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# Crisis Bargaining and Nuclear Blackmail

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**Abstract** Do nuclear weapons offer coercive advantages in international crisis bargaining? Almost seventy years into the nuclear age, we still lack a complete answer to this question. While scholars have devoted significant attention to questions about nuclear deterrence, we know comparatively little about whether nuclear weapons can help compel states to change their behavior. This study argues that, despite their extraordinary power, nuclear weapons are uniquely poor instruments of compellence. Compellent threats are more likely to be effective under two conditions: first, if a challenger can credibly threaten to seize the item in dispute; and second, if enacting the threat would entail few costs to the challenger. Nuclear weapons, however, meet neither of these conditions. They are neither useful tools of conquest nor low-cost tools of punishment. Using a new dataset of more than 200 militarized compellent threats from 1918 to 2001, we find strong support for our theory: compellent threats from nuclear states are no more likely to succeed, even after accounting for possible selection effects in the data. While nuclear weapons may carry coercive weight as instruments of deterrence, it appears that these effects do not extend to compellence.

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Do nuclear weapons offer coercive advantages in international crisis bargaining? Scholars and policymakers have long maintained that nuclear weapons can deter aggression by dissuading adversaries from taking actions that might invite retaliation. Yet there has been comparatively little discussion about whether nuclear weapons help states compel their adversaries to make concessions or change their behavior.<sup>1</sup> Are nuclear weapons useful tools of compellence?

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1. The distinction between deterrence and compellence is discussed by Schelling 1960 and 1966.

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An increasingly common view asserts that nuclear weapons enable states to make more effective compellent threats in international crises.<sup>2</sup> The basic logic is straightforward: because nuclear states have the ability to impose extraordinary levels of punishment, they can more easily intimidate crisis opponents into submitting to their compellent demands. States with a nuclear advantage over their adversaries are particularly well-positioned, in this view, because they can afford to escalate further and run a higher risk of conflict than their nuclear-inferior (or nonnuclear) opponents. Moreover, this advantage is thought to persist even when coercers do not explicitly threaten nuclear attack. The mere possession of nuclear weapons is believed to cast a coercive shadow over crisis bargaining whenever a nuclear state issues a threat, even if nuclear weapons are never mentioned. In short, according to this logic, compellent threats are more likely to succeed when they come from nuclear-armed states.

We argue that this view misunderstands the utility of nuclear weapons in crisis bargaining. As instruments of compellence, nuclear weapons have two important limitations. First, nuclear weapons are not very useful for taking and holding territory or other disputed objects. They therefore do not enhance a state's ability to simply seize possessions that a target refuses to relinquish. Second, the costs of imposing nuclear punishment for reasons other than self-defense likely would be high. A state that used nuclear weapons to punish a recalcitrant target would risk an international backlash, with potentially serious military and economic consequences. The possession of nuclear weapons therefore is not likely to bolster the effectiveness of a challenger's compellent threats.

Using a new data set of more than 200 militarized compellent threats,<sup>3</sup> we evaluate whether nuclear-armed states are more likely to make successful threats than nonnuclear states. Our analysis finds that nuclear weapons carry little weight as tools of compellence. We find that states possessing nuclear weapons are not more likely to make successful compellent threats, even in high-stakes crises. While nuclear weapons may provide leverage in a deterrent context, these effects do not extend to compellent threats.

Our study attempts to remedy two important limitations of existing literature on nuclear coercion. First, many studies examine nuclear states only, while mostly ignoring nonnuclear coercers. Such "no-variance" research designs cannot answer a central question in the study of nuclear coercion: namely, whether possessing nuclear weapons is comparatively better (from a coercive standpoint) than not possessing them. Second, studies of nuclear compellence have been constrained by a lack of appropriate data. Quantitative studies in particular tend to employ data sets that conflate crisis victories achieved by coercive diplomacy with those achieved by brute force. These studies therefore tell us little about whether coercive threats issued by nuclear states are more effective. Our research design aims

2. See, for example, Betts 1987; Trachtenberg 1991; and Beardsley and Asal 2009.

3. Sechser 2011.

to correct these problems by employing a data set that includes both nuclear and nonnuclear challengers and codes coercive—rather than military—crisis outcomes.

The analysis proceeds as follows. First, we review the dominant school of thought on the compellent effects of nuclear weapons and develop our theory about why nuclear weapons might be able to deter but not compel. Second, we discuss the inferential limitations of existing research on the subject. The third section describes our research design, data, and variables. Fourth, we present empirical tests, using a variety of probit models to evaluate the compellent utility of nuclear weapons. Finally, we discuss potential objections and explore the implications of our findings.

## Compellent Threats and the Bomb

The coercive utility of nuclear weapons has been the subject of contentious debate for several decades. Since the beginning of the nuclear age, scholars and policymakers have debated whether nuclear weapons might allow states to compel adversaries to make concessions that they otherwise would not make. The debate continues today, as policymakers speculate whether nascent nuclear states such as Iran will be able to bully their neighbors if they acquire nuclear weapons.

### *A Looming Shadow*

Nuclear weapons are the most destructive weapons known to man. The prospect of facing an attack with nuclear weapons therefore ought to be sobering for any leader engaged in a diplomatic confrontation. This basic logic underlies a common perspective on nuclear weapons and compellence: that a leader faced with a coercive threat is more likely to capitulate peacefully if the adversary has nuclear weapons at its disposal.<sup>4</sup>

The view that nuclear weapons can compel as well as deter has been pervasive among U.S. policymakers throughout the nuclear era.<sup>5</sup> Prior to negotiations with the Soviet Union at the end of World War II, for example, officials in the administration of President Harry S. Truman expressed confidence that the Soviets would have little choice but to acquiesce to the United States because of its atomic monopoly.<sup>6</sup> Presidents Truman and Dwight D. Eisenhower also believed that nuclear weapons had helped the United States compel the Soviet Union and China to make concessions during crises in Azerbaijan and the Taiwan Strait.<sup>7</sup> More recently, this view has emerged in policy discussions about the effects of nuclear proliferation:

4. For example, Pape 1996.

5. See, for example, Gaddis 1987, 108–10.

6. See Truman 1955, 87; Lilienthal 1964, 123; and Alperovitz 1994, 42–45.

7. Bundy 1984.

President George W. Bush, for example, warned that adversaries such as Iran, Iraq, and North Korea would be able to “blackmail” the United States and its allies if they obtained nuclear weapons.<sup>8</sup>

The compelling effects of nuclear weapons are thought to be particularly powerful when nuclear capabilities are one-sided—that is, when a challenger possesses nuclear weapons but the target does not. Since the target cannot threaten nuclear retaliation in response to the threat, it cannot match the challenger’s bargaining leverage. When a nuclear-superior state issues a compelling threat, the logic goes, it will be more likely to prevail because it can escalate with impunity until the adversary submits.

Some empirical evidence appears to support the notion that nuclear states can more easily compel their adversaries during crises. Betts and Trachtenberg each investigated several Cold War crises and found that nuclear superiority was associated with—although did not clearly cause—coercive success.<sup>9</sup> Snyder and Diesing reached a similar conclusion, finding “some empirical grounds” to believe that nuclear weapons convey a coercive bargaining advantage.<sup>10</sup> And a recent quantitative study found that the simple possession of nuclear weapons helps states “win” crises more often.<sup>11</sup>

An important aspect of this view is that nuclear states possess a coercive advantage even when they do not make explicit nuclear threats. Indeed, the use of nuclear weapons has rarely, if ever, been threatened explicitly in conjunction with a compelling threat.<sup>12</sup> Yet many scholars argue that nuclear weapons exert implicit crisis bargaining leverage even when they are not invoked. Kissinger, for instance, warned in 1956 that “overt threats have become unnecessary; every calculation of risks will have to include the Soviet stockpile of atomic weapons and ballistic missiles.”<sup>13</sup> Beardsley and Asal recently argued along similar lines, asserting that “the possession of nuclear weapons helps states to succeed in their confrontations with other states even when they do not ‘use’ these weapons.”<sup>14</sup>

What are the testable implications of these arguments? One hypothesis is straightforward: compelling threats from nuclear states will succeed more often because of the looming shadow of nuclear punishment.

*H1A: Compelling threats from nuclear states are more likely to succeed, on average, than compelling threats from nonnuclear states.*

8. Bush 2002.

9. See Betts 1987; and Trachtenberg 1991.

10. Snyder and Diesing 1977, 460–62.

11. Beardsley and Asal 2009. This is not to say that these scholars view a nuclear arsenal as a panacea in coercive diplomacy; all of them stress that nuclear weapons are no guarantee of coercive success.

12. See Art 1980, 21; and Black 2010.

13. Kissinger 1956, 351.

14. Beardsley and Asal 2009, 296.

A second hypothesis is more qualified, suggesting that the compellent leverage of a nuclear arsenal will be neutralized if the target also possesses nuclear weapons.

*H1B: Compellent threats from nuclear states are more likely to succeed, on average, than compellent threats from nonnuclear states only if they are issued against nonnuclear states.*

### *The Futility of Nuclear Blackmail*

This research note argues that beliefs about the coercive utility of nuclear weapons are misguided. Even if nuclear weapons might be effective for defending against threats to national survival, they generally are not useful for compelling adversaries to relinquish possessions or change their behavior. Nuclear weapons have two inherent limitations as tools of compellence.

First, nuclear weapons are not useful for seizing objects. Compellent threats often center on disputed cities and territories that a challenger seeks to obtain from the target state. Coercive demands for these objects would be more effective if the challenger could threaten to seize the item by force, since the target might decide to forgo costly fighting if it expects to lose the object anyway. Nuclear weapons, however, contribute little to a challenger's ability to seize possessions.<sup>15</sup> Although nuclear weapons can destroy enemy forces that stand in the way of an invading military, an offensive nuclear attack could destroy the very object that prompted the dispute in the first place. It is implausible, for example, that Pakistan would try to seize Kashmir by launching an offensive nuclear strike against Indian forces there, since the attack itself would likely kill thousands of Muslims and render large swaths of the region potentially uninhabitable. Except in rare conditions, it will be difficult for a nuclear state to use its arsenal to physically wrest away an item that the target refuses to relinquish.

Instead, a nuclear state might hope to coerce a target by threatening to attack the target's valued possessions. A challenger could threaten to incinerate a target state's capital city, for example, unless it relinquished a disputed territory. But this possibility highlights a second limitation of nuclear weapons: the costs of executing nuclear punishment likely would be tremendous. A state that launched a nuclear attack to achieve compellent objectives would provoke an international backlash, potentially triggering economic sanctions and international isolation, encouraging nuclear proliferation, and provoking other states to align against it.<sup>16</sup> Faced with such costs, crisis challengers will find it difficult to threaten nuclear punishment credibly except under extreme circumstances.

This is not to say that nuclear threats can never be credible: a state facing imminent conquest, for example, probably would be willing to pay the costs of inflic-

15. See, for example, Jervis 1989.

16. See, for instance, Walt 2000; Sagan 2004; Mueller 2009; and Paul 2009.

ing nuclear punishment in order to defend itself. Nuclear deterrent threats therefore may be credible, particularly when one's survival is at risk. For compellence challengers, however, the stakes are so rarely high. Instead, the objective of compellent threats typically involves a disputed piece of territory, reversal of an unfavorable policy, payment of reparations, or another issue that the challenger considers valuable but not vital to its survival. Indeed, the fact that the challenger has already lived without the item for some period of time suggests that it could continue to do so, even if it would rather not.<sup>17</sup> A challenger's willingness to launch a costly nuclear attack in support of a compellent demand thus is likely to be in doubt.

Indeed, in the vast majority of crises, the possibility of nuclear attack is not even mentioned by leaders. Scholars have observed a strong inhibition among government officials against even the suggestion of nuclear escalation, especially in the United States.<sup>18</sup> When the United States threatened Serbia over ethnic cleansing in Kosovo in 1999, for instance, no senior U.S. official (to our knowledge) suggested that the use of nuclear weapons might be considered if Serbia did not comply. It strains credulity to suggest that the United States was implicitly "bidding up" the risk of nuclear war during the crisis simply because it possessed nuclear weapons.

Several empirical studies appear to support the view that nuclear weapons add little clout to compellent threats. In 1984, Bundy reviewed the U.S. record of "atomic diplomacy" and concluded that it was surprisingly poor. In his view, nuclear superiority did not even contribute to the success of U.S. compellent threats in the Cuban missile crisis, during which he had served as national security adviser. Indeed, Bundy echoed the views of several other participants in that crisis, who argued that "the Cuban missile crisis illustrates not the significance but the insignificance of nuclear superiority."<sup>19</sup> Halperin's 1987 review of nineteen U.S. crises reached a similar conclusion, finding that "nuclear weapons have never been central to the outcome of a crisis."<sup>20</sup> Some recent quantitative evidence also suggests that nuclear states are no more likely to win interstate crises once one accounts for such factors as conventional military power and the balance of interests.<sup>21</sup>

In sum, the theory outlined here suggests that nuclear weapons provide challengers with little, if any, additional compellent leverage in crises.

*H2: Compellent threats from nuclear states are no more effective, on average, than threats from nonnuclear states.*

17. This is one reason compellence is thought to be inherently more difficult than deterrence. See, for example, Snyder and Diesing 1977; and Art 1980 and 2003.

18. See Tannenwald 2007; and Paul 2009.

19. See the joint statement in *Time* magazine by Rusk et al. 1982. See also McNamara 1983.

20. Halperin 1987, 46.

21. For example, Gelpi and Griesdorf 2001.

## Inferential Problems in Existing Studies

The vast literature on nuclear coercion has contributed tremendously to our understanding of the potential coercive dynamics of nuclear weapons. However, empirical studies of nuclear coercion share two important limitations.

### *Indeterminate Research Designs*

A common approach to evaluating the effectiveness of nuclear coercion is to conduct in-depth case studies of crises in which nuclear weapons appeared to play a significant role. Bundy, Betts, Halperin, and Trachtenberg, for example, all consider Cold War crises—almost always involving the United States—in which the use of nuclear weapons was threatened or discussed.<sup>22</sup> While these studies reach different conclusions, their methodological assumption is the same: to understand the political effects of nuclear weapons, we must focus our attention on nuclear crises.<sup>23</sup> Yet this kind of research design cannot adequately test the hypotheses described earlier, for three reasons.<sup>24</sup>

First, an exclusive focus on nuclear crises does not allow us to generalize about the relative benefits of nuclear possession. In other words, this approach cannot tell us whether coercive threats from nuclear states are more effective, on average, than threats from nonnuclear states. Without first establishing a nonnuclear basis for comparison, we cannot ascertain whether nuclear possession conveys an advantage during crisis bargaining.

Second, many studies of nuclear coercion focus on high-profile crises—in other words, crises that resulted in wars, war scares, or otherwise became protracted affairs. The problem is that these also tend to be crises in which threats were not very successful, because successful threats ideally would have brought these crises to an end before they escalated and captured public attention. Studying only well-known crises might therefore cause unsuccessful threats to be overrepresented in the study sample, in turn biasing the results toward the conclusion that nuclear weapons cannot compel.

Third, studies of nuclear compellence often emphasize episodes in which nuclear weapons appeared to play a prominent role, either because nuclear forces were alerted or because leaders or the media hinted at the possibility of nuclear attack. Yet many scholars argue that the coercive value of nuclear weapons in crises persists even when their use is not explicitly threatened. Studying only crises in which

22. See Bundy 1984; Betts 1987; Halperin 1987; and Trachtenberg 1991.

23. Some quantitative studies of nuclear coercion adopt this approach as well; see, for example, Kroenig 2009.

24. On indeterminate research designs, see King, Keohane, and Verba 1994, 140–41. To be sure, these drawbacks are not necessarily inherent to qualitative research designs in general; our point here is only that they happen to be common problems in the qualitative literature about nuclear coercion.

nuclear weapons appear to have been invoked therefore might not offer an adequate measure of their utility.

### *Inappropriate Quantitative Data*

A more recent development in the study of nuclear coercion is the use of quantitative data to ascertain the effects of nuclear weapons on crisis outcomes. For example, several studies have used the International Crisis Behavior (ICB) data set to evaluate whether nuclear states win crises more often than nonnuclear states.<sup>25</sup> Recent research, however, has revealed several problems with these data sets, calling into question their appropriateness for studying nuclear coercion.

First, the most commonly used quantitative data sets in the study of nuclear coercion do not actually contain many coercive threats. A recent analysis found that roughly 84 percent of the crisis observations in the ICB data set do not contain coercive threats.<sup>26</sup> The Militarized Interstate Dispute (MID) data set, also commonly used to evaluate crisis outcomes, fared even worse: the same analysis found that barely 10 percent of the disputes in the MID data set contain threats.<sup>27</sup> Instead, most episodes in these data sets revolve around trespassing fishing boats, minor border clashes, and other trivial events in which no coercive diplomacy was attempted. For example, the ICB data set lists the 1964 Congolese hostage crisis as a victory for the United States because Belgian paratroopers used U.S. military transports to rescue hundreds of civilians taken captive by Congolese rebels.<sup>28</sup> The data set also lists the crisis as a defeat for the Soviet Union because the Soviets publicly denounced the rescue operation. Quantitative models using the ICB data set therefore consider this a case of one nuclear state achieving “victory” over another.<sup>29</sup> This interpretation, however, is misleading. The United States did not coerce the Soviets in any way during this crisis: the United States did not make any threats and the Soviets did not make any concessions. The case therefore has little relevance for theories of nuclear coercion. Unfortunately, because the ICB and MID data sets do not identify which cases contain coercive threats, researchers studying nuclear coercion cannot readily exclude (or recode) such cases in their empirical analyses.

Second, these data sets often conflate military and coercive outcomes. In other words, they do not distinguish between victories achieved by brute force from those achieved through successful coercive diplomacy. For instance, the MID and ICB data sets code the 1991 Gulf War as a “crisis victory” for the United States and its coalition partners on the grounds that the U.S.-led coalition ultimately won the war. Yet the compelling threat associated with this crisis was a clear failure:

25. For instance, see Gelpi and Griesdorf 2001; and Beardsley and Asal 2009.

26. Downes and Sechser 2012.

27. *Ibid.*

28. Brecher and Wilkenfeld 1997.

29. See, for example, Kroenig 2009.



the U.S. ultimatum demanding Iraq's evacuation from Kuwait was rejected, thus prompting the war in the first place. This case—like dozens of other military victories in these data sets—should not be classified as a success for coercive diplomacy because the central purpose of making a threat is to achieve one's objectives without large-scale military action. As Schelling has noted, "successful threats are those that do not have to be carried out."<sup>30</sup> With so many military victories coded as successes, it is unclear whether these data sets can tell us anything about the effectiveness of coercive threats.<sup>31</sup>

## Research Design

We address these inferential problems by using a new data set to evaluate the comparative effectiveness of threats made by nuclear-armed states. The Militarized Compellent Threats (MCT) data set<sup>32</sup> contains information about 210 interstate compellent threats—that is, episodes in which one or more challengers issued a compellent demand against a target and threatened to use force if it did not comply—comprising 242 challenger-target dyads overall.<sup>33</sup> The data set, which spans the years 1918 to 2001, contains both well-known superpower crises (for example, the 1956 Suez crisis), as well as lesser-known disputes between small states (for example, the 1995 Hanish Islands crisis between Eritrea and Yemen). Likewise, it includes crises in which nuclear weapons seemed to play a central role (for example, the Cuban missile crisis) as well as episodes in which the possibility of nuclear attack was never mentioned (for example, the 1993–94 Bosnian crises).

The structure of the MCT data set helps resolve the two inferential problems described here. First, each case in the data set contains a compellent threat, defined as a demand to change the status quo that is backed by the threat of military force.<sup>34</sup> Episodes in the MCT data set have two components: a coercive *demand* and a *threat* to use military force. While threats to use force are often transmitted verbally, they may also be communicated implicitly through militarized actions such as troop maneuvers or exercises. Both varieties are included in the MCT data set.

30. Schelling 1966, 10.

31. To their credit, many quantitative studies of crisis outcomes control for the degree of violence employed by the participants. The problem described here, however, involves an inappropriate dependent variable, not omitted variable bias. Including violence as an independent variable therefore would not correct this problem.

32. Sechser 2011.

33. Our findings are largely unaltered if we include only the principal challenger in each multilateral threat in the MCT data set.

34. Sechser 2011, 379. Deterrence and compellence are often difficult to distinguish because disputants often disagree about what constitutes the legitimate status quo. The MCT data set attempts to address this problem by establishing an objective reference point for differentiating deterrence and compellence. See Sechser 2011, 380–82.

However, the data set excludes military clashes and raids in which coercive demands were not made. It therefore allows us to distinguish coercive diplomatic successes from military victories.

Second, the MCT data set is not restricted to nuclear crises only; it contains threats made by nuclear and nonnuclear challengers alike. This variation is essential because it allows us to answer a central question in the study of nuclear coercion: do nuclear challengers succeed more often than nonnuclear challengers? Studies that examine nuclear crises alone cannot answer this question because they have no baseline against which nuclear states can be compared. The research design employed here corrects this omission, thus allowing us to draw inferences about the relative benefits of nuclear possession.<sup>35</sup>

The dependent variable in our analysis measures the target's level of compliance with the challenger's demands. *COMPELLENCE SUCCESS* is a dichotomous variable that is coded 1 if the target voluntarily complied with all demands of the challenger and the challenger did not have to use military force to achieve its desired outcome; the variable is coded 0 otherwise. We observe success in roughly 30 percent of the compelling threats in the data set, suggesting that successful compelling threats are quite common, even if compellence is indeed "harder" than deterrence.<sup>36</sup>

### *Measuring Nuclear Possession*

We use three primary independent variables to evaluate the empirical relationship between nuclear possession and successful coercive diplomacy. The dichotomous variable *NUCLEAR CHALLENGER* is coded 1 if the challenger in a dyad possesses at least one nuclear weapon in a given year, and 0 otherwise.<sup>37</sup> However, as HIB notes, the coercive advantages of nuclear possession might diminish if the target is also a nuclear power. To test this conditional hypothesis, we include the dichotomous variable *NUCLEAR TARGET* and the interaction term *NUCLEAR CHALLENGER* × *NUCLEAR TARGET*.

### *Control Variables*

We control for several confounding factors traditionally emphasized in the literature on coercive diplomacy and international conflict.<sup>38</sup> First, states that pos-

35. For the same reason, it is appropriate to include cases occurring before 1945, since the pre-nuclear era provides valuable information about the outcomes of compelling threats made by non-nuclear states. Our results, however, are similar if we exclude these cases.

36. Schelling 1966.

37. We obtained data on nuclear possession from Singh and Way 2004.

38. The regressions reported in Table 1 below do not include control variables such as regime type, population, alliances with nuclear-armed states, enduring rivalries, and geographic proximity. However, the results continue to support our argument when we add these variables to our models.

ness superior levels of conventional power might have an easier time coercing their adversaries, regardless of whether they possess nuclear weapons. To control for this possibility, the variable *CAPABILITY RATIO* measures the proportion of non-nuclear material capabilities controlled by the challenger in each dyad.<sup>39</sup>

Second, many scholars emphasize the importance of relative stakes in explaining crisis outcomes. States with critical interests at stake in a dispute should be more tolerant of costs and less likely to back down without a fight. Specifically, issues related to territory and leadership tend to be more important to states than matters of policy and ideology. Challengers therefore might have a harder time succeeding when they demand disputed land or regime change, compared to threats over trade policy or other comparatively minor issues. *STAKES* is a dichotomous variable that is coded 1 if the challenger made a demand over territory or leadership, and 0 otherwise.

Third, signals of resolve during a crisis could improve a threat's credibility. *RESOLVE* is a dichotomous variable that is coded 1 if the challenger employed demonstrations of force or conspicuous military mobilizations during a threat episode, addressing the possibility that challengers who aggressively signal their willingness to use force are more likely to prevail.<sup>40</sup>

Finally, the history of conflict within a dyad could influence coercive diplomacy outcomes. Frequent militarized disputes could suggest highly contested, unresolved issues between states, implying that threats over these issues will be less likely to succeed. Thus, we include the variable *DISPUTE HISTORY*, which measures the total number of militarized interstate disputes that the challenger and target experienced over the previous fifteen years.<sup>41</sup>

### *Method*

We employ probit regressions designed to estimate the probability that a compelling threat will succeed. Some country pairs—such as the Soviet Union and China—are included in the MCT data set multiple times, which could artificially deflate the estimated standard errors due to interdependence among cases. We address this potential problem by using robust standard errors clustered by dyad.

39. Singer, Bremer, and Stuckey 1972.

40. See Schelling 1966; and Fearon 1994. It could be the case that nuclear weapons embolden challengers to escalate crises after making threats, in which case *RESOLVE* would appear to explain variation that is actually attributable to the challenger's nuclear status. In this case, we might incorrectly conclude that the challenger's nuclear status is unrelated to the outcomes of threats, since the effects of nuclear possession would instead manifest themselves through the *RESOLVE* variable. However, the evidence does not support this argument. Nuclear states demonstrate resolve at a slightly higher rate than nonnuclear states in our estimation sample (80 percent versus 73 percent), but this difference is not statistically significant. Moreover, excluding *RESOLVE* from the models below yields substantively similar results.

41. Maoz 2005.

TABLE 1. Probit estimates of compellent threat success

	1	2	3	4	5	6	7
NUCLEAR CHALLENGER	-0.290 (0.252)	-0.459 <sup>†</sup> (0.253)					-0.758 <sup>†</sup> (0.398)
NUCLEAR TARGET		-0.505 (0.840)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.547 (1.146)					
CHALLENGER ARSENAL SIZE			0.002 (0.035)				
NUCLEAR SUPERIORITY				-0.274 (0.251)			
NUCLEAR RATIO					-0.537 (0.464)		
DIFFERENCE IN ARSENAL SIZE						0.001 (0.035)	
STAKES	0.022 (0.200)	0.002 (0.203)	0.037 (0.202)	0.019 (0.200)	0.024 (0.200)	0.036 (0.202)	-0.112 (0.226)
NUCLEAR CHALLENGER × STAKES							0.693 (0.436)
CAPABILITY RATIO	-0.311 (0.397)	-0.374 (0.398)	-0.476 (0.393)	-0.322 (0.396)	-0.304 (0.398)	-0.473 (0.393)	-0.281 (0.399)
DISPUTE HISTORY	-0.032 (0.023)	-0.044* (0.022)	-0.038 <sup>†</sup> (0.022)	-0.032 (0.024)	-0.032 (0.024)	-0.038 <sup>†</sup> (0.022)	-0.029 (0.024)
RESOLVE	1.108** (0.250)	1.110** (0.254)	1.073** (0.254)	1.101** (0.249)	1.096** (0.250)	1.074** (0.254)	1.111** (0.252)
Constant	-1.029** (0.399)	-0.919* (0.395)	-0.932* (0.399)	-1.018* (0.399)	-0.766 <sup>†</sup> (0.441)	-0.935* (0.399)	-0.966* (0.406)
N	236	236	236	236	236	236	236
Wald $\chi^2$	23.78**	30.31**	21.34**	23.99**	24.18**	21.34**	24.82**
Log pseudolikelihood	-128.675	-126.800	-129.304	-128.749	-128.731	-129.305	-127.731

Note: Robust standard errors in parentheses, clustered by dyad. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$ .

## Empirical Findings

Is nuclear possession correlated with successful coercion? Table 1 contains the results of multivariate statistical tests designed to estimate the effect of nuclear-possession on compellent threat outcomes. The statistically insignificant coefficient for *NUCLEAR CHALLENGER* in Model 1 indicates that there is no support for the argument that nuclear-armed challengers make more effective compellent threats, thus contradicting H1A. Model 2, which adds *NUCLEAR TARGET* and the relevant interaction term, represents the core test of H1B, which asserts that the compellent effects of nuclear weapons depend on the target's nuclear status. Figure 1 illustrates the findings from this model. It depicts the change in the predicted probability of compellence success—against both nuclear and nonnuclear targets—that results from increasing *NUCLEAR CHALLENGER* from 0 to 1.<sup>42</sup> For threats against nuclear targets, the large 90 percent confidence interval around the marginal effect estimate indicates that the effect of *NUCLEAR CHALLENGER* is statistically indistinguishable from 0. Against nonnuclear targets, compellent threats are actually somewhat less likely to succeed if they are made by nuclear challengers, as indicated by the negative marginal effect of *NUCLEAR CHALLENGER*. These findings refute the conditional hypothesis, demonstrating that possessing nuclear weapons does not reliably improve the observed effectiveness of compellent threats, even when the target is nonnuclear.

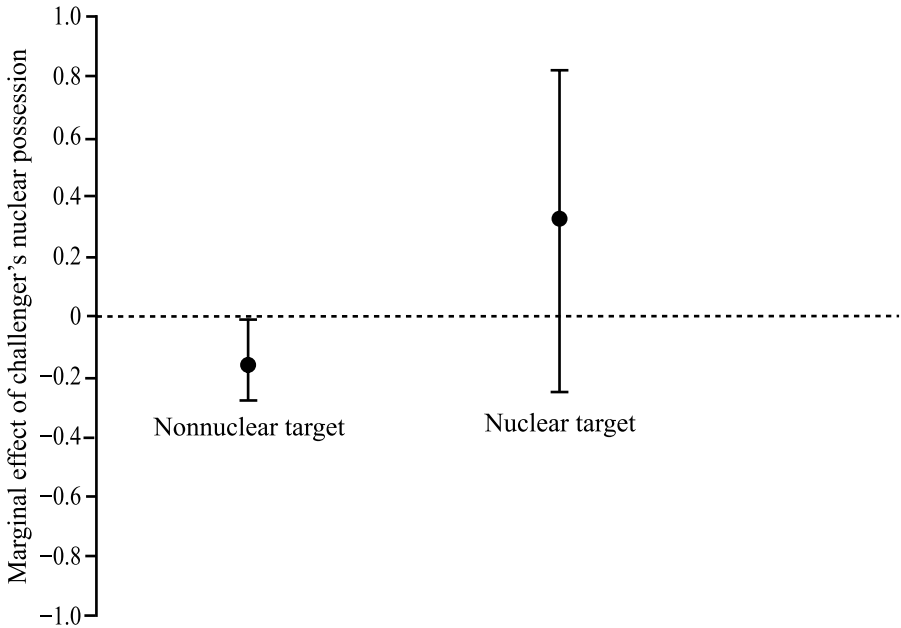
These results support our argument that nuclear weapons are not useful for compellence. It could be the case, however, that the size of one's nuclear arsenal, rather than the mere fact of nuclear possession, influences compellent threat outcomes. We therefore employ several alternative ways of measuring nuclear capabilities.<sup>43</sup> First, we use a continuous variable that measures the total number of nuclear weapons possessed by the challenger (Model 3). Second, to account for the nuclear balance, we employ the dichotomous variable *NUCLEAR SUPERIORITY*, which is coded 1 if the challenger has more nuclear weapons than the target, and 0 otherwise (Model 4). Third, *NUCLEAR RATIO* measures the proportion of nuclear capabilities controlled by the challenger in each dyad, capturing more nuanced disparities in nuclear arsenal sizes (Model 5). However, *NUCLEAR RATIO* does not necessarily account for large numerical disparities in nuclear arsenal sizes.<sup>44</sup> We therefore use a fourth alternate measure, *DIFFERENCE IN ARSENAL SIZE*, which measures how many more (or fewer) nuclear weapons the challenger possesses than the tar-

42. All other independent variables are held constant at their sample means (for continuous variables) or medians (for dichotomous variables).

43. Arsenal size data for the de jure nuclear powers were obtained from the "Nuclear Notebook" compiled by the National Resources Defense Council (Norris and Kristensen 2006). Time-series arsenal size data for the de facto nuclear weapons states in our sample—India, Israel, Pakistan, North Korea, and South Africa—are not available in a single source, so we obtained estimates for these cases by consulting a variety of historical sources on each state's nuclear program.

44. For example, a warhead ratio of 2:1 would yield the same value for *NUCLEAR RATIO* as a ratio of 20,000:10,000, even though the numerical gap is significantly larger in the latter case.

get (Model 6).<sup>45</sup> None of these alternate measures of nuclear status achieve conventional levels of statistical significance, reaffirming our theory that nuclear weapons are not credible tools of compellence.<sup>46</sup>



**FIGURE 1.** *The marginal effect of NUCLEAR CHALLENGER<sub>0→1</sub> on the probability of successful compellent threats (Model 2 estimates; 90% confidence intervals shown)*

We also repeated all six regressions using more lenient measures of compellence success. We employed two such measures. First, whereas our original coding scheme defined a successful threat as one that achieved compliance with no military force, we created a new dependent variable that reclassified compellent threats as successful even if the challenger used limited military force, as long as the target suffered fewer than 100 fatalities. A second reclassification adopted this

45. The variables CHALLENGER ARSENAL SIZE and DIFFERENCE IN ARSENAL SIZE are logged because their distributions are highly skewed.

46. One might suspect that nuclear weapons make compellent threats more effective only if it is widely known that the challenger possesses them. Countries that create ambiguities about their nuclear capabilities (such as Israel and South Africa) may have a harder time coercing adversaries than states that have publicly declared their nuclear capabilities (such as France and Russia). To address this possibility, we recoded the nuclear status variables to exclude states that had not publicly tested nuclear weapons. The core findings were largely unchanged.

100-fatality threshold in addition to a more lenient standard for compliance, coding threats as successful if the target complied with any (as opposed to all) of the challenger's demands. Regressions using these new measures yield substantively similar results.<sup>47</sup>

If possessing nuclear weapons does not help states coerce their enemies, then what explains the effectiveness of compellent threats? Our findings support the notion that demonstrations of resolve play an important role in coercive diplomacy. In particular, we find that challengers who conduct military demonstrations or mobilizations during a crisis are more likely to succeed. Indeed, the coefficient for RESOLVE is positive and highly statistically significant ( $p < 0.01$ ) in all of the models reported in Table 1. The effect of RESOLVE is also substantively significant: based on the findings from Model 1, challengers who signal their willingness to use force during a threat episode are nearly five times as likely to succeed as states that do not. The other controls are generally statistically insignificant, with the exception of DISPUTE HISTORY, which is significant and negative in some regressions, suggesting that threats within high-conflict dyads may be less likely to succeed.

### *Selection Effects*

These results suggest that neither nuclear possession nor nuclear superiority are associated with more effective compellent threats. However, it is possible that this finding is due to a selection effect in the data.<sup>48</sup> Specifically, it could be the case that nuclear states tend to issue threats over more valuable issues, thus selecting themselves into crises in which threats are inherently less likely to work. If true, then the coercive benefits of nuclear weapons might be obscured in the crises we observe. To definitively test this possibility, one would need to conduct a controlled experiment, randomly assigning nuclear weapons to compellence challengers while holding other crisis conditions—in particular, the issues at stake—constant. Since this is obviously an unrealistic solution, we use three alternative techniques to evaluate the severity of selection effects in our data.

First, we examine the cases in the data set to determine whether failed compellent threats from nuclear states indeed tend to be over high-stakes issues. Table 2 lists all episodes in the MCT data set in which nuclear challengers failed to compel their adversaries according to our rules for coding COMPELLENCE SUCCESS.<sup>49</sup> This list provides little support for the selection effects hypothesis: most cases on the list are not high-stakes crises, but rather crises in which the target could have acquiesced without significantly harming its national security. For example, in the

47. These results are available in the online appendix for this article.

48. See, for instance, Fearon 2002.

49. One notices from Table 2 that the United States has issued unsuccessful compellent threats more often than any other nuclear power. However, even when the United States is dropped from the estimation sample, the statistical results remain substantively similar. Likewise, dropping the most successful challenger (Germany)—or any other individual challenger—from the sample does not alter our core conclusions.

*Pueblo*, *Mayaguez*, and Iran embassy crises, U.S. threats failed to compel non-nuclear adversaries to release American hostages, even though their release would have had little material consequence for the target state. In these cases, the issue at stake was considerably more important to the challenger than the target, yet nuclear superiority did not make the challenger's compelling threats effective. This suggests that the failure of compelling threats by nuclear states has been due to the limited coercive potential of nuclear weapons rather than disproportionately difficult crisis conditions.

More concretely, we can measure the frequency of high-stakes demands—that is, demands over leadership or territory—in the MCT data set to evaluate whether nuclear powers are more likely to be involved in high-stakes crises. If crises involving nuclear challengers are disproportionately likely to involve high stakes, then the STAKES variable would detect this trend. However, nuclear powers are actually less likely than nonnuclear states to make compelling demands over high-stakes issues: 53 percent of demands made by nuclear challengers in the estimation sample are related to territory or leadership, compared to 71 percent for non-nuclear challengers.

A second method for evaluating selection effects is to assess whether the coercive effects of nuclear weapons depend on the stakes of a crisis. If self-selection into high-stakes crises puts nuclear challengers at an inherent disadvantage, then the analysis should distinguish between high- and low-stakes crises in order to estimate properly the effects of nuclear possession. We therefore replicated Model 1 with an interaction term between NUCLEAR CHALLENGER and STAKES (Model 7). The insignificance of the interaction term indicates that the effect of NUCLEAR CHALLENGER in high-stakes crises is statistically indistinguishable from its effect in low-stakes crises. This implies that nuclear states neither enjoy a consistent advantage in high-stakes crises (when nuclear threats might be most credible) nor in low-stakes crises (when the risk of nuclear punishment is most likely to outweigh the issue at stake).<sup>50</sup>

Third, we explicitly model selection effects by using a bivariate probit model commonly known as a Heckman selection model.<sup>51</sup> The Heckman method uses a probit estimator to simultaneously model the initiation and outcomes of compelling threats. This approach is commonly used to adjust for possible selection effects in observational data and has been used in quantitative research about nuclear coercion.<sup>52</sup> We reestimated the models in Table 1 using the Heckman method to determine whether the results change when we account explicitly for selection effects. We find that they do not: states possessing nuclear weapons are not more likely to

50. Table 2 includes several cases where nuclear challengers failed to coerce states in high-stakes crises. For instance, nuclear weapons did not aid Britain's attempt to compel Egypt to reopen the Suez Canal in 1956, nor did they help the United States and its allies expel Iraqi forces from Kuwait without a fight in 1991.

51. Heckman 1979.

52. Beardsley and Asal 2009.



**TABLE 2.** *Partially or completely unsuccessful compellent threats from nuclear-armed challengers, 1945–2001*

<i>Challenger</i>	<i>Target</i>	<i>Year</i>	<i>Demand</i>
China	India	1965	Withdraw from outposts in Kashmir
China	India	1965	Destroy military structures along Chinese border
China	Vietnam	1979	End occupation of Cambodia
France	Serb Republic	1993	Accept Bosnian peace plan
France	Serbia	1998	Stop ethnic cleansing in Kosovo
Great Britain	Saudi Arabia	1952	Withdraw from Buraimi Oasis
Great Britain	Egypt	1956	Open Suez Canal
Great Britain	Argentina	1982	Withdraw from Falkland Islands
Great Britain	Iraq	1990	Withdraw troops from Kuwait
Great Britain	Serb Republic	1993	Accept Bosnian peace plan
Great Britain	Serbia	1998	Stop ethnic cleansing in Kosovo
Great Britain	Iraq	1998	Readmit weapons inspectors
Great Britain	Afghanistan	2001	Extradite al Qaeda leaders
India	Pakistan	2001	Suppress terrorist organizations
Israel	Lebanon	1972	Expel PLO guerrillas
Israel	Syria	1978	Stop shelling Beirut
South Africa	Mozambique	1980	Stop supporting ANC rebels
Israel	Syria	1981	Remove surface-to-air missile batteries
South Africa	Lesotho	1985	Stop supporting ANC rebels
South Africa	Botswana	1985(×2)	Stop supporting ANC rebels
South Africa	Zimbabwe	1985	Stop supporting ANC rebels
South Africa	Zambia	1985	Stop supporting ANC rebels
Soviet Union	Yugoslavia	1949	Stop repression of Soviet nationals
Soviet Union	Czechoslovakia*	1968	Reverse political reforms
Soviet Union	China	1969	Withdraw from Zhenbao Island
Soviet Union	China*	1969	Participate in territorial dispute negotiations
Soviet Union	China	1979	Withdraw from Vietnam
United States	Vietnam	1964	Stop supporting Viet Cong
United States	North Korea	1968	Release <i>USS Pueblo</i>
United States	Cambodia	1975	Release <i>USS Mayaguez</i>
United States	Iran	1979	Release American embassy hostages
United States	Panama	1989	Remove Manuel Noriega from power
United States	Iraq	1990	Withdraw troops from Kuwait
United States	Serb Republic	1993	Accept Bosnian peace plan
United States	Serbia	1998	Stop ethnic cleansing in Kosovo
United States	Afghanistan	1998	Extradite Osama bin Laden
United States	Iraq	1998	Readmit weapons inspectors
United States	Afghanistan	2001	Extradite al Qaeda leaders

*Note:* Targets denoted with asterisks complied after minor military combat. These cases are recoded as successful threats under a looser definition of COMPELLENCE SUCCESS.

issue successful compellent threats, even when we adjust for factors that explain the onset of crises in the first place.<sup>53</sup>

53. These results are reported in the online appendix for this article.

## Limitations and Counterarguments

While these findings contain important lessons about the coercive limits of nuclear weapons, they should not be taken to imply that nuclear weapons have no political utility whatsoever. In particular, our analysis does not contest the view that nuclear weapons can be important tools of deterrence.<sup>54</sup> One of the central lessons of research about coercive threats in international relations is that the dynamics of deterrence and compellence may be very different.<sup>55</sup> Conclusions about the utility of nuclear weapons in one coercive context therefore may not necessarily apply to other forms of coercion.

Even with this caveat, however, one might object to these findings on several grounds. First, one could argue that the design of this study precludes a fair test of the nuclear compellence hypothesis because nuclear weapons were not explicitly invoked in most of the crises contained in the MCT data set. It is important to note, however, that recent literature on nuclear coercion asserts that nuclear weapons shape crisis outcomes even when they are not threatened.<sup>56</sup> Merely possessing a large nuclear arsenal, in this view, is sufficient to enhance one's compellent leverage.

This research note shows that there is little empirical support for these claims. Our analysis demonstrates that neither nuclear possession nor nuclear superiority enhance the effectiveness of compellent threats. A natural question, then, is whether explicit nuclear threats would be more likely to succeed than threats that do not mention nuclear punishment. However, we cannot evaluate this question empirically: to our knowledge, no leader has ever explicitly threatened the use of nuclear weapons in support of a compellent threat.<sup>57</sup> It might well be the case that explicit nuclear compellent threats would be more effective, but we currently lack the data to test this hypothesis.

A second objection might argue that while nuclear weapons may not help compellent threats succeed in most crises, under certain conditions they might be more effective compellent tools. For example, if a regime's survival depended on acquiring a prized territory or other important item, then one might expect nuclear weapons to be more credible tools of compellence. Put differently, this argument implies that the right conditions for successful nuclear compellence simply have not yet occurred. But this claim too is impossible to test because it relies on data that do not yet exist. As with all observational research, we can never be sure that the conditions generating our empirical data will recur in the future. Tomorrow's crises may not resemble the crises of the past, but since we cannot collect data about the future, we cannot know.

54. For examples of recent research on the deterrent effects of nuclear weapons, see Narang 2009 and forthcoming; and Fuhrmann and Sechser 2012.

55. For example, see Petersen 1986; and Art 2003.

56. For instance, see Beardsley and Asal 2009; and Kroenig 2009.

57. Even in the Suez and Cuban missile crises, leaders' references to nuclear weapons were vague and imprecise. See Betts 1987.

Nevertheless, our study demonstrates that across seven decades of the nuclear age and a wide variety of interstate crisis conditions, nuclear weapons have rarely, if ever, helped compellent threats succeed. Table 3 lists the cases in the MCT data set in which nuclear states made successful compellent threats. None of these cases provide unambiguous support for the view that nuclear weapons convey the ability to blackmail other countries. Even in the Suez and Cuban missile crises—two crises in which nuclear weapons are often believed to have played a role—historians disagree about whether nuclear weapons had a decisive impact on the outcome.<sup>58</sup> At the very least, then, we can conclude that the conditions favoring successful nuclear compellence are extremely rare.

**TABLE 3.** *Successful compellent threats from nuclear-armed challengers, 1945–2001*

<i>Challenger</i>	<i>Target</i>	<i>Year</i>	<i>Demand</i>
France	Serb Republic	1994	Withdraw heavy artillery from Sarajevo
Great Britain	Serb Republic	1994	Withdraw heavy artillery from Sarajevo
Soviet Union	France	1956	Withdraw forces from Suez Canal region
Soviet Union	Great Britain	1956	Withdraw forces from Suez Canal region
United States	Dominican Republic	1961	Permit elections following assassination of Rafael Trujillo
United States	Soviet Union	1962	Withdraw missiles from Cuba
United States	Soviet Union	1970	Cease construction of submarine base in Cuba
United States	Serb Republic	1994	Withdraw heavy artillery from Sarajevo
United States	Haiti	1994	Restore Jean-Bertrand Aristide to power
United States	Iraq	1997	Readmit weapons inspectors

## Conclusion

Do nuclear weapons improve the effectiveness of compellent threats? Using a data set of more than 200 militarized compellent threats from 1918 to 2001, we present new evidence that they do not. Compellent threats from nuclear states have not been more successful than threats from nonnuclear states, even after accounting for other factors that influence coercive diplomacy outcomes. Moreover, this find-

58. In the Suez crisis, some scholars argue that Britain and France backed down because of an implicit Soviet nuclear threat (see, for instance, *Finer* 1964, 417–18; and *Pape* 1997, 116), whereas others contend that U.S. opposition and public disapproval in Britain played the critical role (see *Betts* 1987; and *Kirshner* 1995). Likewise, although some observers argue that U.S. strategic nuclear superiority influenced the Soviet decision to remove its nuclear warheads from Cuba in 1962 (for example, *Trachtenberg* 1991), others—including several crisis participants—dispute this notion (for example, *Rusk et al.* 1982).

ing is robust to a wide variety of measurements of nuclear superiority, threat effectiveness, and possible selection effects. Collectively, these results support the argument that nuclear weapons are not credible instruments of compellence in international politics.

Our analysis contributes to a decades-old theoretical debate about the coercive effects of nuclear weapons by addressing two problems with existing empirical research. First, it explicitly compares success rates for nuclear and nonnuclear states. This approach is distinct from most existing studies of nuclear coercion, which examine nuclear crises in isolation and therefore cannot determine whether nuclear challengers have a comparative advantage over nonnuclear challengers when issuing compelling threats. Second, it distinguishes victories achieved by force from victories achieved by fear. By treating battlefield victories as distinct from successful compelling threats, this study paints a more accurate picture of the coercive political effects of nuclear weapons.

These findings carry important theoretical implications in part because they underscore the coercive limits of military power in international politics. While scholars have long noted the imperfect ability of military power to achieve political objectives,<sup>59</sup> recent research has begun to explore the potentially perverse effects of military power in war fighting,<sup>60</sup> crisis bargaining,<sup>61</sup> and other contexts. The results of this study contribute to this literature by demonstrating that nuclear weapons do not have the coercive leverage that their extraordinary power might suggest. The ability to destroy does not necessarily convey the ability to coerce.

An unanswered question is whether the coercive limitations of nuclear weapons also apply during wartime. While our study considers whether nuclear weapons improve the effectiveness of compelling threats made in peacetime, the MCT data set does not include intrawar threats. This is an important limitation, especially given that the very first use of nuclear weapons in 1945 was designed to compel Japan to surrender to the United States in World War II. Moreover, many U.S. officials believed that nuclear weapons helped coerce China into ending the Korean War on terms more acceptable to the United States.<sup>62</sup> It might be the case, then, that while nuclear states enjoy no extra compelling leverage when threatening to initiate war, they may have an advantage in being able to threaten nuclear escalation once war has begun. Additional research is needed to evaluate this possibility.

From a practical perspective, our findings have important implications for nuclear nonproliferation policy. One reason many policymakers in the United States and elsewhere have expressed support for preventive military strikes against Iran is the fear that a nuclear Iran might blackmail its adversaries. For example, some analysts have argued recently that a nuclear-armed Iran could exploit the implicit coercive leverage of its arsenal to seize major oilfields and other territory from its

59. For example, Art 1980.

60. Lyall and Wilson 2009.

61. Sechser 2010.

62. Some historians, however, have challenged this claim. See, for instance, Foot 1988.

nonnuclear neighbors. Iran “would not even have to use” its nuclear weapons to accomplish this, according to one commentator; “intimidation and blackmail by themselves would do the trick.”<sup>63</sup> Our analysis, however, suggests that there is little empirical precedent for these claims. The historical record indicates that nuclear states have not tended to make more successful compelling threats—even against nonnuclear adversaries. Although one might argue that Iran’s ideological fervor makes it unique, it is worth recalling that U.S. officials voiced similar concerns about China in the early 1960s. Indeed, many officials believed that a nuclear China would compel an American military withdrawal from Southeast Asia and dominate the region.<sup>64</sup> Yet, in the end, these fears were not realized.<sup>65</sup> To be sure, nuclear proliferation may carry a variety of dangers,<sup>66</sup> but the historical record suggests that nuclear blackmail is not one of them.

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63. Podhoretz 2007, 17.

64. Gavin 2004.

65. See Lewis 2007.

66. See Sagan 1994; and Fuhrmann and Kreps 2010.

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