; releases hostile statements; or, mobilizes forces (Goldstein 2006).<sup>45</sup>

The second response is an action that will prepare the status quo state for a new reality where the new nuclear state is more powerful, an action which necessarily is not in the new nuclear state's interest. This action is basically a proportional response made by the status quo state to demonstrate that since the new nuclear state is becoming more powerful, the status quo state will also become more powerful, and if the new nuclear state backs off, then the status quo state will too. The action is a hedge, since if the new nuclear state does not back down, then the status quo state will lose little relative power once the new nuclear state becomes a full nuclear weapons state. Whether the second response occurs empirically, depends on whether the status quo state intends on altering the new nuclear state's behavior or simply preparing for the new

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<sup>45</sup> Lyle Goldstein, *Preventive Attack and Weapons of Mass Destruction: A Comparative Historical Analysis* (Stanford, CA: Stanford University Press, 2006): 22-23

reality with it as another nuclear state. Additionally, tensions do not come solely from the status quo state, and may also come from the new nuclear state, but this theory focuses on the behavior, and drivers of behavior, of the status quo nuclear state.

### *Theory of Threat Perception*

One fundamental component of this theory is threat perception. Threat perception arises here as an intervening variable between the stage of nuclear development, independent variable, and level of tensions, dependent variable.

New nuclear state's stage of nuclear development → threat perception by status quo state → status quo state responds

The threat perception variable is from the status quo state's perspective. As the new nuclear state progresses from the preventive stage to the preemptive stage, the status quo state's threat perception rises. As the new nuclear state moves from the preventive stage to the deterrent stage, the status quo state's threat perception falls. The threat perception variable affects how the status quo state responds; the more threatened the state, the more likely it is to increase tensions toward the new nuclear state. Tensions will then be lowered as the status quo state becomes less threatened by the new nuclear state's nuclear capability. Ultimately, the factor driving tensions between the status quo state and new nuclear state is the level of threat perception. However, threat perception can be made up of multiple different factors, many of which are determined by the preexisting relationship between the two states and the status quo state's expectation for how the new nuclear state will act once it has acquired nuclear weapons. Therefore, this theory may not hold universally true, since threat perception will be slightly different for each dyad.

### *Theory of the Preventive Stage*

I theorize that a status quo nuclear state will tailor its response to a state developing nuclear weapons depending on the stage of that state's development. A state's development of nuclear weapons can be usefully split into three stages: the preventive, preemptive, and deterrent. In the preventive stage, the non-nuclear state has commenced a nuclear weapons program, but has not yet tested a nuclear weapon or become a nuclear weapons state. By nuclear weapons program, I mean a program designed to develop nuclear technology for the purpose of enriching nuclear material to create a nuclear weapon. During this stage, the status quo nuclear state is expected to respond by ratcheting up tensions with the non-nuclear state over the issue of its nuclear weapons program, increasing tensions as the new nuclear state draws closer to its first nuclear test. As well, the status quo state will consider preventive attacks on the non-nuclear state's nuclear program and will also register its dissatisfaction with the state developing nuclear weapons. Tensions between the two states will increase as the state developing nuclear weapons draws closer to a test because the status quo nuclear state recognizes that once a test occurs, or a functioning nuclear arsenal is developed, it will be much more difficult to coerce the now new nuclear state into disarming. Therefore, tensions will peak around the point in time where the state developing nuclear weapons tests a device or becomes a nuclear state.

Furthermore, a status quo nuclear state will begin to increase tensions at this point because it has an increased threat perception of the new nuclear state due to an expectation that its security environment will change once the new nuclear state acquires a nuclear weapon. Threat perception functions here as the driving impetus behind the status quo state's decision to increase tensions. If the status quo state is more threatened because the change in the balance of power will allow the new nuclear state to take actions contrary the status quo state's interests or

because the status quo nuclear state would prefer no additional states acquire nuclear weapons, then the status quo state will raise tensions.

One issue with the status quo state's decision to raise tensions is that the new nuclear state may be developing nuclear weapons because it feels insecure, and increasing tensions will only make the new nuclear state feel more insecure. However, the status quo state may simply believe that it is in such a powerful position that it is capable of coercing the state developing nuclear weapons into halting its program. While, this may encourage the state to continue attempting to develop nuclear weapons, it may also be sufficient to force this state into acquiescing and no longer seeking a nuclear arsenal. Alternatively, the status quo state may recognize that direct coercion will make the new nuclear state more insecure, and choose to increase tensions indirectly as part of a strategy to get the new nuclear state to end its nuclear weapons program. This indirect strategy might involve encouraging other status quo nuclear states that are less of a security threat to take the lead on applying sanctions, other forms of diplomatic pressure, or threats.

#### *Theory of the Preemptive Stage*

The preemptive stage will then begin once the new nuclear state has tested, or become a recognized nuclear weapons state. At the start of this stage, the status quo state's level of tensions will begin to decline over time, but still remain relatively high throughout the rest of the stage. The status quo nuclear state will recognize that it still has a chance to exert influence over the new nuclear state's arsenal and nuclear program right after the first test, or the time that the new nuclear state is recognized as a nuclear state, because the new nuclear state's arsenal will be extremely small and it will have only a limited number of delivery platforms. This liminal period is still an opportune time for the status quo state either to take military action, like striking the



new nuclear state's nuclear program and arsenal, or to heighten tensions over the new nuclear state's nuclear program while it is still vulnerable and is much less powerful than the status quo state. As the new nuclear state develops its nuclear arsenal, though, by increasing its delivery platforms, like entering ballistic missiles into service, the status quo state will begin to decrease tensions since it recognizes that the new nuclear state is more powerful and deterrence, while still inchoate, is beginning to take shape. Only once deterrence, in the form of a secure second strike capability that both states possess, is fully established will tensions begin to dissipate.

Again, the status quo state's behavior is driven by its perception of the new nuclear state as a threat. As the status quo state views the new nuclear state as less of a threat it will decrease the level of tensions. The status quo state will view itself as most threatened right as the new nuclear state demonstrates its nuclear ability because at this moment the status quo state has no awareness of how the new nuclear state will act. Especially if the two states are adversaries, the status quo nuclear state will fear that the new nuclear state will use its nuclear capacity to confront the status quo state. Once the status quo state becomes comfortable with the new nuclear state over an extended period of time, while the new nuclear state builds up its arsenal and diversifies its delivery platforms, it will view itself as less threatened and lower the level of tensions and instability.

I theorize here that the period right after a nuclear test, or right after the time the new nuclear state becomes a nuclear weapons state, is the most opportune moment for the status quo nuclear state to strike or raise tensions. Despite this claim, a strike has never occurred. However, status quo states have considered strikes, and tensions can manifest in forms other than strikes. Tensions may still occur in the form of strikes considered, or diplomatic pressure over sanctions and military or economic ties. As well, status quo states may not strike because they are actually

deterred by the new nuclear states conventional capabilities. States developing nuclear weapons typically have advanced militaries and large military budgets, and so could deter the status quo state from striking. Finally, this theory is relative to each case. Therefore, strikes do not need to be carried out, or even considered, for a dyad to reach its highest point of tensions at this transition period after a nuclear test. If the relations in the dyad had not risen to extremely high levels previously, a somewhat low level of tensions, such as diplomatic pressure, would still be the height of tensions.

#### *Theory of the Deterrent stage*

The deterrent stage is the final stage in the dyadic relationship between the status quo nuclear state and the new nuclear state. This stage begins when the status quo nuclear state shifts from a preemption mindset to a deterrence mindset and it continues until one of the state disarms, though this paper does not incorporate any examination of what causes nuclear states to disarm. The preemption mindset is the perspective that the status quo state will need to preempt the new nuclear state, since the status quo state is still threatened. However, once the status quo state begins to perceive the new nuclear state as a diminished threat, and a threat that can be deterred, it will lower tensions. In this stage, the status quo nuclear state recognizes the new nuclear state as a bona fide nuclear power with a significant arsenal and fully diversified delivery platforms that ensure a secure second strike capability. The reasoning behind the transition from the preemptive to deterrent stage is that once the new nuclear state begins to become a nuclear state with a large arsenal and diversified delivery platforms it will have shown itself to be an advanced nuclear state in terms of its capability and technological prowess.

The status quo state will, at this time, dramatically decrease tensions to an insignificant level as it no longer considers preemptive strikes against the new nuclear state's nuclear program

or its nuclear arsenal. The status quo state will no longer increase tensions over the issue of the new nuclear state's nuclear status. This is because the new nuclear state's nuclear arsenal will be so developed and fully realized at this point that the status quo nuclear state could not increase tensions over the new nuclear state's nuclear program without increasing the risk of a devastating nuclear exchange. Since the status quo nuclear state will be deterred by this reality, tensions over the new nuclear state's nuclear arsenal will dissipate.

Threat perception in this stage reaches its lowest levels. As the status quo state becomes deterred by the new nuclear state, and the status quo state recognizes that it has been able to deter the new nuclear state, the status quo state will view itself as less threatened by possible conflict. As the status quo state's threat perception falls, it will lower tensions with regards to the new nuclear state's nuclear arsenal. As well, tensions will decline as the status quo state becomes accustomed to the new balance of power that the new nuclear state's nuclear acquisition has created. Ultimately, the fall in tensions in this stage is driven by the status quo state recognizing and accepting the new nuclear state's nuclear status. In this new security environment, the status quo state will realize that the new nuclear state is a responsible nuclear power and also be deterred from raising tensions.

#### *Hypotheses*

*H1: As the new nuclear weapons state develops its nuclear arsenal, tensions between it and the status quo nuclear weapons state will first rise and then fall, as the status quo nuclear state's threat perception changes. In the preventive stage, as the new nuclear state draws closer to its first nuclear test, tensions will rise because the status quo state will perceive the new nuclear state as a greater threat.*

*H2: In the preemptive stage, tensions will first remain at their height, then they will begin to fall as the new nuclear state increases its arsenal and diversifies its delivery platforms and the status quo state views itself as less threatened.*

*H3: In the deterrent stage, the status quo state recognizes that the new nuclear state is deterred and less of a threat. Once the new nuclear state has a fully diversified arsenal, the status quo state will decrease tensions to their lowest level.*

<b>Stage</b>	<b>Timeframe of Stage (for new nuclear state)</b>	<b>Expected Level of Tensions</b>
Preventive	Start of nuclear weapons program to first nuclear test or when it becomes a nuclear weapons state, whichever occurs first	Progressively rising tensions; increasing threat perception by status quo nuclear state
Preemptive	End of preventive stage to recognition that the new nuclear state can be deterred. This is operationalized as the first time the new nuclear state deployed an SSBN or ICBM, whichever occurs first	Highest tensions at start of stage, then stabilizing tensions; threat perception stops increasing and begins to decline
Deterrent	End of preemptive stage until new nuclear state disarms	Progressively falling tensions; threat perception continues to decline

### *Questioning Assumptions of the Theory*

One fundamental assumption of this theory that should be addressed specifically is that a status quo nuclear state will be threatened by any new nuclear state developing nuclear weapons. While it is likely true that a status quo state will be more threatened by a new nuclear state's nuclear development if the two states have a history of antagonism, the status quo state will still be threatened by any new nuclear state. Any additional state acquiring nuclear weapons will have a deleterious impact on the status quo state's relative power and will alter the security

environment by being able to match the status quo nuclear state's power. This will create a new regional, and possibly global, balance of power and prevent the new nuclear state from being blackmailed by the status quo state, weakening the status quo state. Ultimately, the status quo state will still be threatened by any new nuclear state, not just those it has a history of antagonism with.

### *Conclusion*

In all, the three stages of the new nuclear state's nuclear weapons development will each be perceived differently by the status quo state. The status quo state's desire to prevent another state from acquiring nuclear weapons in the preventive stage will eventually turn to acceptance of the new nuclear state's nuclear status in the deterrent stage as the status quo state recognizes it cannot prevent the new nuclear state from maintaining its nuclear arsenal and is deterred from a preemptive attack or further increasing tensions. The preemptive stage serves as an intermediate stage between the preventive and deterrent stages where the status quo nuclear state initially attempts to heighten tensions in a final effort to stop the new nuclear state from expanding its arsenal and completing additional delivery platforms. As the stage progresses, though, the status quo nuclear state decreases tensions in recognition of the new nuclear state's expanding capabilities. Finally, in the deterrent stage, the new nuclear state has fully diversified its delivery platforms and is able to deter the status quo nuclear state. The status quo state will lower tensions to the lowest level. These three stages encompass the entirety of the relationship between a status quo nuclear weapons state and a state that is developing nuclear weapons.

## **Quantitative Analysis**

While this paper uses both quantitative and qualitative methodologies to test the hypotheses, I will address the methodology and results of the quantitative analysis first. The

mixed methods approach of this paper stems from the difficulty of testing the hypothesis. The quantitative section uses a directed dyad dataset of Militarized Interstate Disputes (MIDs) v. 3.1 from the Correlates of War project, similar to the dataset Horowitz (2009) uses.<sup>46</sup> The dataset is constructed such that each observation is one year for one dyad, with the status quo nuclear state as one variable and the new nuclear state as another variable. Each dyad has an observation for each year that the new nuclear state had a nuclear weapons program or nuclear weapon. The range of years is 1945 to 2010, but most dyads do not have an observation for every year. All explanatory variables of interest are coded as dummy variables.

#### *Dependent Variable Operationalization and Measurement*

In order to test the hypothesis, the dependent variable, which is the tensions that the status quo nuclear state introduces into the relationship between it and the new nuclear state, has to be operationalized. I operationalize this variable as the initiation of a dispute by the status quo nuclear state with the new nuclear state in a given year. Initiation of disputes is a good measure of tensions, particularly because the MIDs dataset captures a range of disputes, from shows of force and coercive threats to use of force that fall short of war. This range allows for a clear, singular measure of how tensions change over time as the new nuclear state develops its nuclear program. However, this operationalization of tensions only captures the first definition of tensions that focuses on direct actions that the status quo state takes. Finally, the dependent variable of dispute initiation is coded as 1 if a dispute was initiated in that year by the status quo nuclear state, and a 0 if not.

#### *Explanatory Variables of Interest Operationalization and Measurement*

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<sup>46</sup> Horowitz 2009 “The Spread of Nuclear Weapons and International Conflict”  
Zeev Maoz, Paul L. Johnson, Jasper Kaplan, Fiona Ogunkoya, and Aaron Shreve 2018. The Dyadic Militarized Interstate Disputes (MIDs) Dataset Version 3.0: Logic, Characteristics, and Comparisons to Alternative Datasets, *Journal of Conflict Resolution*, DOI: <http://journals.sagepub.com/doi/full/10.1177/0022002718784158>.

As well, MIDs are used because the independent variable, stage of nuclear weapons development, is a cause of disputes. I operationalize this independent variable into multiple explanatory variables of interest. I create three stage variables, preventive, preemptive, and deterrent, that are coded as 1 if the new nuclear state is in that stage and 0 if it is not. The preventive stage lasts from when the new nuclear state commences a nuclear weapons program until either its first nuclear test or when it becomes a nuclear weapons state, whichever comes first. The preemptive stage then begins and lasts until the new nuclear state deploys either an ICBM or SSBN, whichever comes first. The start of the deterrent stage is operationalized as the first deployment of an SSBN or ICBM because it is a good proxy for a developed nuclear arsenal and for a secure second strike. An SSBN or ICBM are only realized once the new nuclear state has had weapons for a long enough time that any nuclear learning process has already occurred and the new nuclear state is likely to be a much more stable actor that would prefer to maintain the status quo and a deterrent relationship. Then the deterrent stage begins and lasts so long as the new nuclear state continues to maintain a nuclear arsenal. Given the years which I code each dyad for, the new nuclear state will always be in one of these three stages. However, since I use ICBM or SSBN deployment as the start of the deterrent stage, and the dataset ends in 2010, some nuclear weapons states, such as Israel, Pakistan, India, South Africa and North Korea, do not enter the deterrent stage. As well, I code dummy variables for each nuclear milestone that the new nuclear state reaches. I code for years the new nuclear state has a nuclear weapons program,<sup>47</sup> whether a nuclear test has ever been conducted,<sup>48</sup> whether the new nuclear state is a

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<sup>47</sup> Jo and Gartzke “Determinants of Nuclear Weapons Proliferation: Codebook and Data Notes” 2-6.

<sup>48</sup> NTI, “Country Profiles,” Accessed April 13, 2019. <https://www.nti.org/learn/countries/>; Gordon Chang. *H. Friends and Enemies: The United States, China, and the Soviet Union, 1948-1972*. Stanford University Press, 1990, 141; John Wilson Lewis and Litai Xue. *China builds the bomb*. Vol. 3. Stanford University Press, 1991 244; FAS. “Pakistan Nuclear Weapons.” <https://fas.org/nuke/guide/pakistan/nuke/>

de facto nuclear weapons state,<sup>49</sup> whether a ballistic missile is in service,<sup>50</sup> whether an ICBM has been deployed,<sup>51</sup> whether an SSBN has been deployed,<sup>52</sup> and whether the new nuclear state has an arsenal of at least 100 nuclear weapons.<sup>53</sup>

### *Control Variables*

While stage of nuclear development effects dispute initiation, this dependent variable can be caused by other factors, so I control for other variables. Specifically, I control for effects that may make the status quo state more likely to consider the new nuclear state a threat outside of

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<sup>49</sup> Erik Gartzke and Matthew Kroenig. "A strategic approach to nuclear proliferation." *Journal of Conflict Resolution* 53, no. 2 (2009): 154.

<sup>50</sup> CSIS "Missile Threat," Accessed April 13, 2019. <https://missilethreat.csis.org/missile/>; John Wilson Lewis and Hua Di. "China's ballistic missile programs: technologies, strategies, goals." *International Security* 17, no. 2 (1992): 9-11.; Simon A. Mettler and Dan Reiter. "Ballistic missiles and international conflict." *Journal of Conflict Resolution* 57, no. 5 (2013): 863.; FAS. "Prithvi." Accessed April 13, 2019.

<https://fas.org/nuke/guide/india/missile/prithvi.htm>; NTI. "Pakistan: Missile." Accessed April 13, 2019. <https://www.nti.org/learn/countries/pakistan/delivery-systems/>; FAS. "Thor." Accessed April 13, 2019. <https://fas.org/nuke/guide/usa/theater/thor.htm>; Robert Norris. "British, French and Chinese Nuclear Arsenals: Research Findings and Arms Control Implications." NRDC. Accessed April 13, 2019.

[https://fas.org/nuke/norris/nuc\\_04269401a\\_005.pdf](https://fas.org/nuke/norris/nuc_04269401a_005.pdf); FAS "Missile Programs." Accessed April 13, 2019. <https://fas.org/nuke/guide/rusa/missile/index.html>; Department for Disarmament Affairs: Report of the Secretary-General. "South Africa's Nuclear Missile-Tipped Ballistic Missile Capability." 19. [https://heinonline.org/HOL/Page?handle=hein.unl/safrnuc0001&id=26&collection=unl&index=](https://heinonline.org/HOL/Page?handle=hein.unl/safrnuc0001&id=26&collection=unl&index=;); David Albright. "South Africa's Secret Nuclear Weapons." ISIS. Accessed April 13, 2019. <http://isis-online.org/isis-reports/detail/south-africas-secret-nuclear-weapons/13>; NTI. "South Africa Missile Chronology" Accessed April 13, 2019. [https://media.nti.org/pdfs/south\\_africa\\_missile.pdf](https://media.nti.org/pdfs/south_africa_missile.pdf);

<sup>51</sup> Larry M. Loeb "Jupiter Missiles in Europe: A Measure of Presidential Power." *World Affairs* 139, no. 1 (1976): 30.; FAS. "R-7 - SS-6 SAPWOOD" <https://fas.org/nuke/guide/russia/icbm/r-7.htm>; National Archives. "The Soviet Land-Based Missile Program: 1945-1972 Historical Overview." Accessed April 13, 2019.

<https://www.archives.gov/files/declassification/iscap/pdf/2010-005-doc2.pdf>; John Wilson Lewis and Hua Di. "China's ballistic missile programs: technologies, strategies, goals." *International Security* 17, no. 2 (1992): 9-11.; Simon A. Mettler and Dan Reiter. "Ballistic missiles and international conflict." *Journal of Conflict Resolution* 57, no. 5 (2013): 863.; The Economic Times. "Agni V, India's first ICBM, successfully test-fired: Things to know" Accessed April 13, 2019. <https://economictimes.indiatimes.com/news/defence/agni-v-indias-first-icbm-successfully-test-fired-things-to-know/height-weight/slideshow/62551504.cms>; Robert Norris. "British, French and Chinese Nuclear Arsenals: Research Findings and Arms Control Implications." NRDC. Accessed April 13, 2019. [https://fas.org/nuke/norris/nuc\\_04269401a\\_005.pdf](https://fas.org/nuke/norris/nuc_04269401a_005.pdf); Robert S. Norris and Hans M. Kristensen. "Nuclear US and Soviet/Russian Intercontinental Ballistic Missiles, 1959-2008." *Bulletin of the Atomic Scientists* 65, no. 1 (2009): 65, 67.

<sup>52</sup> FAS. "SSBN-598 George Washington-Class FBM Submarines" Accessed April 13, 2019. <https://fas.org/nuke/guide/usa/slbm/ssbn-598.htm>; Robert Norris. "British, French and Chinese Nuclear Arsenals: Research Findings and Arms Control Implications." NRDC. Accessed April 13, 2019. [https://fas.org/nuke/norris/nuc\\_04269401a\\_005.pdf](https://fas.org/nuke/norris/nuc_04269401a_005.pdf).

<sup>53</sup> Max Roser and Mohamed Nagdy, "Nuclear Weapons." Our World in Data. Accessed April 13, 2019. <https://ourworldindata.org/nuclear-weapons>.



the stage of its nuclear weapons development. Therefore, I control for “prior violent militarized conflict; the presence of a highly autocratic proliferator; and divergent foreign policy interests,” since Fuhrmann and Kreps (2010) find that those factors increase the danger that the status quo state expects nuclear weapons development to pose.<sup>54</sup> Then, I operationalize the relevant variables that could bias my results. For prior militarized conflict, I use the history of conflict for each state in the dyad. History of conflict is a dummy variable measured using data from the Uppsala Conflict Data Program dyadic v. 18.1 dataset, which is a separate coding of all conflicts between states, and is coded as 1 if a conflict was ongoing or ended in the last 15 years.<sup>55</sup> I use this data to code history of conflict instead of MIDs because it has a higher threshold for conflict. My goal here is also to control for shooting wars and MIDs will not allow me to do that.

For an autocratic proliferator, I use the democracy score of each state in the dyad. The democracy score of a state ranges from 0 to 10, with 0 being no democracy and 10 complete democracy.<sup>56</sup> For foreign policy divergence, I use the weighted S-score of the new nuclear and status quo nuclear states. S-score is a weighted measure of the similarity of the two states’ foreign policy portfolios.<sup>57</sup> Both of these variables were downloaded from the NewGene software.<sup>58</sup>

Additionally, just as in Horowitz (2009)’s analysis, I control for relative power to ensure that any disputes between the two states are not affected by whether the status quo state is

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<sup>54</sup> Fuhrmann and Kreps, "Targeting Nuclear Programs in War and Peace: A Quantitative Empirical Analysis, 1941-2000." 831.

<sup>55</sup> Therése Petterson and Kristine Eck (2018) Organized violence, 1989-2017. *Journal of Peace Research* 55(4); Harbom, Lotta, Erik Melander & Peter Wallensteen, (2008) Dyadic Dimensions of Armed Conflict, 1946-2007. *Journal of Peace Research* 45(5): 697-710.

<sup>56</sup> Keith Jagers, and Ted Robert Gurr. "Tracking democracy's third wave with the Polity III data." *Journal of peace research* 32, no. 4 (1995): 469-482.

<sup>57</sup> Curtis S. Signorino and Jeffrey M. Ritter. "Tau-b or not tau-b: Measuring the similarity of foreign policy positions." *International Studies Quarterly* 43, no. 1 (1999): 115-144.

<sup>58</sup> D. Scott Bennett, Paul Poast, and Allan C. Stam. "NewGene: An Introduction for Users." *Journal of Conflict Resolution*(2019): 0022002718824635. <http://www.newgenesoftware.org/>

powerful enough to coerce the new nuclear state.<sup>59</sup> The status quo state should have the same reaction whether the state developing nuclear weapons is more or less powerful. As well, relative power needs to be controlled for because a more powerful state may be more likely to be adversarial.<sup>60</sup> To operationalize relative power, I use the CINC score of each state. CINC (Composite Index of National Capacity) score is a measure of the power a state has, based on a country's population, industrial production, energy consumption, and military strength.<sup>61</sup> This variable was downloaded from the NewGene software.<sup>62</sup>

Finally, since this is a time series dataset I control for temporal dependence by using peace years, which is the number of years since the last dispute was initiated.<sup>63</sup> I control for temporal dependence because disputes in one time period are not independent from earlier disputes. The peace years variable resets for every dispute. I also control for peace years squared and peace years cubed. Finally, I run logit regressions to test the effect of each stage – preventive, preemptive, and deterrent – on dispute initiation. I also run logit regressions to test the effect of each milestone on dispute initiation, including whether a nuclear weapon had been tested, whether the new nuclear state is a nuclear weapons state, whether the new nuclear state has ballistic missiles in service, whether the new nuclear state has an ICBM, whether the new nuclear state has an SSBN, and whether new nuclear state has an arsenal of at least 100 nuclear weapons. I use logit regressions because the dependent variable is a dummy variable.

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<sup>59</sup> Horowitz. "The spread of nuclear weapons and international conflict: Does experience matter?" 242

<sup>60</sup> Ibid.

<sup>61</sup> J. David Singer, Stuart Bremer, and John Stuckey. (1972). "Capability Distribution, Uncertainty, and Major Power War, 1820-1965." in Bruce Russett (ed) *Peace, War, and Numbers*, Beverly Hills: Sage, 19-48. Version 5. <http://www.correlatesofwar.org/data-sets/national-material-capabilities/nmc-codebook-v5-1>

<sup>62</sup> D. Scott Bennett, Paul Poast, and Allan C. Stam. "NewGene: An Introduction for Users." *Journal of Conflict Resolution*(2019): 0022002718824635. <http://www.newgenesoftware.org/>

<sup>63</sup> David B. Carter and Curtis S. Signorino. "Back to the future: Modeling time dependence in binary data." *Political Analysis*18, no. 3 (2010): 271-292.

I also run regressions for both the stage variables (Table 1) and the milestone variables (Table 2) because they elucidate separate elements of my theory and hypotheses. While my hypotheses specifically identify stages as the explanatory variables of interest, the stages themselves are operationalized based on certain milestone variables. Therefore, I found it useful to run regressions on those milestone variables as well as a few additional milestone variables, specifically arsenal size of at least 100 and ballistic missile in service. These additional milestone variables also provide greater nuance to the stage variables by testing certain explanatory variables of interest that come within a specific stage. For example, putting a ballistic missile in service comes within the preemptive stage, so it would be insightful to understand whether a change in the propensity to initiate disputes comes at this point in time rather than at the change from one stage to the next. Milestone variables provide greater detail to how my theory is tested beyond the stages.

### *Results*

I will present results for four models: two with stage of nuclear development as the independent variables, one with controls and one without, and two with the nuclear milestones as the independent variables, one with controls and one without. The logit regression results for the stages model without controls demonstrates that a dispute is more likely to be initiated in the preemptive stage and the deterrent stage than in the preventive stage. These results are in relation to the preventive stage. Since the coefficients for the preemptive and deterrent stage are positive and statistically significant, that means a dispute is more likely in those stages than in the preventive stage.<sup>64</sup> This result does not support my hypothesis. I hypothesize that a dispute is more likely to be initiated in the preventive stage than in the

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<sup>64</sup> I. Kosmidis. 2013. brglm: bias reduction in binary-response generalized linear models. – R package ver. 0.5-9. <https://cran.r-project.org/web/packages/brglm/brglm.pdf>

preemptive stage, and that a dispute is more likely to be initiated in the preventive stage than in the deterrent stage. So a dispute would be most likely in the preventive stage, then would be next most likely in the preemptive stage, and least likely in the deterrent stage.

For the stages results with full controls, there is still no support for my hypothesis. The coefficients for the preemptive and deterrent stages are no longer statistically significant, and therefore cannot be interpreted. This suggests that the stage of nuclear development of the new nuclear state has little, or an unclear, impact on the tensions between the status quo nuclear state and the new nuclear state. Some control variables are significant at high levels, such as S-score, the relative power of the status quo state, and the history of conflict between the two states. All of these variables have relatively large coefficients.

The negative coefficient on S-score is logical, since a status quo state is unlikely to initiate a dispute with a new nuclear state that has a similar foreign policy portfolio. This is explored further in my case studies and can be seen noticeably in the case of the India-USSR dyad, partially for the China-USSR dyad, and to some extent for the India-US dyad. The coefficient for the CINC score for the status quo state is large and positive, which suggest that a relatively powerful status quo state is more likely to initiate a dispute. This can be seen in the case of the China-US dyad and to some extent in the India-China dyad, with the former case showing how a relatively powerful status quo state responds and the latter showing how a relatively weak status quo state responds. With regard to history of conflict, its coefficient is positive, which suggests that two states that have engaged in a conflict in the recent past are more likely to have a dispute initiated. While the relative power of the new nuclear state is not significant, the coefficient is rather large in the negative direction. This suggests that if a new nuclear state is powerful, it is less likely to have a dispute initiated against it. With regards to the

democracy controls, the democracy score of the status quo state is significant, but quite small, and the democracy score of the new nuclear state is not significant.

Table 1<sup>65</sup>

	<i>Dependent variable:</i>	
	Stages (1)	Stages with Controls (2)
Preemptive Stage	1.036*** (0.213)	0.489 (0.347)
Deterrent Stage	1.035*** (0.263)	0.091 (0.681)
Weighted S-score		-1.677*** (0.423)
CINC (status quo state)		4.703*** (1.551)
CINC (new state)		-6.210 (4.063)
Democracy (status quo state)		0.108** (0.051)
Democracy (new state)		-0.010 (0.008)
History of Conflict		1.700*** (0.473)
Peace years	-0.465*** (0.053)	-0.648*** (0.096)
Peace years squared	0.017*** (0.003)	0.042*** (0.009)
Peace years cubed	-0.0002*** (0.0001)	-0.001*** (0.0002)
Constant	-1.530*** (0.144)	-2.366*** (0.547)
Observations	2,603	2,062
Log Likelihood	-459.592	-255.763

<sup>65</sup> Marek Hlavac, (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables. R package version 5.2.2. <https://CRAN.R-project.org/package=stargazer>

Akaike Inf. Crit.	931.184	535.525
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

With regards to the milestone variables without controls, the results provided evidence that are suggestive of support for my hypothesis. I would expect to find that as the new nuclear state progresses in the milestones it reaches, from conducting a nuclear test, to becoming a nuclear weapons state, to putting a ballistic missile in service, to deploying an ICBM, to putting an SSBN on patrol, the number of initiations begins to increase then decrease. The results of this regression model suggest mixed support. I would expect to find an increase in initiations as the new nuclear state reaches the first nuclear test and nuclear weapon state milestones, and do find that the number of initiations is positive when the new nuclear state becomes a nuclear weapons state. However, the nuclear test variable is not statistically significant. During this time period, the new nuclear state is still transitioning into its nuclear status and developing its arsenal, so I would expect a relatively high number of disputes. Next, I would expect a decrease in the number of disputes once the new nuclear state places ballistic missiles in service, acquires an ICBM, an SSBN, and an arsenal of at least 100 nuclear weapons. That is what the evidence suggests, since the number of disputes falls slightly for the ballistic missile variable, and then dramatically for the SSBN variable. However, I cannot interpret the ICBM and arsenal size coefficients because they are not significant. Overall, this provides some support for my hypothesis, although the increase in disputes may last a little longer than I would expect.

For the milestone variables model with controls, the results are much less clear, due to the lack of significant coefficients. However, for the control variables, I find more support for what the stage model with controls showed, which is that for two states with similar foreign policies, a dispute is less likely to be initiated. Additionally, a more powerful status quo state is

likely to initiate more disputes and a more powerful new nuclear state is more likely to have fewer disputes initiated against it. For democracy, a democratic status quo state marginally increases the likelihood of a dispute. Finally, for history of conflict, two states with a history of conflict are more likely to have a dispute initiation. In all, the results are rather mixed, with some support for my hypothesis, but not overwhelming support or support for all aspects of how I hypothesized the relationship between the status quo and new nuclear states would develop as the new nuclear state diversified its nuclear arsenal and delivery platforms.

Table 2<sup>66</sup>

	<i>Dependent variable:</i>	
	Milestones (1)	Milestones with Controls (2)
Has conducted nuclear test	0.447 (0.298)	0.595 (0.408)
Nuclear weapons state	0.694* (0.403)	-0.074 (0.675)
Ballistic missile in service	0.615* (0.365)	0.926 (0.607)
ICBM deployed	0.695 (0.534)	-0.042 (1.158)
SSBN deployed	-1.088** (0.463)	0.164 (1.149)
Arsenal size of at least 100	-0.438 (0.485)	-0.852 (0.858)
Weighted S-score		-1.728*** (0.432)
CINC (status quo state)		4.505*** (1.578)
CINC (new state)		-9.476** (4.498)

<sup>66</sup> Marek Hlavac, (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables. R package version 5.2.2. <https://CRAN.R-project.org/package=stargazer>

Democracy (status quo state)		0.091*
		(0.051)
Democracy (new state)		-0.010
		(0.008)
History of Conflict		1.412***
		(0.492)
Peace years	-0.410***	-0.621***
	(0.052)	(0.100)
Peace years squared	0.014***	0.041***
	(0.003)	(0.009)
Peace years cubed	-0.0001***	-0.001***
	(0.0001)	(0.0002)
Constant	-1.666***	-2.230***
	(0.149)	(0.545)
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Observations	2,603	2,062
Log Likelihood	-448.469	-251.784
Akaike Inf. Crit.	916.938	535.569

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Ultimately, there may be a few reasons why my hypothesis is not confirmed by this dataset and the regressions that were run. One possible issue is that the dependent variable used does not properly test the hypothesis. This is because the dependent variable of MID initiation is for all MIDs between two states, not necessarily MIDs related to nuclear weapons development. This difficulty stems from how the dependent variable of tensions should be operationalized. While nuclear weapons development would cause MID initiation in my hypothesis, this dataset includes MIDs that were not initiated in response to nuclear weapons development. As well, another issue is that it is hard to operationalize the explanatory variables of interest. This is specifically true for the stages of nuclear weapons development that I use to structure my hypothesis. In reality, the stages likely blend together, and are not completely rigid. This is



especially true for the transition from the preemptive stage to the deterrent stage, since deployment of an ICBM or SSBN is likely not the indicator that leads status quo states to recognize a deterrent relationship with the new nuclear state. Instead, the transition from a preemptive mindset to a deterrent mindset may occur earlier in the relationship. Therefore, it may be that my theoretical argument for rising tensions under a preventive mindset to falling tensions as a deterrent mindset is entered into by the status quo state is true, but it does not happen uniformly for all dyads. So some states enter a deterrent relationship more quickly than others, leading the rising and falling tensions to occur more quickly or earlier in the new nuclear state's development process. Additionally, it may be that the preemptive impulses of the status quo state do not rise to the level of a MID, so that even though the status quo state would desire to take action and preempt the new nuclear state's nuclear arsenal, it chooses not to do so.

Empirically, it seems like status quo states don't have the view that a new nuclear state must have ICBMs or SSBNs to be able to deter, and therefore not be seen as much of a threat. Also, it seems like deterrence may have more to do with time, such as how long a new nuclear state has had nuclear weapons for, not with the number of delivery platforms the new nuclear state has. As well, it may be a mix of both, not just one or the other. In all, some of the results suggest support for my hypothesis and theory. The inability to completely confirm my hypothesis may ultimately stem from difficulties with operationalizing the independent and dependent variables.

## **Qualitative Analysis**

The qualitative section uses five case studies of dyads that include a new nuclear state and a status quo nuclear state. These dyads include China-US, China-USSR, India-US, India-USSR, and India-China, with the new nuclear state being the first state in the dyad, and the status

quo state, the second state in the dyad. I selected these five cases so that I would have variation in both the explanatory variables of interest and the dependent variable. Some cases, like China-US were typical cases, and other cases, like India-USSR and India-US, were deviant cases. The variation in the explanatory variables of interest is that some cases did not include deterrent stages. Since some new nuclear states never reach the deterrent stage for my quantitative coding, cases where that is also true are included. As well, there is variation in controls, since some dyads have larger gaps in relative power and greater differences in foreign policy interests than others. As well, some dyads have a history of conflict, like India-China, while others do not, and some dyads include two democracies, one democracy and one autocracy, and two autocracies. Finally, there is variation in the dependent variable, since some cases have high levels of tensions in different stages than I'd expect, some cases have low tensions through the entire time frame, and some cases have levels of tensions that are close to what I theorize. In all, the cases will maintain variation in the variables of interest while allowing for a more nuanced and exacting methodology to test the hypothesis, and therefore robust conclusions to be drawn.

The case study section of this paper allows for a deeper, more nuanced exploration of the intervening variable: threat perception. Particularly, my hypothesis seeks to explain the change in tensions as a function of how threatened the status quo state views itself as, given the new nuclear state's nuclear development. The cases, and the process tracing methodology I use, are better ways to test this intervening variable than the quantitative section.<sup>67</sup> Additionally, I will use the case studies to directly test the connection between the level of tensions in the dyad and the stage of the new nuclear state's development of nuclear weapons. By level of tensions, I am referring to the actions and internal thinking of the status quo state. Actions could consist of

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<sup>67</sup> Alexander L. George, Andrew Bennett, Sean M. Lynn-Jones, and Steven E. Miller. *Case studies and theory development in the social sciences*. MIT Press, 2005. 205-232

carrying out strikes, coercive threats, shows of force, diplomatic pressure, public statements, or other forms of a response that demonstrate displeasure. Internal thinking could consist of considering strikes and discussing other actions that were never taken, but still demonstrated what the status quo state was willing to do. While internal thinking is not an action, as I define tensions to be in the theory section, I use it as an example of tensions because a state that is internally contemplating a strike is engaging in behavior that is consistent with a goal to end the new nuclear state's nuclear weapons program. While this is not exactly a coercive threat since the new nuclear state likely never notices it, it is overwhelming proof that the status quo state is displeased with the new nuclear state and is therefore engaging in a broader strategy to increase tensions and make that displeasure known to the new nuclear state.

The process tracing methodology will be used to test how the status quo state's tensions change over time for each stage of the new nuclear state's nuclear development. Threat perception, the intervening step, is hypothesized to be the causal path by which the change in the stage of the new state's nuclear development causes the status quo state's tensions to change. That is, the level of the status quo state's tensions are a product of its threat perception. Ultimately, these case studies will allow for an improved understanding of the causal paths by which tensions change, and will provide a clearer picture of the ways in which tensions manifest beyond militarized disputes.

### *Case Studies*

My hypothesis can be applied to case studies by testing how the relationship between a new nuclear state and a status quo nuclear state change over time, as the new nuclear state develops its nuclear arsenal. In the application of the cases, I analyze how the development of the new nuclear state's arsenal, in the preventive, preemptive, and deterrent stages, affects the

response of the status quo state. The status quo state will either raise or lower tensions, based on its view of how threatening the new nuclear state is. I expect the status quo state to feel threatened in the preventive stage, and therefore raise tensions through intimidation and coercion, as well as by drawing up, and potentially carrying out, military action against the new nuclear state's nuclear weapons program. The dyadic relationship between the new nuclear state and status quo nuclear state will become increasingly unstable and peak around the time of the new nuclear state's first nuclear device test. Once that test is carried out, the status quo state will still consider and plan for a preemptive military strike, but at this stage, stability will begin to reemerge as the new state develops its arsenal and diversifies its delivery platforms. Ultimately, the new state and status quo state will reach the deterrent stage once the new state has acquired intercontinental ballistic missiles (ICBMs) or ballistic missile submarines (SSBNs), at which point the status quo state will no longer actively consider preemptive strikes that target the new nuclear state. At this point, deterrence will be fully realized and stability will permeate the dyadic relationship. Instability will therefore rise as the new nuclear state approaches its first nuclear device test, then fall as the new nuclear state develops its nuclear arsenal. This theory can be represented as:

New nuclear state's stage of nuclear development [independent variable] →

Threat perception by status quo state [intervening variable] →

Status quo state responds by raising tensions if threatened or lowering tensions/doing nothing if not threatened [dependent variable].

The case study method, and, in particular, process tracing, is a useful complement to quantitative analysis. Process tracing is a method that allows me to track how my independent variable, stage of nuclear development of the new nuclear state, affects tensions. Case studies

and process tracing provide a more nuanced tool for testing my hypothesis than militarized interstate dispute initiation. Disputes do not capture the full breadth of how tensions between states may manifest, so cases allow for a different method to test my dependent variable of tensions in my hypothesis. Specifically, cases allows tensions, the dependent variable, to be represented as strikes considered or carried out, or by public statements made by government officials. Cases also allow for an analysis of tensions based on internal government thinking of the status quo state, not just the actions of that government, which the quantitative analysis here does not include.

#### *The US Response to China's Nuclear Acquisition*

With the test of a nuclear weapon in 1964, China became the fifth nuclear power in the world. However, what the Chinese government likely did not fully appreciate was that this process almost triggered US intervention. The development of a nuclear weapons program is a risky process that invites status quo powers to perceive this new direction as a threat to their own security and influence. In the case of China's nuclear weapons program, the US saw a clear threat and took measures to plan for a possible preventive strike. Once China had tested, the US still considered a possible preemptive strike, though the President and his cabinet were not involved in these plans. Finally, once China reached a stage of development of its nuclear arsenal that provided a deterrent, the US no longer viewed China's nuclear weapons as a threat in need of elimination. In all, the case of the US response to China's nuclear weapons development provides clear and persuasive support for my hypothesis.

China's nuclear weapons program, and thus the preventive stage of my theory, began in earnest in 1956. This stage extends until China's first nuclear test in 1964. Beginning in 1961, the US first considered taking preventive action against China's nuclear weapons program. The

US had a heightened threat perception because President Kennedy and his administration were fearful that China would become more belligerent once it had a nuclear arsenal.<sup>68</sup> In response to this view of China, the US first considered using military force to end China's nuclear program in 1961.<sup>69</sup> Some options that the US considered were using Chinese nationalists (Kuomintang) forces to take out China's nuclear program, as well as air attacks.<sup>70</sup> Kennedy was in favor of preventive strikes in meetings with his cabinet, and he had reports drawn up that assessed the efficacy of preventive strikes.<sup>71</sup> In that same year, Chairman of the Joint Chiefs of Staff Curtis LeMay advocated preventive war against China.<sup>72</sup> In June, Kennedy first discussed joint strikes with Khrushchev at the Vienna summit.<sup>73</sup> Reports that year from the Defense Department and State Department both argued that China's acquisition of nuclear weapons would pose a legitimate threat. However, those reports differed slightly, since the Defense report argued that a nuclear China would be a military threat, while the State report only argued that China would be able to leverage greater political influence in Asia.<sup>74</sup> 1961 proved to be the first year when the US seriously considered preventive action against China's program, demonstrating the degree to which the US felt threatened by the prospect of a nuclear China.

In 1962, there is no evidence of consideration of military strikes, but the renewal of interest in military action in 1963 demonstrates that Kennedy and his administration still viewed

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<sup>68</sup> Gordon H. Chang. "JFK, China, and the Bomb." *The Journal of American History* 74, no. 4 (1988): 293.; Burr and Richelson "Whether to 'Strangle the Baby in the Cradle': The United States and the Chinese Nuclear Program, 1960-64" pg 55.

<sup>69</sup> Fuhrmann and Kreps "Targeting Nuclear Programs in War and Peace: A Quantitative Empirical Analysis, 1941-2000." Appendix A, 10.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Lyle J. Goldstein "When China was a 'rogue state': the impact of China's nuclear weapons program on US-China relations during the 1960s." *Journal of Contemporary China* 12, no. 37 (2003): 741.

<sup>73</sup> William Burr and Jeffrey T. Richelson. "Whether to 'strangle the baby in the cradle': the United States and the Chinese nuclear program, 1960-64." *International Security* 25, no. 3 (2001): 61.

<sup>74</sup> Ibid.

China as a grave threat if it acquired nuclear weapons.<sup>75</sup> By this time, however, some voices in the US government began to argue that China was less of a threat than Kennedy and others believed. An interdepartmental planning group released a report in November arguing that a nuclear China would not shift the balance of power or pose a greater challenge than a non-nuclear China.<sup>76</sup> Kennedy, though, was still adamant in his desire to put a stop to China's nuclear program. He even remarked at one point, in a show of racial animus, that China was such a grave threat because the Chinese government was willing to sacrifice millions in a conflict, and valued human life less than Westerners.<sup>77</sup> He instructed W. Averell Harriman, a diplomat, to reach out to Khrushchev about the possibility of a joint strike on China's program.<sup>78</sup> At this point, my hypothesis would expect the heightening of tensions, but there is more bureaucratic pushback within the US government to a strike on China than there was in 1961. This suggests that internal pressure to take military action on China's nuclear weapons program was declining. And declining internal pressure would mean that tensions and threat perception were slowly, but noticeably, beginning to decline even before China tested.

As China moved closer to its first test on October 16, 1964, the US again ratcheted up tensions over China's nuclear weapons program.<sup>79</sup> Although there were no actions taken, internal pressure and the possibility of strikes heightened in the months preceding China's first test. By this point, President Johnson, who was less of a hawk than Kennedy, was still discussing with his staff what actions, if any, the US should take with regard to China's nuclear program.<sup>80</sup> While many in the administration, like National Security Advisor McGeorge Bundy, still supported

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<sup>75</sup> Fuhrmann and Kreps "Targeting Nuclear Programs in War and Peace." Appendix A, 10.

<sup>76</sup> Kevin Quigley. "A Lost Opportunity: A Reappraisal of the Kennedy Administration's China Policy in 1963." *Diplomacy and Statecraft* 13, no. 3 (2002): 180.

<sup>77</sup> Chang, "JFK, China, and the Bomb," 1293.

<sup>78</sup> Fuhrmann and Kreps Kreps "Targeting Nuclear Programs in War and Peace." Appendix A pg 10

<sup>79</sup> Burr and Richelson "Whether to 'strangle the baby in the cradle'" 91.

<sup>80</sup> Goldstein "When China was a 'rogue state'" 745.

preventive strikes other lower-level government officials were starting to voice stronger opposition.<sup>81</sup> In an important report released by the State Department on April 14, 1964, Robert Johnson argued against preventive strikes, with his view becoming the official State Department position by mid-1964.<sup>82</sup> In a meeting on September 15, only weeks before China tested, the president and his advisors ruled out a unilateral and unprovoked preventive strike, unless China engaged in provocative action that the US felt could justify a strike in response.<sup>83</sup> While this decision was made in the preventive stage, Johnson and his administration would have known that a nuclear test was imminent. While the CIA believed that a test would not come until after 1964, experts in the State Department stated that a test could come as early as October 1.<sup>84</sup> With this foreknowledge, Johnson and his advisors would have likely been operating under the assumption that China would soon have a nuclear capability. In that same month, though, Bundy again discussed with Soviet Ambassador Anatoly Dobrynin whether the USSR would be amenable to a joint strike on China's nuclear program.<sup>85</sup> He was again turned down.<sup>86</sup>

Ultimately, the preventive stage of China's nuclear development provided strong, but not overwhelming, support for my hypothesis. As I expected, tensions between the US and China rose as the US considered possible military action and sought the support of the Soviet Union for a possible preventive strike. While no action was ultimately taken, China's development of a nuclear weapon led to a clear increase in the risk of conflict, as demonstrated by US internal

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<sup>81</sup> Burr and Richelson "Whether to 'strangle the baby in the cradle'" 56

<sup>82</sup> Burr and Richelson "Whether to 'strangle the baby in the cradle'" 77-78; Robert Johnson, "The Bases for Direct Action Against Chinese Communist Nuclear Facilities," National Security Archives, Accessed April 13, 2019 <https://nsarchive2.gwu.edu/nukevault/ebb488/docs/Doc%2016%204-22-64%20R%20Johnson%20bases%20for%20direct%20action.pdf>

<sup>83</sup> McGeorge Bundy, "Memorandum for the Record" National Security Archives, Document 3, Accessed April 13, 2019 <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/>

<sup>84</sup> "Special National Intelligence Estimate, 'The Chances of an Imminent Communist Chinese Nuclear Explosion'" National Security Archives, Document 2, Accessed April 13, <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/>

<sup>85</sup> Fuhrmann and Kreps "Targeting Nuclear Programs in War and Peace." Appendix A pg 10-11

<sup>86</sup> Ibid.



thinking, which was amenable to strikes under certain conditions. One part of my hypothesis that is not confirmed here is that I expected tensions between the US and China to reach their apex at the moment of the nuclear test. In this case, tensions were high in the months leading up to the test, but it's not clear when the highest point was.

The preemptive stage occurred from the end of 1964 until 1981, when China acquired ICBMs. Although this is not when I specifically theorize that the deterrent stage will begin, I use the year of the first ICBM deployment to provide a benchmark and allow this case to be compared to the quantitative section. Immediately after China's test in 1964 there was still some consideration of preemptive strikes within the US government, but these were at a low level.<sup>87</sup> President Johnson had already made his decision not to strike China's nuclear weapons program, and he would not alter this position. The levels of support for a preemptive strike on China's nuclear capabilities fell dramatically after China tested its first nuclear device. There is no evidence that President Johnson again considered striking China's nuclear weapons program after it was ruled out in the September 15 meeting.<sup>88</sup> And, there is no evidence that top advisors, like Bundy, continued to support strikes, despite the fact that Bundy and others had previously supported preventive strikes. This demonstrates a subsiding of the previously heightened US threat perception toward China. The Johnson administration's conclusion that strikes should not be carried out, despite China's still vulnerable position as a burgeoning nuclear power, provide clear evidence that President Johnson did not feel that a nuclear China was a threat to US interests or US security that warranted a military response. This is revealed in Johnson's September 15 decision, where he moved from ambivalence to opposition on the issue of

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<sup>87</sup> G. W. Rathjens, "Destruction of Chinese Nuclear Weapon Capabilities" National Security Archives, Accessed April 13, 2019 <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/>; Goldstein "When China was a 'rogue state'" 739.

<sup>88</sup> Bundy, "Memo for the Record"

strikes.<sup>89</sup> While Johnson's decision was made in the preventive stage, given the imminence of China's test, it is plausible that Johnson could have perceived China as almost a de facto nuclear state. Johnson knew he had one last chance to strike China's nuclear program and he chose to forego the opportunity. Since Johnson did not support a military response, it is likely that he thought China could be deterred and the US did not need to prevent China from becoming a nuclear power. This sanguine perception would be carried over to the Nixon administration.

By the time Nixon became president in 1969, a new course was being charted in Sino-American relations. Nixon began to open up relations with China through high-level diplomatic summits. At this time, the Sino-Soviet split was a clear force driving the two states together as the US saw an opportunity to pull China from the orbit of the USSR and China searched for US support to balance against Soviet power.<sup>90</sup> Nixon's move towards rapprochement with China demonstrated an end to overt tensions and internal discussions of preemptive strikes. Going beyond Johnson's approach of not antagonizing China, the decision to open up talks with China shows further that the Nixon administration did not view China's nuclear weapons as a significant threat. It would be less than ten years after China's nuclear test that Nixon would go to China. This is even more noteworthy because China's nuclear arsenal was explicitly developed in response to US actions in East Asia, specifically US actions in Korea and the Taiwan Strait.<sup>91</sup> While nuclear weapons were not an important point of the talks, their presence would likely have been on Nixon's mind given how recently China had become a nuclear power. This demonstration of US openness to China reflects an unthreatened line of thinking on Nixon's part.

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<sup>89</sup> Ibid.

<sup>90</sup> Xin Zhan. "Prelude to the Transformation: China's Nuclear Arms Control Policy during the US-China Rapprochement, 1969–1976." *Diplomatic History* 41, no. 2 (2017): 304.

<sup>91</sup> Goldstein "When China was a 'Rogue State'" 740.

China's position as one of the five established nuclear powers under the Non-Proliferation Treaty (NPT), signed in 1968, demonstrates that even before Nixon the US had no interest in contesting the validity or common acceptance of China's official nuclear status or the legitimacy of its claim to maintain a nuclear arsenal. If the US was threatened by China's nuclear weapons, then the US would likely push back on any broad acceptance of China as a nuclear state, since international recognition of its nuclear status would make it more difficult to coerce China into disarming.

This evidence suggests that the preemptive stage does not hew as closely to my hypothesis as the preventive stage did. I expected tensions to decline further in the preemptive stage, but given the low level of tensions, which emerged at the end of the preventive stage, tensions did not fall any further. It was not until the Nixon administration that tensions fell again. By the start of Nixon's first term, tensions had markedly declined over the past 5 years, even with China's small nuclear arsenal, estimated at about 50, and un-diversified nuclear delivery platforms.<sup>92</sup> With Nixon's visit to China at the end of his first term, the US China relationship could no longer be described as tense. This is particularly true in the area of nuclear relations, as the Shanghai Communiqué, which is the defining statement made by Mao and Nixon after their 1972 summit, makes no mention of nuclear weapons or issues relating to nonproliferation.<sup>93</sup> This is earlier than my hypothesis would have expected based solely on the stage of China's nuclear weapons program. I would expect this level of friendliness in the deterrent stage, not the preemptive stage.

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<sup>92</sup> Max Roser and Mohamed Nagdy, "Nuclear Weapons." Our World in Data. Accessed April 13, 2019. <https://ourworldindata.org/nuclear-weapons>

<sup>93</sup> "Joint Communiqué between the United States and China," February 27, 1972, History and Public Policy Program Digital Archive, Nixon Presidential Library and Museum, Staff Member Office Files (SMOF), President's Personal Files (PPF), Box 73. Accessed April 13, 2019. <http://digitalarchive.wilsoncenter.org/document/121325>

By 1981, China had developed an ICBM, thus entering the deterrent stage in the quantitative coding. Sino-American relations continued to improve, as the US did not view China's nuclear weapons as a threat, an extension of the same perception the US had toward the end of the preemptive stage. The relative tranquility in Sino-American relations are characteristic of an unthreatened conception of China's nuclear weapons. This is made manifest in US actions, as the US continued to avoid nuclear issues as an important topic in bilateral summits and engagement.<sup>94</sup>

An important component of the lack of tensions over China's nuclear weapons that is not fully incorporated in my theory has to do with force posture. China has maintained a force posture of assured retaliation, which emphasizes a no-first-use policy, a second-strike capability, and a small arsenal of nuclear weapons that is sufficient for deterrence.<sup>95</sup> This policy is intended to be de-escalatory, and may explain why the US does not view China as a threat during this stage, since China showed that the intent of its nuclear arsenal was merely for deterrence, even when it could have strengthened its arsenal. Another important component is that China only has "roughly forty missiles capable of striking the continental United States and another twenty that could strike Alaska or Hawaii."<sup>96</sup> This stage further confirms my hypothesis because US tensions over China's nuclear weapons are virtually nonexistent, particularly because of China's force posture and arsenal size. While I hypothesize that tensions will disappear as deterrence becomes realized with both nuclear states in the dyad maintaining arsenals with ICBMs, China's relaxed

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<sup>94</sup> "Joint Communiqué of the People's Republic of China and the United States of America (August 17, 1982)" PRC Embassy in the United States, Accessed April 13, 2019.

<sup>95</sup> <http://www.china-embassy.org/eng/zmgx/doc/ctc/t946664.htm>

<sup>95</sup> Fiona S. Cunningham and M. Taylor Fravel. "Assuring Assured Retaliation: China's Nuclear Posture and US-China Strategic Stability." *International Security* 40, no. 2 (2015): 7, 9.

<sup>96</sup> *Ibid.* 15.

posture, an aspect that is not part of my theory, is an important contribution to the lack of tensions.

Overall, my hypothesis is met for the preventive stage, but fails slightly towards the end of the stage as the US threat perception of China diminishes before the nuclear test. In the preemptive stage, the US does not consider actions at the level I would expect, and has a lower level of tensions immediately after the first test than theorized. This may be due to the fact that President Johnson viewed China's nuclear acquisition as a foregone conclusion, so chose to lower tensions in advanced recognition of that. However, threat perception and tensions dissipate as China develops its arsenal, though they dissipate faster than I expected. By the time the deterrent stage is reached, the US has already entered into a stable nuclear dyadic relationship with China, marked by negligible threat perception of China's nuclear arsenal. Tensions may have declined more quickly than I expected during the preemptive stage because China took a longer time to develop an ICBM than the US expected. Therefore, it took longer than expected for China to be able to target the US. This may have quickly allowed the US to grow comfortable with the concept of a nuclear China, even before deterrence fully developed. Indeed, in 1968, the US expected China to develop ICBMs a decade before China actually did.<sup>97</sup> A stable relationship may also have developed quickly because of China's non-confrontational force posture and nuclear doctrine, which is not incorporated into my hypotheses. In all, the case of China and the US confirms much of my hypotheses.

#### *The USSR Response to China's Nuclear Acquisition*

China's development of nuclear weapons was actively aided by the USSR. By the time of China's 1964 test, though, tensions between the USSR and China had begun to rise, and nuclear

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<sup>97</sup> U.S. State Department Director of Intelligence and Research to the Secretary, "Current Developments in Chinese Nuclear Capabilities," Accessed April 13, 2019 <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB26/>

weapons were an important factor in those tensions. Even though the USSR at one time aided China's nuclear program, it, like the US, began to see China's nuclear weapons as a threat. However, the timeline of Sino-American tensions are quite different than the timeline of Sino-Soviet tensions. While the US began to normalize ties with China shortly after Nixon's inauguration in 1969, that same year saw the height of tensions between China and the USSR. As well, the US-USSR rivalry's role in how each status quo nuclear state acted toward China cannot be underestimated. The status quo state's threat perception was inextricably linked to China's nuclear weapons, but factors other than stage of nuclear development affected how the US and USSR acted toward China.

The Soviet Union did not initially view China's nuclear weapons program as a threat worthy of preventive strikes, but instead actively supported it. While China's nuclear weapons program, and therefore the preventive stage, began in 1956, back in 1954, the USSR began to provide assistance to China's nuclear development with peaceful intent.<sup>98</sup> And by the time China had embarked upon a nuclear weapons program, the USSR had expanded its support in 1957.<sup>99</sup> These actions suggest that rather than view a nuclear China as a threat, the USSR felt that the benefits supporting China's program were outweighed by the costs. Khrushchev supported China's program mostly because of his precarious position at the top of Soviet politics.<sup>100</sup> In return for nuclear assistance, Khrushchev would have Mao's backing, which he needed to help shore up support for his leadership in the wake of Stalin's death.<sup>101</sup>

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<sup>98</sup> Zhihua Shen and Yafeng Xia "Between Aid and Restriction: Changing Soviet Policies toward China's Nuclear Weapons Program: 1954-1960" Nuclear Proliferation International History Project, i. Accessed April 13, 2019. [https://www.wilsoncenter.org/sites/default/files/soviet\\_policies\\_twrds\\_chinas\\_nuclear\\_weapons\\_prgm\\_-\\_ver\\_2.pdf](https://www.wilsoncenter.org/sites/default/files/soviet_policies_twrds_chinas_nuclear_weapons_prgm_-_ver_2.pdf)

<sup>99</sup> Ibid.

<sup>100</sup> Ibid.

<sup>101</sup> Ibid.

As China's nuclear weapons program progressed, though, Khrushchev began to pull back support. In 1959, he limited nuclear assistance to China in "pace, scope and depth."<sup>102</sup> Khrushchev's decision to wind down assistance, though, was not entirely due to the fact that he came around to view China's program as a threat. Instead, Khrushchev revoked support because he had both secured his position as leader of the USSR and in retaliation for China's decision to bombard Jinmen Island off of Taiwan in the summer of 1958.<sup>103</sup> This bombardment came as a surprise to Moscow and sparked a showdown between China and the US.<sup>104</sup> Even though Khrushchev's decision does not provide clear support for my hypothesis that the status quo nuclear state would be threatened by another state's nuclear weapons program and take action, it does suggest that Khrushchev would prefer that China remain a non-nuclear state. Khrushchev's actions demonstrate that support for China's nuclear weapons program was a bargaining chip that was offered out of necessity, not because the USSR wanted China to acquire nuclear weapons. This is suggestive of my hypothesis, since Khrushchev's lack of support for a nuclear China on its merits indicates that he viewed such a prospect as a possible low-level threat. By the time the last Soviet nuclear advisors departed China in 1960, the Sino-Soviet rift had already begun to emerge, and that would shape Soviet views towards China's nuclear weapons program, and then nuclear arsenal, for the rest of the relationship.<sup>105</sup>

The preventive stage continued until 1964, and although the USSR continued to grow discontented with China's policies, it still refused to take any action towards China's nuclear weapons program. In 1961 and 1963 when the US proposed the possibility of joint strikes, the USSR, both times, turned down the proposition, likely because China was a communist state and

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<sup>102</sup> Ibid.

<sup>103</sup> Ibid.

<sup>104</sup> Ibid.

<sup>105</sup> Ibid.

still viewed as a necessary ally.<sup>106</sup> Given Khrushchev's revocation of assistance to China's nuclear development, the USSR did not see a nuclear China as in its interests. As cracks in the Sino-Soviet relationship began to appear, Khrushchev's decision may also suggest a possible fear of what a nuclear China, split off from the Soviet bloc, would mean for the USSR. Starting in 1962, Sino-Soviet relations began to deteriorate in a more conspicuous manner. With Khrushchev's decision to back down during the Cuban missile crisis in 1962, the USSR lost legitimacy in the eyes of China.<sup>107</sup> Furthermore, by 1963 Khrushchev and the Soviets had firmly decided on a path of improved relations with the US, which China opposed as it wanted a stronger stance against the West.<sup>108</sup> By late 1963 to early 1964, China was consistently lashing out at the USSR over the Soviets' support for the Limited Test Ban Treaty and what the Chinese viewed as a lackluster record of support for communist movements throughout the world.<sup>109</sup>

Ultimately, this body of evidence suggests that the Soviets began to view China's nuclear weapons program as a threat by 1959, but not a direct threat that merited consideration of strikes. China's nuclear program was an important issue for the two states, but the broader antagonistic relationship grew out of political differences, rather than disagreements over China's nuclear development. This suggests that for the China-USSR case, there is not full support for my hypothesis regarding the preventive stage. While the Soviets did grow to view China's nuclear weapons program as more of a threat the closer China drew toward a nuclear test, that change in perspective has more to do with growing political frustrations, rather than solely to do with

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<sup>106</sup> Fuhrmann and Kreps "Targeting Nuclear Programs in War and Peace." Appendix A 10.

<sup>107</sup> James G. Richter *Khrushchev's Double Bind: International Pressures and Domestic Coalition Politics*. Johns Hopkins Univ Pr, 1994, 154-5.

<sup>108</sup> Ibid. 162

<sup>109</sup> Chang, "JFK, China, and the Bomb," 1308.



China's nuclear program. Therefore, the evidence suggests only partial support for this stage of my hypothesis.

Moving into the preemptive stage with China's nuclear test in 1964, and lasting until China deployed an ICBM in 1981, Sino-Soviet relations continued to break down. Border tensions between the two states began in 1964, in the months after China's nuclear test.<sup>110</sup> In 1966, tensions escalated as Brezhnev, now in power, named China "a potential military threat, and ... the Soviets began a massive buildup of troops in the Asian region."<sup>111</sup> This change in Soviet posture towards China demonstrates a clear perception of a rising threat. With a now-nuclear China, the Soviets had decided that, amid worsening relations, they would view China as an adversary. The timing of this also suggests that China's burgeoning nuclear arsenal played a role in how the USSR viewed China. However, due to the lack of specificity with regards to why Brezhnev chose to make this move, whether it was in response to China's growing nuclear arsenal or simply as posturing as part of the Sino-Soviet feud, a confirmation of the preemptive stage portion of the hypothesis cannot be made. Tensions continued to rise after 1966, peaking in 1969 with the Sino-Soviet border crisis. These events are contrary to my theory since tensions between the status quo and new nuclear states should begin to fall shortly after the first nuclear test. In this case, though, tensions continued to rise after I theorize that they begin to fall.

The Sino-Soviet border crisis saw a reversal of roles for the USSR and US. The USSR considered strikes on China's nuclear facilities and inquired if the US would consider a joint strike on China's nuclear facilities, though the US adamantly opposed such actions.<sup>112</sup> During the crisis, top Soviet officials deliberated about a potentially massive nuclear strike against China in

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<sup>110</sup> Fuhrmann and Kreps Appendix B "Targeting Nuclear Programs in War and Peace." 16.

<sup>111</sup> Richter *Khrushchev's Double Blind* 189.

<sup>112</sup> Fuhrmann and Kreps Appendix B "Targeting Nuclear Programs in War and Peace." 16.

early 1969.<sup>113</sup> Another option raised was a smaller scale strike against Chinese nuclear program targets.<sup>114</sup> However, debates and indecision slowed the Politburo's decision-making and a strike was never ordered.<sup>115</sup> Additionally, Ambassador Dobrynin reached out to his American counterparts about what their reaction to a Soviet strike on China would be.<sup>116</sup> The US made clear that it would find a strike unacceptable and this may have convinced the Soviets to pull back from carrying out a strike.<sup>117</sup> The actions of the USSR suggest that the Soviets had begun to view China as a legitimate threat, particularly because of its nuclear capabilities, since those were the focus of a strike consideration. This evidence demonstrates that the height of Sino-Soviet tensions over China's nuclear weapons was reached in 1969, five years after China's first nuclear test. While this does not align with my hypothesis exactly since I would have expected Sino-Soviet tensions to peak around the time of the first test when actions were still possible, this is still somewhat supportive of my hypothesis. China was relatively underdeveloped as a nuclear power and had limited nuclear capabilities to attack the USSR. Therefore, the evidence provides moderate support for the preemptive stage of my hypothesis.

Ultimately, the deterrent stage of the China-USSR relationship was marked by long-term stability. Once the border crisis was resolved, the USSR began to see China as less of a threat. China's was seen as a threat because the Soviets were not sure if China could be deterred or if China would choose to use its nuclear capability to negatively impact Soviet interests. When border disputes did not flair up again, the USSR saw that it could deter China and maintain a stable relationship tensions fell. China was therefore perceived as less of a threat meriting

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<sup>113</sup> Chang, *Friends and Enemies*, 285-6

<sup>114</sup> Ibid.

<sup>115</sup> Ibid.

<sup>116</sup> Ibid.

<sup>117</sup> Ibid.

tensions. The USSR took no actions, and considered no actions, in relation to China's nuclear arsenal. The USSR and China no longer had clear disagreements over China's nuclear weapons, and nuclear weapons were not a major issue in Sino-Soviet relations. This suggests that the USSR came to see China's nuclear weapons as less of a threat once China became a more firmly established nuclear power. However, the shift in the relationship from unstable to stable does not occur once China deploys an ICBM, but rather earlier in the 1970s. Therefore, China's deployment of an ICBM may instead not be a cause of the change in relations, but an indication that China was a fully developed nuclear power and that relations would never again reach such a nadir over nuclear weapons. I also view the USSR's response to China's nuclear arsenal as related to China's force posture. China's unprovocative force posture likely demonstrated that it would not use its nuclear weapons to attempt to coerce or threaten the USSR. The deterrent stage part of the hypothesis, therefore, is only partially confirmed. While there is stability in this period with regard to China's nuclear weapons, it is unclear what exactly causes the change in relations, and if it is related at all to China's deployment of an ICBM and change in stage.

Overall, my hypothesis is modestly accurate for the preventive stage, although its predictive ability improves towards the end of the stage as the USSR's threat perception of China increases before the nuclear test. In the preemptive stage, the USSR considers actions at the level I would expect, but later than I would have expected: threat perception and tensions do not dissipate as China develops its arsenal at the beginning of the stage, only towards the end. By the time the deterrent stage is reached, the USSR has already entered into a stable nuclear dyadic relationship with China, as shown by the low threat perception. Tensions may have declined more quickly than I expected during the end of the preemptive stage because of China's force posture. This showed that China's nuclear weapons were not a threat to the USSR. This policy

may have allowed the USSR to grow comfortable with the concept of a nuclear China before deterrence fully developed. In all, the case of China and the USSR confirms some of my hypothesis.

### *The US Response to India's Nuclear Acquisition*

The case of India's development of nuclear weapons is unique from China in two important ways. First, India does not reach the deterrent stage according to the quantitative section coding, since it has not yet deployed an ICBM. Second, India differs from China because it enters the preemptive stage in my coding with its first nuclear test in 1974, but it does not become a nuclear state until 1988. This means that there is a long time between when India has clearly demonstrated its nuclear capabilities and intentions for the world, but not yet acquired a deployable nuclear weapon. This would make a preemptive strike more likely because status quo nuclear states now have a longer time period to erode India's nuclear weapons program without fearing a reprisal with nuclear weapons. Both of these factors make the India case a useful and interesting one to examine.

India and the US had a relatively calm and constructive relationship throughout India's development of nuclear weapons, with the US never considering a strike against India. In the preventive stage, which lasted from 1964-65 and 1972-1974, the US opposed India's nuclear weapons program. This gap in India's nuclear weapons program can be attributed to nuclear policy changes by different political parties, as well as changes in the security environment.<sup>118</sup> However, the menu of policy options considered by the US did not include the possibility of military strikes. In 1972, when the US suspected that India might conduct a nuclear test, an

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<sup>118</sup> Jo and Gartzke "Determinants of Nuclear Weapons Proliferation: Codebook and Data Notes," 4.; Šumit Ganguly. "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program." *International Security* 23, no. 4 (1999): 149-153.

interagency process developed options for Kissinger to use to discourage a test.<sup>119</sup> The options did not include military action, and instead focused on coercing India through threats to withdraw assistance for India's peaceful nuclear program, or, most severely, through threats to end economic assistance and to engage in an international campaign that would push back against Indian actions.<sup>120</sup> The US considered both unilateral and multilateral actions, which consisted mainly of diplomatic pressure that could be applied to dissuade India from conducting a test.<sup>121</sup> The internal US discussions also downplayed any fears of an Indian nuclear test in 1972. At the time, internal documents argued that it would take years for India to develop a credible deterrent against China, since China was the cause of India's development of a nuclear weapons program.<sup>122</sup>

All of this evidence suggests that the US did not view India's nuclear weapons as a threat, but there is still some evidence that the US did not want India to test. Although India-US relations were stable, an internal US document described Indo-American relations as "poor" in 1972, which means that there may have been some cause for tensions by the US.<sup>123</sup> While the US considered ramping up tensions towards India as India prepared for its first test, ultimately the US response to India's test was tepid and without forceful condemnation. The US would have

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<sup>119</sup> "Henry Kissinger to President Nixon, 'Proposed NSSM on the Implications of an Indian Nuclear Test,' with cover memorandum from Richard T. Kennedy," July 04, 1972, History and Public Policy Program Digital Archive, Nixon Presidential Library, National Security Council Institutional Files, box H-192, NSSM-156. Obtained and contributed by William Burr and included in NPIHP Research Update #4. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/113903>

<sup>120</sup> "H. Daniel Brewster to Herman Pollack, 'Indian Nuclear Developments'," January 16, 1973, History and Public Policy Program Digital Archive, National Archives, Record Group 59, SN 70-73, AE 6 India. Obtained and contributed by William Burr and included in NPIHP Research Update #4. Accessed April 13, 2019. [https://digitalarchive.wilsoncenter.org/document/113907\\_2-4](https://digitalarchive.wilsoncenter.org/document/113907_2-4)

<sup>121</sup> Ibid.

<sup>122</sup> "State Department Bureau of Intelligence and Research Intelligence Note, 'India to Go Nuclear?'," January 14, 1972, History and Public Policy Program Digital Archive, National Archives, Record Group 59, SN 70-73, Def 18-8 India. Obtained and contributed by William Burr and included in NPIHP Research Update #4. Accessed, April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/113891>, 2-3, 6

<sup>123</sup> "H. Daniel Brewster to Herman Pollack, 'Indian Nuclear Developments'," 2.

preferred that India not test a nuclear weapon, but it did not consider a possible Indian nuclear arsenal as a sufficient threat to merit the consideration of strikes. Furthermore, the US considered the effect that India's nuclear test would have on non-proliferation efforts and stability in South Asia to be a more important issue than its threatening nature in relation to the US.<sup>124</sup> Since the chief US concern was over preserving norms, not preserving security, the US decided that India's nuclear arsenal was not threatening enough to merit any consideration of a military response. The US also was aiding India's peaceful nuclear efforts, and continued its support even when India began consider a nuclear test.<sup>125</sup> This is further evidence that the US did not consider a nuclear India as a threat. Ultimately, the decision by the US not to consider any preventive action against India's nuclear development is not surprising given the relative stability of Indo-American relations.

With India's first test in 1974, it entered the preemptive stage, but tensions over India's nuclear development would never rise far beyond condemnation and an end to US assistance. The US reacted with surprise at India's 1974 test, but released a response with neutral language.<sup>126</sup> However, American actions were not neutral, as less than a month after the test, the US increased economic aid to India.<sup>127</sup> Eventually, the US, and Canada, ended up cutting off nuclear cooperation.<sup>128</sup> These actions demonstrate that the US was clearly not directly threatened by India's development of nuclear weapons.

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<sup>124</sup> Ibid.; "Henry Kissinger to President Nixon, 'Proposed NSSM on the Implications of an Indian Nuclear Test,' with cover memorandum from Richard T. Kennedy," 2.

<sup>125</sup> "H. Daniel Brewster to Herman Pollack, 'Indian Nuclear Developments,'" 2-4.

<sup>126</sup> Perkovich, George. *India's nuclear bomb: the impact on global proliferation*. Univ of California Press, 2002, 183.

<sup>127</sup> Ibid.

<sup>128</sup> Ganguly, Sumit "India's Pathway to Pokhran II" 160-1.

As noted in the introduction, India did not become a nuclear weapons state until 1988,<sup>129</sup> so there was plenty of time for the US to exert leverage against India in order to limit India's ability to acquire nuclear weapons. An internal US document from when India first considered a nuclear test in 1972 contained a number of policy proposals that the US could consider if India tested. These responses ranged from public statements with no actual change in US policy, to penalties on India's nuclear science program, to more dramatic responses like revoking economic and technical assistance and leading an international campaign to condemn India's test.<sup>130</sup> While this document is from 1972, that is close enough to 1974 that it is still likely consistent with US thinking about how it should respond to an Indian nuclear test. Those responses also suggest that the US was not threatened by India's nuclear weapons given that none of the responses would have had much of an effect on India's ability to acquire nuclear weapons or the capability to deliver them. In the immediate time after India's test when I would expect tensions to remain at their height, the US instead chose to respond with little condemnation and increase, instead of revoke, economic aid. This all suggests that the US did not perceive itself as threatened by India's developing nuclear arsenal.

As India progressed in its nuclear development, though, the US did take stronger actions to end economic and military assistance as part of a non-proliferation drive in the late 1970s.<sup>131</sup> In 1976, two years after India's first test, Congress passed the Symington Amendment, which cut off certain types of economic and military assistance to states that did not engage in the entirety of International Atomic Energy Agency (IAEA) safeguards. Soon after, President Carter oversaw the passage of the Nuclear Nonproliferation Act, which helped curtail the sale of nuclear material

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<sup>129</sup> Gartzke and Kroenig. "A strategic approach to nuclear proliferation." 154.

<sup>130</sup> "H. Daniel Brewster to Herman Pollack, 'Indian Nuclear Developments'," 4-5.

<sup>131</sup> Ganguly, Sumit "India's Pathway to Pokhran II" 160-1.

to certain states.<sup>132</sup> Carter also initiated the formation of the London Suppliers Group, which was an effective step in limiting the sale of “sensitive and dual-use technologies.”<sup>133</sup> These actions ultimately proved quite successful in limiting India’s ability to progress its nuclear weapons program.<sup>134</sup> This suggests that the US had begun to view India’s development of nuclear weapons as a problem, though not necessarily a threat. US actions were more concerned with degrading and delaying India’s ability to acquire a nuclear weapon, not preventing it outright. These actions can be taken to indicate that the US was mostly concerned with preserving the norm of non-proliferation, and that norm preservation was the extent of its focus on India’s nuclear development. While the US would prefer India remain non-nuclear, the lack of a direct threat made it infeasible for the US to take any steps beyond the largely diplomatic ones it took. Ultimately, in the years after India’s first test, the US began to apply greater pressure to India’s nuclear weapons program, though not necessarily due to a heightened threat perception of India.

As India began to improve its nuclear weapons program and finally become a nuclear weapons state in 1990, the US seemed to lose interest in its efforts to counter India’s nuclear drive. It was not until the late 1990s when India again conducted nuclear tests, which would come in the form of the Pokhran II tests in 1998, that the US took action to more directly limit India’s nuclear development.<sup>135</sup> However, the United States’ focus on India’s tests as an issue imply that the US was more concerned with preventing greater instability in South Asia, rather than actually being threatened by India’s nuclear arsenal.<sup>136</sup> The US was worried that Indian tests would provoke Pakistan. The focus was not on limiting India’s nuclear capabilities and arsenal,

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<sup>132</sup> Ibid.

<sup>133</sup> Ibid.

<sup>134</sup> Ibid. 161.

<sup>135</sup> Michael Krepon. “LOOKING BACK: The 1998 Indian and Pakistani Nuclear Tests.” Arms Control Association, Accessed April 13, 2019. [https://www.armscontrol.org/act/2008\\_05/lookingback](https://www.armscontrol.org/act/2008_05/lookingback)

<sup>136</sup> Ibid.



but rather on how India demonstrated those capabilities. This all suggests that the US policy towards India was not designed based on a perception of India as a threat, but instead based on a desire to maintain stability in South Asia. In the wake of the tests, the US dramatically increased pressure on India to sign the Comprehensive Nuclear-Test-Ban Treaty (CTBT), as well as measures that would improve nuclear stability in the India-Pakistan relationship.<sup>137</sup> These measures demonstrate that the purpose of US diplomacy in the wake of the tests was directed at stability in South Asia, not at limiting the threat India's nuclear weapons posed to the United States. The Pokhran II case is informative because the issue of nuclear weapons was placed at the top of the Indo-American relationship. And, even though this issue was important, since India was in the later part of the preemptive stage, I would expect the US to react by not raising tensions too high. The diplomatic response the US chose is in line with the hypothesis of lower tensions during this period, even in the instance of a case that, during another period, might cause tensions to escalate dramatically.

In all, the case of the United States' response to India's development of nuclear weapons provides only mild support for my hypothesis. While there is an increase in tensions as India conducts its first test, as well as increased tensions in the years following the first test, the United States' threat perception changes little throughout. The US never feels views itself as directly threatened by India's development of nuclear weapons, and instead focuses on maintaining stability in South Asia. As well, India's long gap between conducting its first nuclear test and gaining status as a nuclear weapons state would have provided ample time for the US to apply greater pressure on India's nuclear development, but the US declined to adopt any measures beyond those that limited India's ability to develop nuclear weapons. That is, India's program

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<sup>137</sup> Ibid.

was delayed by the US, but the US never attempted to completely stop India's program or roll it back. Ultimately, tensions rose again over India's 1998 nuclear tests, but that still does not change the threat perception of the US. The only part of the hypothesis that has some support from this case is in the rising tensions in the preventive stage up until the first test, but the level of tensions and degree of threat perception never rise to the level expected by the theory.

#### *The USSR Response to India's Nuclear Acquisition*

India's development of nuclear weapons was viewed much differently by the USSR. The Soviet Union was closely allied with India for this period, so it never increased heightened tensions in response to India's nuclear developments. Both the Indians and the Soviets viewed their relationship as close and there was a mutual understanding that the USSR would not attempt to stop, and would even tacitly support, India's nuclear weapons development. India even informed the USSR beforehand that they planned to conduct a nuclear test – a sign of their intimate relationship. In the wake of India's first test, bilateral relations remained close with Indira Gandhi visiting the USSR in 1976 and the USSR continuing to provide military transfers. Even though relations deteriorated in the 1980s and beyond, this had little to do with India's nuclear weapons development, and more to do with improvements in Sino-Soviet relations, which India opposed. Overall, Indo-Soviet relations were quite close and the Soviets never sought to negatively impact India's nuclear weapons development.

In the preventive stage, which lasted from 1964-65 and 1972-74, India and the USSR maintained an amicable relationship. There was a clear lack of tensions as India advanced its nuclear weapons program. For example, the USSR and India formalized their military alliance in 1972, demonstrating that the USSR did not feel threatened or imperiled by India's nuclear

development.<sup>138</sup> The USSR actually viewed a stronger India as a strategic advantage. The core intent behind closer relations between India and the USSR was that the USSR needed allies in the region that could help it balance against China.<sup>139</sup> This was mutually advantageous as India's nuclear weapons program grew out of a desire to balance against China's nuclear arsenal.<sup>140</sup> It is, therefore, likely that China was the Soviets' overwhelming concern and cause of a heightened threat perception at this time. Based on this, India's nuclear development was seen as an asset. India shared this view since it expected that its first nuclear test would be supported by the USSR.<sup>141</sup> India was so positive, in fact, that the USSR would offer their support that India informed the USSR in advance of its intention to test.<sup>142</sup> However, the Soviets did not support Indira Gandhi's decision to test, and attempted to pressure her to prevent a test.<sup>143</sup> The Soviets' limited their pressure to diplomacy, though, and this further demonstrates that an Indian test was not viewed as a military threat, but rather as a threat to nonproliferation norms, which is a lower level of threat perception.<sup>144</sup> While tensions would be increased dramatically in the face of a security threat, a threat to norms would receive a smaller increase in tensions. Ultimately, the Soviets viewed a nuclear test as something of a necessary cost to keep Indira Gandhi as Prime

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<sup>138</sup> Weixing Hu. "India going nuclear: A bomb against China?." *Journal of Chinese Political Science* 4, no. 2 (1998): 28.

<sup>139</sup> Ibid.

<sup>140</sup> Raju GC Thomas. "India's nuclear and space programs: Defense or development?." *World Politics* 38, no. 2 (1986): 323-4.

<sup>141</sup> "Telegram No. 113, Embassy of Hungary in India to the Hungarian Foreign Ministry," May 23, 1974, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j India, 1974, 50. doboz, 60-406, 003434/1/1974. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/112875>.

France, though, also supported India's first test, sending a letter of congratulations; however, the letter was later withdrawn.

<sup>142</sup> "Telegram No. 84, Permanent Mission of Hungary to the U.N. in Geneva to the Hungarian Foreign Ministry," August 14, 1974, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j India, 1974, 50. doboz, 60-406, 003434/8/1974. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/112878>

<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

Minister, arguing that her retention of power was more important than preventing a nuclear test.<sup>145</sup>

All this evidence clearly points to the strong relationship between India and the USSR. Even as India was advancing its nuclear weapons program and preparing for a test, the USSR did not feel threatened by India's imminent arrival as a nuclear power. As demonstrated, the USSR was more focused on China's developing nuclear capabilities and the threat they posed to the USSR. While India did warn the USSR in advance of its test, the USSR's response was largely negative, though it took no action to punish India it expressed its disapproval of the test.<sup>146</sup> Overall, this suggests that the USSR did not view India as a threat in the preventive stage. Even as India came closer to its first test, the USSR was mainly concerned with preserving norms of nonproliferation, not any threat a nuclear India posed.

After India's nuclear test, the preemptive stage, 1974 to present, saw Indo-Soviet relations initially remain warm, but begin to deteriorate in the 1980s as the USSR began to improve relations with China and Pakistan. Unlike the US, which took action to punish India and limit its nuclear weapons program, the USSR maintained close ties and a productive relationship. While the US argued that India's "peaceful nuclear experiment" in 1974 was indistinguishable from a military test, the USSR supported the Indian line that the test was for peaceful purposes.<sup>147</sup> Only two years after India's first test, Prime Minister Indira Gandhi traveled to the USSR for a well-received visit that was viewed as a success by both Indians and Soviets.<sup>148</sup> On

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<sup>145</sup> Ibid.

<sup>146</sup> Ganguly, Sumit "India's Pathway to Pokhran II," 160.

<sup>147</sup> Petr V. Topychkanov. "US-Soviet/Russian Dialogue on the Nuclear Weapons Programme of India." *Strategic Analysis* 42, no. 3 (2018): 252.

<sup>148</sup> "Report, Embassy of Hungary in India to the Hungarian Foreign Ministry," July 06, 1976, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j India, 1976, 63. doboz, 60-1, 001658/4/1976. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/11053>.

this visit, the Soviets even offered to replace the nuclear technology and materials that India had previously acquired from Canada.<sup>149</sup> Canada had ended its nuclear cooperation with India in the wake of its first test. This further demonstrates that the Soviets were not fearful of India's developing nuclear capability. While the USSR could have also taken steps to limit India's ability to further its nuclear weapons program, it chose not to, and instead continued to offer support for the program. This is clear evidence that the USSR did not view India's nuclear development as a potential threat.

Furthermore, in 1979, the USSR fulfilled requests India had made for new military equipment.<sup>150</sup> This action also comes at the height of the Carter administration's push to limit India's nuclear development. The decision to support the Indian military provides further evidence that the USSR did not view India's burgeoning nuclear status as a threat. Additionally, the Soviets were not simply indifferent to India's military capabilities, but actively sought to improve India's military. This runs counter to my hypothesis because the USSR did not view India as a threat and instead wanted to support India. This is also occurring during India's nuclear development when I would expect the USSR to be acting from a highly threatened perspective as India had conducted its first nuclear test relatively recently, but had not yet become a nuclear weapons state. Therefore, the USSR would have been able to conduct a preemptive strike, or raise tensions, to coerce India over its nuclear weapons development. This period is an opportune time for preemptive efforts on the part of the USSR, but none were forthcoming. This weakens the theory because greater tensions would be expected here.

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<sup>149</sup> Ibid.

<sup>150</sup> "Telegram No. 66, Embassy of Hungary in India to the Hungarian Foreign Ministry on Soviet Premier Kosygin's visit to India," March 21, 1979, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j Soviet Union, 1979, 122. doboz, 145-1, 002480/1979. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <http://digitalarchive.wilsoncenter.org/document/112880>

As the Indo-Soviet relationship moved into the 1980s, though, bumps began to occur. The USSR re-opened relations with China and started to improve relations with Pakistan late in the 1980s, which India opposed.<sup>151</sup> This put the USSR in the position of downgrading its relationship with India in order to improve its relationship with China and Pakistan. First the USSR adjusted its posture towards Pakistan in 1985 due to the ongoing Soviet invasion of Afghanistan.<sup>152</sup> This created some tensions in the Soviet relationship with India; however, those tensions were not due to India's nuclear weapons development. Additionally, the Sino-Soviet relationship improved dramatically with Gorbachev's visit to China in 1989.<sup>153</sup> The tensions between India and the USSR reached something of a head in 1990 when the Indo-Soviet Friendship Treaty was renewed for five additional years, but the USSR stated that it "would no longer use [its] veto on India's behalf should resolutions on the Kashmir issue come before the UN Security Council."<sup>154</sup> The decline in Indo-Soviet relations provides important context for the tensions surrounding India's 1998 nuclear tests.

When India conducted the Pokhran II tests in 1998, Russia reacted more strongly than in 1974, but not as strongly as the US.<sup>155</sup> This does not provide support for the hypothesis because I would expect a test in the preemptive stage to lead a less tense response from the USSR than the first test did. This different response is likely due to the difference between the situations. Whereas the 1974 test was small, emphasized as peaceful, and not done in direct response to another state, the 1998 test was none of these. Russia rescinded support for small areas of cooperation with India, but opposed any sanctions or tangible and meaningful punishments for

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<sup>151</sup> Andrew B. Kennedy. "India's Nuclear Odyssey: Implicit Umbrellas, Diplomatic Disappointments, and the Bomb." *International Security* 36, no. 2 (2011): 143; "Sino-Soviet Rapprochement, 1985-1989" Wilson Center, Accessed April 13. <https://digitalarchive.wilsoncenter.org/collection/183/sino-soviet-rapprochement-1985-1989/2>.

<sup>152</sup> Andrew B. Kennedy "India's Nuclear Odyssey" 143.

<sup>153</sup> "Sino-Soviet Rapprochement, 1985-1989"

<sup>154</sup> Kennedy "India's Nuclear Odyssey" 143-4.

<sup>155</sup> Petr V. Topychkanov "US-Soviet/Russian Dialogue on the Nuclear Weapons Programme of India" 254.

India.<sup>156</sup> This response provides additional support for Russia's continued perspective that India's nuclear weapons development was not a threat. While India had become a nuclear power by 1998, and had been one for a number of years, Russia reacted in a manner that is in accordance with the hypothesis. Even though India acted in a way that would have increased tensions, the reality of India's established nuclear arsenal would likely have dampened a desire to raise tensions on the Russians' response. However, given that Russia was not threatened even before the tests, it is difficult to point to this episode as support for the hypothesis.

Overall, the case of the India-USSR dyad is the weakest of the five presented here. The USSR at no time viewed itself as threatened by India's nuclear development and rarely increased tensions over India's nuclear weapons. While the theory would expect the USSR to raise tensions as India moved closer to its 1974 test and then see tensions fall as India further developed its nuclear arsenal, that is not what occurred. The USSR almost never raised tensions with India over its nuclear weapons, with the exceptions of India's two nuclear tests. Although, those two tests saw only brief spikes in tension that were relatively insignificant in their coercive effect on India. Ultimately, this case provides little to no support for the hypothesis.

#### *The Chinese Response to India's Nuclear Acquisition*

The case of China's response to India's nuclear weapons development is unique because India initially began its nuclear weapons program in response to China's first nuclear test. Despite India's development of its nuclear program as an express threat to China, there was little response from China directed at India's nuclear weapons development.<sup>157</sup> China had strained relations with India in the years leading up to India's first test, but there is no evidence of China increasing tensions with India over its nuclear program. As well, upon India's first test, China

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<sup>156</sup> Ibid.

<sup>157</sup> Raju G C Thomas "India's Nuclear and Space Programs" 323-4.

dismissed it with no tangible response. In the aftermath of India's first test, China continued to disregard any of the implications of India's nuclear test, though tensions still flared at times. Finally, in the late 1980s, India and China began normalizing relations, though this was hampered by India's 1998 tests. In all, this case provides moderate support for my hypothesis because China increased tensions, but in more subtle ways than hypothesized. Tensions were also increased more during the preemptive stage than the preventive stage, which is not what I hypothesize.

Sino-Indian relations were tense and strained for the preventive period, which lasted from 1964-65 and 1972-74. The most notable occurrence of tensions was just before the preventive stage in 1962 during the Sino-Indian border war.<sup>158</sup> The Chinese invasion along the Himalayan border with India denoted a period of high tensions with India.<sup>159</sup> This event would seem to suggest that India and China did not have good relations, and that China would take action in the future to counteract any developments in India's nuclear weapons program. However, during the years that India did have a nuclear weapons program, China took no direct actions to attempt to coerce India into limiting its nuclear development. In fact, as India was improving its nuclear weapons program China seemed to view this with little interest. This may be due to a period of focus on domestic policy and internal change after China's own nuclear test in 1964. China's internal turmoil due to the Cultural Revolution, which lasted from 1966 to 1976 may have limited its ability to respond to foreign developments.<sup>160</sup> The Chinese were still engaged with superpower politics as the Sino-Soviet split began to emerge, so the lack of interest in India's nuclear weapons program may be simply due to the limited bandwidth that China was able to

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<sup>158</sup> Ibid.

<sup>159</sup> Sumit Ganguly "India's Pathway to Pokhran II" 151.

<sup>160</sup> Austin Ramzy. "China's Cultural Revolution, Explained" The New York Times. Accessed April 13, 2019. <https://www.nytimes.com/2016/05/15/world/asia/china-cultural-revolution-explainer.html>



expend at this time.<sup>161</sup> This evidence suggests that China did not perceive itself as threatened by India to the extent that it needed to respond with increased tensions. Even in the leadup to India's first test, China did not increase tensions or consider taking action to prevent India's nuclear development. In 1974, China had no public reaction to India's first test.

Upon India's entrance into the preemptive stage in 1974, China did not offer a public response to India's first test. It took several months for China to release even a public statement that mentioned India's nuclear test.<sup>162</sup> This is surprising since the first nuclear test is hypothesized to be the height of tensions. Instead, China took an approach that emphasized silence and a lack of involvement.<sup>163</sup> China did offer some statements that were ambivalent, such as stating that "India had the 'right' to pursue its own nuclear path."<sup>164</sup> However, China's lack of a clear response does not mean that India's nuclear test did not raise tensions. China took the calculated position to limit its public statements and action because India's justification for the test, and its nuclear weapons program, was founded on the view that China was a threat that required such a program. Therefore, China chose not to react to India's test because that would undercut India's argument for its nuclear weapons program, and place more pressure on the US and USSR to slow China's nuclear development.<sup>165</sup> This decision demonstrates that China still viewed India's test as a threat and had a more threatened view of India, but that China understood that there were other ways to respond besides increasing direct tensions. Even though China felt somewhat threatened by India's nuclear development, it still viewed a nuclear India as a greater threat to other states in South Asia, like Pakistan, than China itself.<sup>166</sup>

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<sup>161</sup> K Sullivan. *Competing Visions of India in World Politics: India's Rise Beyond the West* Palgrave MacMillan, 2015, 36.

<sup>162</sup> John W. Garver, *Protracted contest*. University of Washington Press, 2001. 323.

<sup>163</sup> Ibid.

<sup>164</sup> Ibid.

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

Although China may not have felt directly threatened by India's nuclear test, it still responded in a more covert way. Instead of increasing tensions directly with India, China chose to assist Pakistan's development of nuclear weapons beginning in 1974.<sup>167</sup> China chose to assist Pakistan's nuclear weapons development as a way to balance against India, especially as it began to ally with the USSR and China feared that it would be encircled.<sup>168</sup> China's assistance of Pakistan was part of its strategy to increase Pakistan's relative power in relation to India, as India had become much stronger in the mid-1970s due to its nuclear test and the military equipment it received from the USSR.<sup>169</sup> China was cognizant of the need to divert India's attention away from China as its archrival, and back towards Pakistan. Ultimately, China continued to provide support to Pakistan's nuclear weapons program up until 1992, when China formally acceded to the NPT.<sup>170</sup> The timing of Pakistan's ascension to nuclear status in 1990 and China's decision to end support for Pakistan and then quickly join the NPT suggests that China may have been holding off on joining the NPT until Pakistan had sufficiently developed its nuclear capability.<sup>171</sup> China may have simply waited until Pakistan was a nuclear state to formally enter the nuclear nonproliferation regime, though this may not have been the sole factor behind China's decision to join the NPT in 1992.<sup>172</sup>

Assistance to Pakistan's nuclear weapons program was an important strategy that China used to counter the threat India's nuclear development posed. China's determination to see a fully realized Pakistani nuclear state, with assistance lasting almost 20 years, demonstrates that China viewed India's nuclear status as a real threat for a sustained period of time, with little fluctuation

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<sup>167</sup> Ibid, 326, 333.

<sup>168</sup> Ibid, 326. ; Weixing Hu "India Going Nuclear: A Bomb Against China?" 28.

<sup>169</sup> Garver *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century* 326.

<sup>170</sup> Ibid.

<sup>171</sup> Gartke and Kroenig "A Strategic Approach to Nuclear Proliferation" pg 154; Garver *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century* 326.

<sup>172</sup> Ibid.

in that threat perception. This is notable because all the other cases covered here were much quicker in accepting that the new nuclear state had nuclear weapons and entering into a deterrence relationship. China's actions suggest that it viewed a deterrence relationship as unsatisfactory, and wanted India to have to deter Pakistan also.

However, one important counterargument is that India took 14 years to go from a nuclear test to a nuclear state, so China would likely not have felt threatened by India since India did not have any nuclear weapons to attack China with. Although this is true, it was clear that India would eventually be a nuclear state, so China may have assisted Pakistan, so that India would not be the sole South Asian nuclear power for very long. As well, China noted at times that it still viewed India as a potential threat, though not necessarily because of its nuclear weapons development. For example, in 1986 Chinese leader Deng Xiaoping commented that China would be forced to 'teach India a lesson' because it was 'nibbling' at China's territory.<sup>173</sup> This phrasing was similar to the language used when China attacked Vietnam in 1979.<sup>174</sup> Another relevant counterargument, though, is that if China really wanted Pakistan to become a nuclear power, it would have provided more assistance more quickly. Again, though, since India was not technically a nuclear state in 1974, China's piecemeal approach to nuclear assistance would likely have been calculated to keep Pakistan close to parity with India on the nuclear front, not to overtake India. China's intentions were not to antagonize India, only to divert India's focus from China and encourage Pakistan to balance against India. Overall, China was threatened by India to such a degree that it preferred not to balance against a nuclear India alone, and therefore support Pakistan's nuclear weapons program.

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<sup>173</sup> Andrew B. Kennedy "India's Nuclear Odyssey" 143.

<sup>174</sup> Ibid.

Despite China's continued support to Pakistan, by the late-1980s, Sino-Indian relations had begun to improve. First in 1988, Indian Prime Minister Rajiv Gandhi visited Beijing, and then in 1996, Chinese President Jiang Zemin visited India.<sup>175</sup> Additionally, as part of the normalization process, India and China signed two agreements that included confidence building measures over their border in 1993 and 1996.<sup>176</sup> This demonstrates that by the time China began discontinuing its assistance to Pakistan, it had begun to improve relations with India. While these improvements in relations were not directly related to nuclear issues, they do still suggest that tensions over nuclear issues were declining and that India and China had begun to see one another in a less adversarial light. However, it did take China a bit longer than hypothesized to improve relations with India. Overall, this provides some further evidence that China's threat perception of India had begun to decline.

The improvement in Sino-Indian relations was derailed by India's 1998 nuclear tests, though. Upon India's tests, China quickly released a strongly worded statement denouncing the tests and actively supported US-led sanctions against India.<sup>177</sup> In a move that recalled its response to India's first test in 1974, China chose to let the US and other states take the lead on any tangible response to India's Pokhran II tests. However, China was more involved in the international response to India's tests in 1998 than in 1974. This time China supported the US and encouraged other nuclear powers that were ambivalent about sanctions to join the US.<sup>178</sup> Additionally, China took a more involved role in South Asian relations, by working to resolve Indo-Pakistani tensions.<sup>179</sup> While on its surface this seems a more tense response than in 1974, in

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<sup>175</sup> John W. Garver "The Restoration of Sino-Indian Comity following India's Nuclear Tests" 866.

<sup>176</sup> Hu "India Going Nuclear: A Bomb Against China?" 28.

<sup>177</sup> Garver *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century* 337, 338.

<sup>178</sup> *Ibid*, 338.

<sup>179</sup> Hu "India Going Nuclear: A Bomb Against China?" 29.

actuality, China's actions were much more diplomatic than its decision to provide nuclear assistance to Pakistan. This shows that tensions had continued to fall in the later part of the preemptive stage, despite this provocation by India. In all, China's response demonstrated that it was somewhat threatened by India's tests, but it was more interested in condemning India for the heightened tensions that the tests produced, rather than rolling back or curtailing India's nuclear weapons development. Therefore, tensions still continued to dissipate compared to their levels in the 1970s and 1980s.

Overall, the India-China case is one of the stronger ones presented here. Although, China's threat perception of India initially seems limited given China's direct reaction to India's nuclear development, China's decision to provide nuclear assistance to Pakistan is a manifestation of China's heightened threat perception of India. China is expected to be threatened by India's nuclear development, since India's nuclear weapons program was targeted at China. While China mostly ignored India's nuclear weapons program in the preventive stage, and thus seemed to have a relatively low threat perception, by the time of India's first test in 1974, China had a clearer strategy to respond to India's nuclear weapons development. In the preemptive stage China's most salient strategy was to assist Pakistan's nuclear weapons program as a way to balance against India's nuclear weapons development. By the time Pakistan had become a nuclear state in 1990, China had already started to normalize relations with India, demonstrating a decline in tensions after a long period of tensions starting with the Sino-Indian border conflict in 1962. While tensions would flare up again with the Pokhran II tests, they mostly declined. This case provides some evidence for the hypothesis, since tensions did peak around India's first nuclear test, but they remained at about the same level for the next decade and a half as China assisted Pakistan's program and only fell at the end of the Cold War. The

lack of a quicker decline in tensions, though, may be due to the extended period of time between India's first nuclear test and India becoming a nuclear state. This period would seem to be a ripe time for China to strike India's nuclear program, but one reason why that did not happen, and why India took so long in this period was that India knew China would not launch a strike, so felt no urgency to quickly improve its nuclear weapons development. Therefore, there is some reverse causality where China's low level of tensions towards India leads India to slow its nuclear program and stage of nuclear development. Ultimately, China chose a route of less direct antagonism with India, while still undercutting the relative power gain India's nuclear status garnered.

#### *Alternative Explanations*

In analyzing these cases, a number of other theories and variables, that have a valid impact on inter-state relations between a status quo nuclear state and a new nuclear state, have emerged. Three theories or variables that are relevant here are the role of a leader's beliefs, past interactions of the dyad, and balance of power. All of these likely have an impact on the level of tensions that the status quo state directs at the new nuclear state.

The role of a leader's beliefs is specifically a counterargument to threat perception. I argue that tensions which arise out of internal thinking are a product of a leader's, or government's, assessment of the threat a new nuclear state poses given the stage of nuclear development. Instead, the leader's belief on the threat a new nuclear state poses may be due to his or her personal assessment of that threat, rather than the stage of nuclear development.<sup>180</sup> As well, a leader's views on nonproliferation will also have an impact.<sup>181</sup> For example, in the China-

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<sup>180</sup> Rachel Elizabeth Whitlark. "Nuclear beliefs: a leader-focused theory of counter-proliferation." *Security Studies* 26, no. 4 (2017): 555.

<sup>181</sup> *Ibid.*

US case, I argue that Kennedy perceived China as a nuclear threat, while Johnson did not because of the point in the preventive stage at which they acted. However, it may be that Kennedy had stronger views on nonproliferation and the danger China would pose as a nuclear state than Johnson did, which is why Kennedy increased tensions while Johnson did not.<sup>182</sup> This explanation seems to hold validity particularly for this case where there is a clear difference in the policies of the two administrations that is unrelated to stage of nuclear development.

Past interactions in the dyad will also affect threat perception. For cases like China-US or India-China where there had recently been a conflict in the dyad, it is much more likely that the status quo state would perceive the new nuclear state as a threat than dyads where there had previously been low levels of tensions, like India-USSR and India-US. Therefore, preexisting relationships informs level of tensions and threat perception. Some of this is incorporated in controls in my quantitative analysis, through variables history of conflict and S-score, which prevents them from biasing any results. However, the preexisting relationship is a component that is not incorporated in my theory, but does seem to impact threat perception.

Finally, balance of power also affects threat perception and level of tensions. Status quo states that are most at risk of seeing a decline in relative power, and thus a less advantageous balance of power, are more likely to perceive the new nuclear state as a threat. For example, while China's relative power would decline dramatically if India acquired nuclear weapons, the USSR's relative power would not. This is an additional alternative explanation that I do not incorporate into the theory, and which, unlike the quantitative analysis section, I am unable to control for. These are all alternative explanations that should be recognized and considered as possible ways of understanding how a status quo nuclear state responds to another state

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<sup>182</sup> Ibid. 562-3, 564, 567.

developing nuclear weapons, besides threat perception based on the new nuclear state's level of nuclear development.

My argument for how a status quo state responds to a new nuclear state's nuclear development is superior to these explanations, though, because it provides a longer timeline and theorizes that tensions will dissipate between the status quo state and new nuclear state. Each of these three alternative theories lacks a mechanism for explaining why tensions will dissipate and deterrence will take hold. Balance of power and history of conflict may explain why certain dyads have higher tensions than others, but they don't explain why tensions dissipate. Additionally, the theory of leaders explains nonproliferation policy, but it also does not explain why every symmetric nuclear dyad has resulted in stability despite many leaders holding strong nonproliferation views. While these alternative explanations provide insight into parts of the dynamic between the two nuclear states, my theory explains more of the empirical outcomes with regard to how the status quo state reacts to the new nuclear state's nuclear development. Ultimately, though, it is a question for future research to better test these alternate explanations and compare the results to this study.

### *Conclusion*

These five cases present a variety of factors that can test the hypothesis, mixing states with similar and dissimilar foreign policy outcomes, small and large relative power differences, democracies and non-democracies, and states with and without a history of conflict. As well, these five states have a variety of outcomes, with some dyads strongly confirming the hypothesis, like China-US, and others providing almost no support, like India-USSR. Overall, though, these five cases do provide some support for the hypothesis. While the hypothesis is not entirely correct, in all cases, except India-USSR, tensions were highest around the time of the



nuclear test or right after the test. This does provide support for the basic logic of the theory presented here, which is that tensions will be highest at the transition point from a nuclear weapons program to a nuclear test, and then the initial build-up of the new nuclear state's arsenal. It is true, particularly in the China-US, China-USSR, and India-China cases that the status quo state recognized how impactful nuclear acquisition was on the relative power difference between the two states and responded with increased tensions before ultimately accepting a deterrence relationship.

New-Status Quo state	Preventive stage (level of tensions)	Preemptive stage (level of tensions)	Deterrent stage (level of tensions)
China-US	Increasing, decreasing at end	Decreasing	Stable, no increase or decrease
China-USSR	Stable, increasing at end	Increasing, then declining	Stable, some small decline
India-US	Stable, increasing at end	Stable, declining, some increase at Pokhran II	N/A
India-USSR	Stable, slight increase at end	Stable, some increase at Pokhran II	N/A
India-China	Stable, no increase or decrease	Increase after test, but held at constant level afterwards. Some increase at Pokhran II, then decline.	N/A

One notable insight that these cases have provided is about how tensions between the status quo state and new nuclear state may not be direct, but rather be indirect. For example, China's decision to allow the US and USSR to put pressure on India in the wake of its 1974 test and, to a lesser extent, after the 1998 tests was a sign of indirect tensions between China and India. Another example of this thinking is when China decided to assist Pakistan's nuclear weapons program to balance against India. As well, the USSR, in a much more indirect way,

chose not to put pressure on India to curtail its nuclear weapons program as a way to balance against China. This insight further suggests that the MID dataset in the quantitative section does not adequately capture the totality of ways in which tensions between states may manifest. This also suggests that states may prefer more indirect ways to apply pressure on the new nuclear state, even if that means encouraging proliferation. Helping another state acquire nuclear weapons would increase that state's relative power. This is a concomitant increase in relative power that would balance against the new nuclear state. Therefore, these strategies of increasing tensions indirectly can be seen as a form of offshore balancing.<sup>183</sup> Additionally, these strategies are noteworthy because they are not only about increasing tensions, they are about reshaping regional and dyadic power dynamics. Instead of attempting to limit or roll back the new nuclear state's nuclear weapons development, the status quo state can assist or encourage one of the new nuclear state's non-nuclear adversaries in their nuclear weapons development.

This suggests that a fundamental problem with the hypothesis is that it expects threatened status quo states to respond by increasing tensions in an effort to attempt to limit the new nuclear state's nuclear capability through violence or the threat of violence. In these cases, though, it is more likely for the status quo state to attempt to increase (or encourage the increase of) the relative power of those in the region who are allies, since it is already a nuclear state and cannot dramatically increase its relative power. These cases provide a clearer insight into how nuclear weapons acquisition affects the threat perception of status quo nuclear states, and how they are likely to respond to that threat.

One weakness of this research is that there is a lack of evidence on internal thinking outside of the China-US, India-US, and, to some extent, China-USSR cases. This lack of

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<sup>183</sup> Christopher Layne. "From preponderance to offshore balancing: America's future grand strategy." *International Security* 22.1 (1997): 113-114

evidence makes it particularly difficult to test the hypotheses in the India-China case. It is difficult to tell whether the nuclear assistance China provided was due to a heightened threat perception of India. This is one weak point of some case studies.

While not all status quo states view themselves as threatened by a new nuclear state, many do. Although the increase in tensions due to that threat perception eventually fades, that process of entering into a deterrence relationship take longer in some cases, like India-China, than others, like China-US. This is where statistically significant controls in the quantitative section are relevant. Dyads where relative power is close to equivalent, like India-China, are more likely to take longer for tensions to subside than dyads where the status quo state is relatively much more powerful than the new nuclear state, like China-US. As well, a history of conflict and differences in foreign policy do increase the time it takes for tensions to dissipate. For example, in the India-China case, which has a history of conflict, and in the China-USSR case, which has differences in foreign policy, tensions take longer to subside. Ultimately, these five cases provide deep insights into how the stage of nuclear development of the new nuclear state affects the level of tensions that the status quo nuclear state raises towards the new nuclear state. The main finding is that the theoretical basis of the hypothesis has some value for understanding the relationship between stage of nuclear development and tensions, but that the exact hypothesis about the relationship between each stage and the tensions that arise rarely holds.

## **Conclusion**

In this paper, I have argued that in a dyad of two nuclear states, the stage of nuclear development of the new nuclear state affects the status quo nuclear state's level of tensions directed at the new nuclear state. The variable that causes stage of nuclear development to impact

tensions is the threat perception that the status quo nuclear state has of the new nuclear state's nuclear weapons development. I hypothesize that as the new nuclear state develops its nuclear arsenal, tensions will first rise and then fall. Tensions will rise in the preventive stage, that is the time between the start of the state's nuclear weapons program and its first nuclear test or when it becomes a nuclear state, whichever occurs first. Then tensions will reach their peak around the time of the transition between the preventive stage and the preemptive stage. The preemptive stage will see tensions begin to fall as the new nuclear state further develops its arsenal and diversifies its delivery platforms. The preemptive stage will end once the status quo nuclear state believes it can deter the new nuclear state, which is coded as first ICBM or SSBN deployment in the quantitative section. Once the new nuclear state enters the deterrent stage, which lasts as long as the new nuclear state maintains its nuclear arsenal, tensions will reach a low, static level as a deterrent relationship develops in the dyad. Threat perception is the causal path that connects stage of nuclear development and level of tensions because the more threatened the status quo nuclear state is, the more likely it is to raise tensions. Since the status quo nuclear state is most threatened around the time of the new nuclear state's transition to being a full-fledged nuclear state since that upsets the prevailing balance of power and the status quo nuclear state is unsure about how the new nuclear state will behave.

The findings of the quantitative section and case studies are that this theory provides some insights into how tensions change over time in a nuclear dyad, how a status quo nuclear state assesses the threat a new nuclear state poses, and how the status quo state responds. While the quantitative section provides little support for the hypothesis, it does demonstrate the significant effect that certain control variables have on the initiation of militarized inter-state disputes. Foreign policy similarity, relative power, and history of conflict are shown by the

quantitative section and case studies to be important in understanding the relationship in a nuclear dyad. Additionally, the case studies demonstrate that MIDs are not able to fully capture the variety of ways in which tensions between states manifest. While MIDs focuses on tangible forms of dispute that states use to demonstrate their displeasure with another state, the case studies show that tensions may occur at lower-levels that are not plainly perceived. For example, the encouragement of proliferation by status quo nuclear states as a way to respond to new nuclear states provides a more robust understanding of how a state raises tensions. As well, the case study section shows that some cases provide strong support for the hypothesis, like China-US, while others provide little support, like India-Russia, but that most cases provide some support for the hypothesis. The case studies also confirm a core point of the theory presented here, which is that the height of tensions between two nuclear states is the time in which the new nuclear state is in the process of transitioning to the status of a bona fide nuclear state. Although this theory has some validity, the monocausal structure of the hypothesis prevents it from being fully confirmed.

There are a number of other reasons why my findings, particularly in the quantitative section, do not support my theory. The first issue is that MIDs is not the best operationalization of tensions, since it has a rather narrow scope. The tensions that I've found manifesting in the dyadic relationship in the qualitative section demonstrate that there are levels of tensions that fall below the level of MIDs. Therefore, a broader dependent variable might give results that offer greater confirmation of my hypotheses. An additional issue with using MIDs is that the level of tensions in a dyad can still rise and fall in accordance with my theory, but will rise and fall at low levels. Since the apex of tensions is relative to the overall level of tensions, two states that never rise to a MID would seem not to confirm the hypotheses. However, they could still confirm the

hypotheses without a MID occurring. One final issue in the quantitative section is that I have to code the different stages of nuclear development in a rigid manner by which one stage ends and another begins back-to-back. This limits the ability of this section to measure tensions over time because tensions may fall quickly after a test if the status quo state enters into deterrent logic relatively early on in the new nuclear state's nuclear development. The decline in tensions may not happen immediately once the deterrent stage is entered into, but earlier on. This change from preemptive logic to deterrent logic is hard to operationalize as one explanatory variable. Overall, these issues suggest that my theory should not be dismissed outright, but can still provide important insights into this type of dyadic relationship.

Ultimately, this research provides important insights for policymakers as they respond to the development of new nuclear states. This paper finds that policymakers must learn to be most careful in how they react to a new nuclear state during the period of the new nuclear state's transition to nuclear status. This period is the most tense time in the dyad's relationship. The transition period is also the period with the greatest chance that tensions will get out of control and result in conflict. While my theory is not fully confirmed, it is valid enough to be useful as a guide for policymakers as they react to the development of a new nuclear state. This research also provides some support for the argument that a state's acquisition of nuclear weapons will increase the chance of proliferation in that region. Not only does this argument have some evidentiary backing, but it is also the nuclear states who encourage and aid that proliferation. Therefore, policymakers should be cognizant of the ways in which a new nuclear state may increase the risk of proliferation as status quo nuclear states seek to rebalance the power dynamics of the region back in their favor.

While this research has added value to the understanding of the effect of nuclear weapons on state behavior, it also presents useful directions for future research. This paper focused almost entirely on how the status quo state responded to the new nuclear state over time, but it would also be beneficial to understand how the new nuclear state responded to the status quo state over time. How did the new nuclear state respond to the status quo state in the preventive stage when it was most vulnerable to coercion compared to the early preemptive stage when it first acquired a nuclear arsenal? As well, it would be interesting to examine how the new nuclear state's behavior toward the status quo state in particular changed over time. Was the status quo state always the one initiating and raising tensions, or did the new nuclear state increase tensions at time too? This research would be a more nuanced examination of Horowitz (2009). This research would also add to the collective understanding of how a state's behavior changes upon its acquisition of nuclear weapons. It would provide a comprehensive analysis of the full life cycle of how a state changes from when it only has a nuclear weapons program to when it has a fully diversified nuclear arsenal.

## References

- Albright, David. "South Africa's Secret Nuclear Weapons." ISIS. Accessed April 13, 2019. <http://isis-online.org/isis-reports/detail/south-africas-secret-nuclear-weapons/13>.
- Asal, Victor, and Kyle Beardsley. "Proliferation and international crisis behavior." *Journal of Peace Research* 44, no. 2 (2007): 139-155.
- Beardsley, Kyle, and Victor Asal. "Winning with the Bomb." *Journal of Conflict Resolution* 53, no. 2 (2009): 278-301.
- Beardsley, Kyle, and Victor Asal. "Nuclear weapons programs and the security dilemma." *The Nuclear Renaissance and International Security* (2013): 265-287.
- Bell, Mark S., and Nicholas L. Miller. "Questioning the effect of nuclear weapons on conflict." *Journal of Conflict Resolution* 59, no. 1 (2015): 74-92.
- Bennett, D. Scott, Paul Poast, and Allan C. Stam. "NewGene: An Introduction for Users." *Journal of Conflict Resolution* (2019): 0022002718824635. <http://www.newgenesoftware.org/>
- Berkowitz, Bruce D. "Proliferation, deterrence, and the likelihood of nuclear war." *Journal of Conflict Resolution* 29, no. 1 (1985): 112-136.
- Bundy, McGeorge. "Memorandum for the Record" National Security Archives, Document 3, Accessed April 13, 2019 <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/>
- Burr, William, and Jeffrey T. Richelson. "Whether to "strangle the baby in the cradle": the United States and the Chinese nuclear program, 1960–64." *International Security* 25, no. 3 (2001): 54-99.
- Carter, David B. and Curtis S. Signorino. "Back to the future: Modeling time dependence in binary data." *Political Analysis* 18, no. 3 (2010): 271-292.
- Chang, Gordon H. *Friends and Enemies: The United States, China, and the Soviet Union, 1948-1972*. Stanford University Press, 1990.
- Chang, Gordon H. "JFK, China, and the Bomb." *The Journal of American History* 74, no. 4 (1988): 1287-1310.
- CSIS "Missile Threat," Accessed April 13, 2019. <https://missilethreat.csis.org/missile/>
- Cunningham, Fiona S., and M. Taylor Fravel. "Assuring Assured Retaliation: China's Nuclear Posture and US-China Strategic Stability." *International Security* 40, no. 2 (2015): 7-50.
- Department for Disarmament Affairs: Report of the Secretary-General. "South Africa's Nuclear Missile-Tipped Ballistic Missile Capability." <https://heionline.org/HOL/Page?handle=hein.unl/safrnuc0001&id=26&collection=unl&index=>
- Early, Bryan R., and Victor Asal. "Nuclear weapons, existential threats, and the stability–instability paradox." *The Nonproliferation Review* 25, no. 3-4 (2018): 223-247.
- The Economic Times. "Agni V, India's first ICBM, successfully test-fired: Things to know" Accessed April 13, 2019. <https://economictimes.indiatimes.com/news/defence/agni-v-indias-first-icbm-successfully-test-fired-things-to-know/height-weight/slideshow/62551504.cms>.
- FAS. "SSBN-598 George Washington-Class FBM Submarines" Accessed April 13, 2019. <https://fas.org/nuke/guide/usa/slbn/ssbn-598.htm>
- FAS "Missile Programs." Accessed April 13, 2019. <https://fas.org/nuke/guide/rsa/missile/index.html>.
- FAS. "Thor." Accessed April 13, 2019. <https://fas.org/nuke/guide/usa/theater/thor.htm>.
- FAS. "Pakistan Nuclear Weapons." Accessed, April 13, 2019. <https://fas.org/nuke/guide/pakistan/nuke/>.
- FAS. "Prithvi." Accessed April 13, 2019. <https://fas.org/nuke/guide/india/missile/prithvi.htm>.
- FAS. "R-7 - SS-6 SAPWOOD" <https://fas.org/nuke/guide/russia/icbm/r-7.htm>



- Fuhrmann, Matthew, and Sarah E. Kreps. "Targeting Nuclear Programs in War and Peace: A Quantitative Empirical Analysis, 1941-2000." *Journal of Conflict Resolution* 54, no. 6 (2010): 831-859.
- Ganguly, Sumit. "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program." *International Security* 23, no. 4 (1999): 148-177.
- Gartzke, Erik, and Dong-Joon Jo. "Bargaining, nuclear proliferation, and interstate disputes." *Journal of Conflict Resolution* 53, no. 2 (2009): 209-233.
- Gartzke, Erik and Matthew Kroenig. "A strategic approach to nuclear proliferation." *Journal of Conflict Resolution* 53, no. 2 (2009): 151-160.
- Garver, John W. *Protracted contest*. University of Washington Press, 2001.
- George, Alexander L., Andrew Bennett, Sean M. Lynn-Jones, and Steven E. Miller. *Case studies and theory development in the social sciences*. MIT Press, 2005.
- Goldstein, Lyle J. "When China was a 'rogue state': the impact of China's nuclear weapons program on US-China relations during the 1960s." *Journal of Contemporary China* 12, no. 37 (2003): 739-764.
- "H. Daniel Brewster to Herman Pollack, 'Indian Nuclear Developments'," January 16, 1973, History and Public Policy Program Digital Archive, National Archives, Record Group 59, SN 70-73, AE 6 India. Obtained and contributed by William Burr and included in NPIHP Research Update #4. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/113907>
- "Henry Kissinger to President Nixon, 'Proposed NSSM on the Implications of an Indian Nuclear Test,' with cover memorandum from Richard T. Kennedy," July 04, 1972, History and Public Policy Program Digital Archive, Nixon Presidential Library, National Security Council Institutional Files, box H-192, NSSM-156. Obtained and contributed by William Burr and included in NPIHP Research Update #4. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/113903>.
- Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables. R package version 5.2.2. <https://CRAN.R-project.org/package=stargazer>.
- Horowitz, Michael. "The spread of nuclear weapons and international conflict: Does experience matter?." *Journal of Conflict Resolution* 53, no. 2 (2009): 234-257.
- Hu, Weixing. "India going nuclear: A bomb against China?." *Journal of Chinese Political Science* 4, no. 2 (1998): 19-40.
- Jagers, Keith, and Ted Robert Gurr. "Tracking democracy's third wave with the Polity III data." *Journal of peace research* 32, no. 4 (1995): 469-482.
- Jervis, Robert. "Cooperation under the security dilemma." *World politics* 30, no. 2 (1978): 167-214.
- Jo, Dong-Joon and Erik Gartzke. "Determinants of Nuclear Weapons Proliferation." *The Journal of Conflict Resolution* 51, no. 1 (2007): 167-194.
- Johnson, Robert. "The Bases for Direct Action Against Chinese Communist Nuclear Facilities," National Security Archives, Accessed April 13, 2019 <https://nsarchive2.gwu.edu/nukevault/ebb488/docs/Doc%2016%204-22-64%20R%20Johnson%20bases%20for%20direct%20action.pdf>
- "Joint Communiqué of the People's Republic of China and the United States of America (August 17, 1982)" PRC Embassy in the United States, Accessed April 13, 2019." <http://www.china-embassy.org/eng/zmgx/doc/ctc/t946664.htm>
- "Joint Communiqué between the United States and China," February 27, 1972, History and Public Policy Program Digital Archive, Nixon Presidential Library and Museum, Staff Member Office

- Files (SMOF), President's Personal Files (PPF), Box 73. Accessed April 13, 2019. <http://digitalarchive.wilsoncenter.org/document/121325>
- Jung, Sung Chul. "Nuclear aggressors, nuclearizing targets: nuclear weapon development and preventive conflict." *International Relations of the Asia-Pacific* 17, no. 1 (2016): 137-162.
- Karl, David J. "Proliferation pessimism and emerging nuclear powers." *International Security* 21, no. 3 (1997): 87-119.
- Kennedy, Andrew B. "India's Nuclear Odyssey: Implicit Umbrellas, Diplomatic Disappointments, and the Bomb." *International Security* 36, no. 2 (2011): 120-153.
- Kosmidis, I. 2013. brglm: bias reduction in binary-response generalized linear models. – R package ver. 0.5-9. <https://cran.r-project.org/web/packages/brglm/brglm.pdf>
- Krepon, Michael. "LOOKING BACK: The 1998 Indian and Pakistani Nuclear Tests." Arms Control Association, Accessed April 13, 2019. [https://www.armscontrol.org/act/2008\\_05/lookingback](https://www.armscontrol.org/act/2008_05/lookingback)
- Krepon, Michael. "The stability-instability paradox, misperception, and escalation control in South Asia." *Prospects for peace in South Asia* (2003): 261-279.
- Layne, Christopher. "From preponderance to offshore balancing: America's future grand strategy." *International Security* 22, no. 1 (1997): 86-124.
- Lewis, John Wilson and Hua Di. "China's ballistic missile programs: technologies, strategies, goals." *International Security* 17, no. 2 (1992): 5-40.
- Lewis, John Wilson and Litai Xue. *China builds the bomb*. Vol. 3. Stanford University Press, 1991.
- Loeb, Larry M. "Jupiter Missiles in Europe: A Measure of Presidential Power." *World Affairs* 139, no. 1 (1976): 27-39.
- Maoz Zeev, Paul L. Johnson, Jasper Kaplan, Fiona Ogunkoya, and Aaron Shreve 2018. The Dyadic Militarized Interstate Disputes (MIDs) Dataset Version 3.0: Logic, Characteristics, and Comparisons to Alternative Datasets, *Journal of Conflict Resolution*, DOI: <http://journals.sagepub.com/doi/full/10.1177/0022002718784158>
- Mettler, Simon A. and Dan Reiter. "Ballistic missiles and international conflict." *Journal of Conflict Resolution* 57, no. 5 (2013): 854-880.
- National Archives. "The Soviet Land-Based Missile Program: 1945-1972 Historical Overview." Accessed April 13, 2019. <https://www.archives.gov/files/declassification/iscap/pdf/2010-005-doc2.pdf>;
- Norris, Robert. "British, French and Chinese Nuclear Arsenals: Research Findings and Arms Control Implications." NRDC. Accessed April 13, 2019. [https://fas.org/nuke/norris/nuc\\_04269401a\\_005.pdf](https://fas.org/nuke/norris/nuc_04269401a_005.pdf).
- Norris, Robert S. and Hans M. Kristensen. "Nuclear US and Soviet/Russian Intercontinental Ballistic Missiles, 1959-2008." *Bulletin of the Atomic Scientists* 65, no. 1 (2009): 62-69.
- NTI, "Country Profiles," Accessed April 13, 2019. <https://www.nti.org/learn/countries/>
- NTI. "Pakistan: Missile." Accessed April 13, 2019. <https://www.nti.org/learn/countries/pakistan/delivery-systems/>.
- NTI. "South Africa Missile Chronology" Accessed April 13, 2019. [https://media.nti.org/pdfs/south\\_africa\\_missile.pdf](https://media.nti.org/pdfs/south_africa_missile.pdf).
- Perkovich, George. *India's nuclear bomb: the impact on global proliferation*. Univ of California Press, 2002.
- Petterson, Therése and Kristine Eck (2018) Organized violence, 1989-2017. *Journal of Peace Research* 55(4); Harbom, Lotta, Erik Melander & Peter Wallensteen, (2008) Dyadic Dimensions of Armed Conflict, 1946-2007. *Journal of Peace Research* 45(5): 697-710.

- Quigley, Kevin. "A Lost Opportunity: A Reappraisal of the Kennedy Administration's China Policy in 1963." *Diplomacy and Statecraft* 13, no. 3 (2002): 175-198.
- Ramzy, Austin. "China's Cultural Revolution, Explained" The New York Times. Accessed April 13, 2019. <https://www.nytimes.com/2016/05/15/world/asia/china-cultural-revolution-explainer.html>
- Rathjens, G. W. "Destruction of Chinese Nuclear Weapon Capabilities" National Security Archives, Accessed April 13, 2019 <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/>
- Rauchhaus, Robert. "Evaluating the nuclear peace hypothesis: A quantitative approach." *Journal of Conflict Resolution* 53, no. 2 (2009): 258-277.
- "Report, Embassy of Hungary in India to the Hungarian Foreign Ministry," July 06, 1976, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j India, 1976, 63. doboz, 60-1, 001658/4/1976. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/110531>
- Richter, James G. *Khrushchev's Double Bind: International Pressures and Domestic Coalition Politics*. Johns Hopkins Univ Pr, 1994.
- Roser, Max and Mohamed Nagdy. "Nuclear Weapons." Our World in Data. Accessed April 13, 2019. <https://ourworldindata.org/nuclear-weapons>.
- Sagan, Scott D. "The perils of proliferation: Organization theory, deterrence theory, and the spread of nuclear weapons." *International Security* 18, no. 4 (1994): 66-107.
- Sagan, Scott D. "The perils of proliferation: Organization theory, deterrence theory, and the spread of nuclear weapons." *International Security* 18, no. 4 (1994): 66-107.
- Sechser and Fuhrmann 2015 "Crisis Bargaining and Nuclear Blackmail"
- "Sino-Soviet Rapprochement, 1985-1989" Wilson Center, Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/collection/183/sino-soviet-rapprochement-1985-1989/2>.
- Shen, Zhihua and Yafeng Xia "Between Aid and Restriction: Changing Soviet Policies toward China's Nuclear Weapons Program: 1954-1960" Nuclear Proliferation International History Project, i. Accessed April 13, 2019. [https://www.wilsoncenter.org/sites/default/files/soviet\\_policies\\_twrds\\_chinas\\_nuclear\\_weapons\\_prgm\\_-\\_ver\\_2.pdf](https://www.wilsoncenter.org/sites/default/files/soviet_policies_twrds_chinas_nuclear_weapons_prgm_-_ver_2.pdf)
- Signorino, Curtis S., and Jeffrey M. Ritter. "Tau-b or not tau-b: Measuring the similarity of foreign policy positions." *International Studies Quarterly* 43, no. 1 (1999): 115-144.
- Singer, J. David, Stuart Bremer, and John Stuckey. (1972). "Capability Distribution, Uncertainty, and Major Power War, 1820-1965." in Bruce Russett (ed) *Peace, War, and Numbers*, Beverly Hills: Sage, 19-48. Version 5. <http://www.correlatesofwar.org/data-sets/national-material-capabilities/nmc-codebook-v5-1>
- Sobek, David, Dennis M. Foster, and Samuel B. Robison. "Conventional wisdom? The effect of nuclear proliferation on armed conflict, 1945–2001." *International Studies Quarterly* 56, no. 1 (2012): 149-162.
- "Special National Intelligence Estimate, 'The Chances of an Imminent Communist Chinese Nuclear Explosion'" National Security Archives, Document 2, Accessed April 13, <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/>
- "State Department Bureau of Intelligence and Research Intelligence Note, 'India to Go Nuclear?'," January 14, 1972, History and Public Policy Program Digital Archive, National Archives, Record Group 59, SN 70-73, Def 18-8 India. Obtained and contributed by William Burr and included in NPIHP Research Update #4. Accessed, April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/113891>

- Sullivan, K. *Competing Visions of India in World Politics: India's Rise Beyond the West* Palgrave MacMillan, 2015.
- "Telegram No. 66, Embassy of Hungary in India to the Hungarian Foreign Ministry on Soviet Premier Kosygin's visit to India," March 21, 1979, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j Soviet Union, 1979, 122. doboz, 145-1, 002480/1979. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <http://digitalarchive.wilsoncenter.org/document/112880>.
- "Telegram No. 84, Permanent Mission of Hungary to the U.N. in Geneva to the Hungarian Foreign Ministry," August 14, 1974, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j India, 1974, 50. doboz, 60-406, 003434/8/1974. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/112878>.
- "Telegram No. 113, Embassy of Hungary in India to the Hungarian Foreign Ministry," May 23, 1974, History and Public Policy Program Digital Archive, Hungarian National Archives (Magyar Országos Levéltár, MOL). XIX-J-1-j India, 1974, 50. doboz, 60-406, 003434/1/1974. Obtained and translated for NPIHP by Balazs Szalontai. Accessed April 13, 2019. <https://digitalarchive.wilsoncenter.org/document/112875>.
- Thomas, Raju GC. "India's nuclear and space programs: Defense or development?." *World Politics* 38, no. 2 (1986): 315-342.
- Topychkanov, Petr V. "US–Soviet/Russian Dialogue on the Nuclear Weapons Programme of India." *Strategic Analysis* 42, no. 3 (2018): 251-259.
- U.S. State Department Director of Intelligence and Research to the Secretary, "Current Developments in Chinese Nuclear Capabilities," Accessed April 13, 2019 <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB26/>
- Waltz, Kenneth N. "Nuclear myths and political realities." *American Political Science Review* 84, no. (1990): 730-745.
- Whitlark, Rachel Elizabeth. "Nuclear beliefs: a leader-focused theory of counter-proliferation." *Security Studies* 26, no. 4 (2017): 545-574.
- Zhan, Xin. "Prelude to the Transformation: China's Nuclear Arms Control Policy during the US-China Rapprochement, 1969–1976." *Diplomatic History* 41, no. 2 (2017): 304.