14

How Credible Nuclear Security Guarantees Backfire: Evidence from a Survey Experiment in the United Kingdom

Lauren Sukin[1]

The U.S. nuclear security guarantee to the United Kingdom is shaped by the states' mutual membership in the North Atlantic Treaty Organization (NATO), whose Article V commitments on common defense stipulate that an attack on one member is an attack on all. Through NATO, the United States maintains a nuclear presence in Europe, consisting of forward-deployed nuclear weapons deliverable by U.S. and allied aircraft. These weapons are intended to deter adversaries of NATO states as well as to reassure U.S. allies of the commitment to their defense. As former British Defence Minister Denis Healey (1964–1970) described, reassurance can be the more difficult goal: "It takes only five per cent credibility of American retaliation to deter the Russians, but ninety-five per cent credibility to reassure the Europeans."[2] U.S. nuclear commitments to NATO also have a "non-proliferation function" that, as David Yost explains, "concerns not only the alliance's potential adversaries but also the members of the alliance that are non-nuclear-weapon states. The NATO arrangements, including U.S. nuclear forces in Europe, have served to assure Germany and other non-nuclear-weapon-state allies that they have no need to seek nuclear weapons of their own."[3] Similarly, scholars have argued that U.S. nuclear commitments to NATO may have limited the arsenal size and capability of U.K. nuclear forces.[4]

This understanding of nuclear guarantees reflects the scholarly consensus that the main concern of client states is credibility—or the perceived probability that a guarantor will fulfill the promises of its guarantee. If clients worry whether their guarantor will actually use nuclear weapons in their defense, guarantees may not be sufficient to assuage their security concerns. When guarantees are credible, and clients believe their guarantor will act in their

defense, guarantees can substitute for clients' domestic military capabilities. Indeed, credible nuclear guarantees have long been considered sufficient substitutes that dissuade nuclear proliferation.[5]

This approach, however, does not explain two core puzzles. First, there is only a tenuous empirical connection between credible nuclear guarantees and nonproliferation. For example, cross-country studies of nuclear proliferation offer contradictory evidence about whether or when nuclear guarantees actually substitute for domestic nuclear proliferation.[6] Second, credible guarantees sometimes fail to assuage clients' security concerns, and may also introduce new ones. Throughout the post-war history of the "special relationship," for example, the U.S. nuclear guarantee to the United Kingdom sparked perennial British fears about being brought into a nuclear conflict by the United States. In 1954, the United Kingdom rebuffed U.S. calls for joint intervention in Indochina, in large part out of concern that the policy would incite an aggressive Chinese response and lead to a "global war."[7] U.K. Foreign Minister Anthony Eden was vocal about the potential nuclear consequences of U.S. policy in Indochina.[8] He accused the United States of "unilateral decision-making on matters that vitally affected the interests of Britain."[9]

Eden was not alone in worrying about the nuclear risks of American adventurism. Prime Minister Winston Churchill similarly complained, "The danger is that the Americans may become impatient . . . they may get in a rage and say . . . Why wait until Russia overtakes us?"[10] Such attitudes were influential in U.K. debates over whether to pursue the development of a "super" or thermonuclear weapon. For example, James Gascoyne-Cecil, the Marquess of Salisbury serving as Lord President of the Council, expressed concerns that "without [thermonuclear] weapons Britain would not be in a position to influence the American government and prevent impatient elements in Washington from plunging 'the world into war, either through a misguided intervention in Asia or in order to forestall an attack by Russia.'"[11] In this way, U.K. investments in nuclear infrastructure provided leverage. They not only offered the United Kingdom a degree of independence from the United States, but they also provided a mechanism through which to influence U.S. security choices. John Baylis points to "considerable concern that U.S. rashness and impatience might precipitate a global conflagration," as a crucial rationale behind the U.K. development of thermonuclear weapons.[12]

Thus, while the traditional approach to credible guarantees has yielded numerous benefits, resolve is a double-edged sword. Clients may fear that their guarantor will draw them into a situation involving the "unwanted use" of nuclear weapons.[13] And when they fear nuclear escalation by credible

guarantors, they may backlash against their alliances. Clients can do this by drawing away from—or setting limits on—guarantors, or by increasing their independent military capabilities, including nuclear proliferation or modernization. This "backfire effect" of nuclear guarantees offers an explanation for the empirical failures of credible nuclear guarantees to reassure allies and to ensure allied nonproliferation (nuclear forbearance). It describes a risk of serious counterproductive consequences stemming from otherwise well-intentioned, extended nuclear deterrence relationships.

In this chapter, I reassess the relationship between credible nuclear guarantees and allied reassurance, examining whether and to what degree credible nuclear guarantees resolve clients' security concerns or create new ones. To do so, I design and implement an original survey experiment in the United Kingdom. Interestingly, I find little evidence for a substitution logic of nuclear guarantees; instead, this work shows that credible nuclear guarantees backfire. They create fears of embroilment in a U.S.-driven conflict and generate support for further investments in U.K. nuclear capabilities.

A New Logic of Nuclear Guarantees

Hazards of Guarantees

The international relations literature has delineated a number of benefits of security guarantees.[14] Alliances, however, are not always pacifying. Scholars have identified two primary hazards associated with nuclear guarantees: entanglement and emboldenment. These occur when, as Tongfi Kim explains, states are "compelled to aid an ally in a costly and unprofitable enterprise."[15]

The first alliance hazard—entanglement—occurs when allies are "dragged into a conflict over an ally's interests that [they do] not share."[16] Entanglement occurs when the terms of a state's alliance result in involvement in a conflict that the state has little interest in, outside of the alliance itself. The literature on entanglement focuses on risks to the guarantor, and it has informed work arguing that the United States ought to pull back from its complex system of global alliances to avoid being caught in unnecessary wars.[17] This hazard provides an incentive for guarantors not to over-promise; they may not always wish to fulfill the terms of their agreements.

The second alliance hazard is emboldenment, in which the promise of protection empowers clients to behave more belligerently. As Brett Benson writes, "Assuming that an alliance commitment has the effect of increasing the probability that a protégé will win a war, moral hazard should indeed embolden the protégé to behave more aggressively than it otherwise would in

crises. This behavior increases the risk of war."[18] What distinguishes emboldenment from entanglement is that the possibility of conflict results "because of risky or offensive actions taken outside the parameters of the original alliance treaty."[19] As with the entanglement literature, the emboldenment literature focuses on the risks posed to a guarantor, highlighting how less powerful allies may act more aggressively under the protection of more powerful states.

Both the entanglement and emboldenment hazards stem from a problem faced by guarantors: They have incentives not to abandon client states, even when defending these clients is difficult or when the clients have acted recklessly. Guarantors may stick with costly alliance agreements because of concerns about their reputation domestically, with other allies, or with adversaries.[20]

Importantly, clients also face hazards associated with their alliances, although this has not been a frequent focus in the literature. Like guarantors, clients worry they will be asked to contribute to their alliance partners' conflicts in areas outside of their own interests.[21] This risk for client states, of being dragged into external conflicts because of a guarantor, is sometimes referred to as entrapment.[22] Because entrapment usually involves responsibilities for an ally outside of the scope of a formal security guarantee, this hazard is independent of the credibility of a guarantee.

I argue that clients face an additional risk heretofore missed in the literature. That is, clients of credible security guarantees risk precipitous escalation over their own security concerns. The traditional literature would suggest that the main risk for client states is the possibility that their guarantors will be unable to defend them, or choose not to defend them, when their security is threatened—despite the terms of the guarantee. Yet, the mismatch between client and guarantor preferences on the client's own security issues can also occur in the other direction. When guarantors communicate credibility, they signal a strong willingness and ability to use their resources in defense of their allies. But in doing so, they may demonstrate more willingness to use force against the client's own adversaries than clients actually prefer.

Diverging Risk Tolerance Drives Backfire Hazards

The literature on security guarantees has largely assumed that guarantors are less risk tolerant than their clients. This reflects the classic challenge of extended deterrence; while clients should, as a matter of course, be highly interested in their own security, guarantors' first-order concerns are about their own territory, citizens, and resources. Clients of U.S. guarantees may therefore wonder whether the United States would really "risk New York for Paris." Yet, there are many reasons why guarantors may be more risk tolerant than their clients.

First, guarantors have structural reasons to act more aggressively than clients. Guarantors face lower costs if disputes over a client's security escalate. Escalation would likely happen in, or near, the client's territory and would thus affect the client more directly. As a result, clients will internalize the costs of conflict more than guarantors, and will have stronger incentives to avoid escalation. Clients and guarantors may also have different views of what "winning" means. Guarantors may be more aggressive and more adventurous, since they may be more willing to sustain the costs of conflict.

Second, guarantors often have multiple interests and preferences that determine their involvement in security issues related to a client. They may credibly commit to defend an ally, but this commitment may not be defined by a singular interest in the ally's wellbeing, leading to differences of opinion in how to handle the ally's security threats. As Michael Beckley writes: "To be sure, the United States has intervened on the side of allies on numerous occasions. In most cases, however, U.S. actions were driven by an alignment of interests between the United States and its allies, not by alliance obligations. In fact, in many cases, U.S. policy-makers were the main advocates of military action and cajoled reluctant allies to join the fight."[23] Clients may be concerned that guarantors will take unilateral escalatory actions or compel joint offensive measures.

These cross-cutting incentives can result from guarantors having multiple networks of guarantees, with additive effects: The credibility of one guarantee may provide information to other clients about their own guarantees.[24] Guarantors may, therefore, be incentivized to act aggressively when one client's interests are threatened, in order to reassure other partners. Multilateral guarantees, such as the U.S. guarantee to NATO, can be especially difficult in this regard. Guarantors face pressure to demonstrate credibility at a level that will reassure the most-threatened states in the alliance. Allies with lower threat or risk tolerance levels will not see their preferences reflected in the guarantor's posture.

Similarly, a guarantor's ability to deter each of its adversaries may hinge on maintaining its commitments against all of its adversaries. This challenge is especially pressing in the nuclear realm. The failure to respond to a nuclear threat against a client would likely erode a guarantor's ability to deter nuclear threats against other clients, or even against itself. In multilateral settings, guarantors may need to demonstrate high levels of resolve if one client is threatened, or else the adversary may seize the opportunity to challenge another client in the network in order to unravel it.

Finally, even if a guarantor does not have a different risk tolerance than its client, communication challenges associated with security guarantees can make clients believe this to be the case. This is because guarantors have incentives to

signal their credibility in ways that are, themselves, risky. Guarantors are aware of the need to assure allies that their guarantees are sufficiently credible and to convey to adversaries that any missteps will be punished. Since it is difficult to fully demonstrate the willingness to go to war for an ally—much less a nuclear war—guarantors often rely on strong signals of resolve, such as stationing "tripwire" troop deployments, engaging in shows of force, or making direct threats against common adversaries.[25] These strong signals of resolve can carry significant escalation risks.

Thus, the actions that make security guarantees appear credible can have downsides. Each of these actions can make accidents or miscommunications more likely by reducing reaction times for conflict, creating hawkish institutional interests, or aggravating adversaries, among other pathways. Steps that guarantors can take to increase the credibility of nuclear guarantees specifically—such as the forward deployment of nuclear weapons or nuclear-capable delivery systems, or investments in low-yield nuclear weapons—are particularly prone to these risks.[26] Controlling perceptions about when and how escalatory actions should be taken is difficult, especially in the nuclear context. This can translate into client concerns that a guarantor will engage in an unwanted use of nuclear weapons. That is, the process of creating a credible nuclear guarantee for a client state trades off with the ability to reassure that same client state that nuclear weapon use will be avoided.[27]

Consequences of Mismatched Risk Tolerance Preferences

Resolving a client's escalation concerns is no easy task. The presence of such concerns often reflects stark differences in the interests and preferences of clients and guarantors. Moreover, the risk of escalation, by its very nature, involves the possibility that a guarantor may take an action that is surprising or reckless and antithetical to publicly agreed-upon goals such as conflict avoidance. Reassurance that there will be no unwanted escalation therefore becomes especially challenging.[28] Instead, to reduce the chances of escalation, clients can engage in a number of strategies designed to increase their leverage with their guarantor—or their ability to influence and restrain their guarantor's choices.

For example, clients can ask guarantors for increased involvement in military decision-making, such as through high-level dialogues, crisis consultation, or dual-key launch systems. These strategies vary in the degree to which they could actually bind the hands of a guarantor. Highly effective strategies are also more likely to be rejected, as guarantors have strong incentives to retain control over military decision-making. Nuclear guarantees present particular challenges since the need for rapid decision-making makes it difficult to require consultations and other safeguards.

A more effective solution, then, may be for clients to decrease their reliance on—or even reject—their security guarantee. While a full rejection would leave client states vulnerable to security threats, decreased reliance accompanied by increased investments in independent military capabilities can enable client states to leverage their capabilities for greater influence with their guarantor and to better deter adversaries on their own. Strong, independent military capabilities not only afford states prestige but also position them to have a more significant role in the event that conflict breaks out. Consequently, greater military strength can translate into greater negotiating power within alliances. Consider, for example, the aforementioned case of the United Kingdom's thermonuclear weapons development. This was intended, in part, to improve the United Kingdom's ability to influence U.S. security policy. Indeed, Baylis writes, "From the perspective of the government . . . it was imperative for Britain to develop thermonuclear weapons . . . to restrain the United States . . . [and] to influence and guide U.S. policy in a more responsible direction."[29]

The backfire effect predicts that credible security guarantees will raise clients' concerns about precipitous escalation, leading clients to seek strengthened independent military capabilities so that they no longer have to live under the itchy trigger finger of their guarantor. This approach runs counter to the traditional substitution logic, which instead suggests that credible security guarantees provide valuable assurance to clients and therefore substitute for domestic military assets. In this chapter, I assess how the U.K. public responds to the credibility level of the U.S. security guarantee in order to identify whether credible guarantees reassure clients or raise unintended fears of escalation.

Methodology

To do so, I designed and implemented a survey experiment on a 1,233-person sample of individuals in the United Kingdom from April 26, 2021 to May 19, 2021.[30] The survey was run using Prolific, an online platform that pairs research subjects with surveys. Prolific has been used by scholars to study public opinion in the United Kingdom.[31] Prolific respondents have been shown to be more representative and perform better on metrics such as comprehension, attention, diversity, and honesty relative to other online options, including Amazon's Mechanical Turk platform and Lucid.[32]

The experiment varied the credibility of the U.S. guarantee to NATO in a scenario involving a Russian attack on a NATO state. I then assessed how credibility affected respondents' preferences for investments in the U.K. military. The traditional substitution approach to guarantees would predict

that credible guarantees decrease support for enhanced independent military capabilities. I argue that the opposite can also occur. Credible guarantees can generate fears about U.S.-driven escalation and, in this case, consequently increase support for investments in U.K. military capabilities.[33]

The United Kingdom represents a difficult test case for three reasons. First, relative to many other U.S. allies, the United Kingdom exhibits high levels of support for the use of force, which should make it less susceptible to the escalation concerns that may plague a more cautious ally.[34] Second, the United Kingdom has long been one of the most reliable U.S. allies, especially in terms of military contributions to U.S. missions. The United States and the United Kingdom share a "special relationship" involving shared ideology as well as interdependence and cooperation in a number of military, political, and economic areas. As a result, the U.S.–U.K. preference gap should be smaller than in other U.S. alliances. Third, unlike most U.S. allies covered by the nuclear umbrella, the United Kingdom already possesses a nuclear arsenal. Moreover, while the United Kingdom is a U.S. client, it also serves as a guarantor in its own right within NATO. These characteristics afford the United Kingdom some independence from the U.S. nuclear guarantee as well as relatively significant influence in U.S. and NATO nuclear decision-making. Although little scholarship in international relations has focused on the dynamics of security guarantees between multiple nuclear weapons states, the junior–senior dynamics inherent in partnerships between nuclear and non-nuclear states should still arise in this setting, given U.K. reliance on the U.S. nuclear umbrella. In this chapter, I argue that credible nuclear guarantees to nuclear-armed states—like those to non-nuclear states—can backfire, encouraging nuclear clients to distance themselves from their guarantor and invest further in their own nuclear forces to secure greater leverage in their partnership.

The Importance of Public Opinion

I study this phenomenon using a survey experiment. Survey experiments have several advantages over the approach taken by previous quantitative studies of security guarantees. These studies have used data on the presence of formal defense pacts as a proxy for security guarantees.[35] This measure is insufficient for two critical reasons. First, formal defense pacts do not require nuclear guarantees, and nuclear guarantees do not require defense pacts. For example, the formal defense pacts data[36] excludes the U.S.–South Korea 1953 Mutual Defense Treaty because the technically ongoing state of the Korean War precluded the agreement from being a "true" defense pact.[37] Nevertheless, the U.S. nuclear guarantee to South Korea is one of the United States' most prominent. Similarly,

some studies of nuclear proliferation—based on the formal defense pacts data—include a series of defense pacts between the United States and Latin American states that concluded in 1945 and would not have involved nuclear guarantees.[38]

Second, the presence of a formal defense pact—even if a nuclear guarantee is included as part of that arrangement—does not provide adequate information about the credibility of the guarantee. In the case of NATO, for example, the U.S. security guarantees to Estonia and the United Kingdom do not necessarily hold the same weight. Guarantee credibility not only varies across countries, but it also varies within countries, as different stakeholders have fundamentally different perceptions about the quality of security arrangements.[39] The use of survey experiments in the United Kingdom provides a way to circumvent both concerns. This strategy highlights within-country variation in perceptions of security guarantees and identifies a clear case of a viable U.S. nuclear guarantee.

Public opinion is a valuable subject of study for understanding security policy broadly and nuclear policy in particular. Public attitudes have been shown to influence policy-maker decisions, whether through audience costs, protest politics, retrospective voting, anticipation of public opposition, influence on bureaucrats and non-elected officials, or many other mechanisms.[40] Public opinion has also informed nuclear policies, from proliferation to missile defense to nuclear posture and force structure.[41] Public support for nuclear proliferation in the United Kingdom, for example, has been linked to the U.K. decision to pursue a nuclear weapons capability.[42] Studies of public opinion have also been shown, cross-nationally, to predict elite attitudes on foreign policy issues.[43]

This research contributes to an emerging literature expanding the study of global public opinion on nuclear weapons. Previously, work in this area has focused on public attitudes in the United States. Beginning with Cold War era studies such as the 1983 piece by Bernard Kramer, Michael Kalick, and Michael Milburn—and including such notable works as the 2013 article by Daryl G. Press, Scott D. Sagan, and Benjamin A. Valentino, and Sagan and Valentino's 2017 article—this literature has often examined the preferences of the American public about the use of nuclear weapons.[44] Now, a new wave of studies has begun to ask questions about non-American attitudes in the nuclear sphere.[45] This wave includes a survey experiment by the author of this chapter testing the backfire effect in South Korea.[46] A forum of nuclear scholars has also identified the lack of cross-national surveys as a notable gap in the existing literature, given the large number of countries that rely on nuclear deterrence and extended deterrence.[47] This study contributes to the ongoing conversation.

This chapter also sheds light on the causes of notable trends in U.K. public opinion, including perceptions of a haste to escalate by the United States. For example, in 2019, the British Foreign Policy Group found that thirty percent of Britons "identify the United States of America, our enduring partner in a 'special relationship', as a threat to global peace and security."[48] In addition, in April 2020, just twenty-eight percent of the U.K. public trusted the United States "to act responsibly in the world."[49] These views likely shaped the results of the 2021 survey described in this chapter. While the U.S.–U.K. relationship is constantly evolving, concerns about isolationist politics among Republicans and the persistent legacy of the first Donald Trump administration's antagonism towards U.S. allies continue to wear at the foundations of the "special relationship."

U.K. citizens are wary of entanglement in foreign wars, and their concerns may also contribute to qualms about the U.S. alliance. In 2021, eighty-two percent of Britons indicated that they did not "support British military action abroad under any circumstances," and forty-five percent listed their primary reason for caution as wanting to avoid being drawn into foreign conflicts.[50] Although there has been strong support for providing aid to Ukraine in its fight against Russia's 2022 full-scale invasion, concerns about direct engagement remain prominent. In May 2024, sixty-one percent of Britons reported believing that NATO should be purely defensive. Only six percent expressed willingness to go to war to defend a country, such as Ukraine, that was not a formal treaty ally.[51]

Survey Design

In this study, respondents were presented with a survey experiment wherein they were asked to imagine an attack on a NATO state by Russia. Respondents were told that they would "be asked to imagine a scenario in which Russia has invaded and attacked a member of the North Atlantic Treaty Organization (NATO)." They were told: "NATO is a military alliance. The United Kingdom is a member of NATO. The United States is also a member of NATO." This scenario thus provides an opportunity to assess U.K. public opinion about a U.S. nuclear guarantee in a plausible hypothetical crisis that would activate U.S. responsibilities to defend NATO.

The survey experiment used a $2 \times 2 \times 2$ factorial design, in which there were three distinct treatments, each with two randomly assigned conditions. First, respondents were told that the Russian invasion had involved either nuclear or conventional weapons. Second, respondents were told that U.K. military officials had either high or low confidence that the United States would respond to the invasion. This information reveals the degree of credibility associated

with the U.S. security guarantee. Third, the U.S. response was characterized as involving either nuclear or conventional weapons. The first and third treatments allow an examination of various iterations of the U.S. security guarantee. Together, the treatments read as follows:

> According to U.K. military officials, if **Russia invaded** and **conducted a** [**nuclear attack/conventional (i.e. non-nuclear) bombing campaign**] **against a NATO state**, it is [**very likely/very unlikely**] that the United States would use [**nuclear weapons/conventional (i.e. non-nuclear) bombs**] **against Russia** in response.

Here, I exploit variation in the credibility of the U.S. security guarantee to assess its effects on public attitudes about national security. I examine both nuclear and conventional security guarantees, although the primary guarantees of interest are nuclear guarantees. I also provide variation in the type of security threat the United Kingdom is purported to face by varying whether the Russian invasion of a NATO state involved the use of nuclear or conventional arms. As a result, I also vary whether U.S. nuclear weapon use is an instance of nuclear first use or a counterattack responding to Russian nuclear first use. In addition to these treatments, the survey included control conditions, in which respondents were prompted to consider a Russian threat but were not informed about the U.S. security guarantee's credibility.[52]

After assignment to treatment,[53] respondents were asked about their support for investments in the U.K. military. The primary dependent variable was approval for further U.K. investments in nuclear weapons. The substitution theory would predict that credible guarantees should decrease support for nuclear investments relative to non-credible guarantees. In contrast, the backfire effect theory argues that credible guarantees should be linked to increased support for nuclear weapons investments relative to non-credible guarantees.

Respondents were also asked about their approval for U.K. investments in conventional military capabilities, as a point of comparison. Respondents were asked, in open-ended survey items, to explain their preferences regarding investments in both nuclear and conventional capabilities. The survey also included outcome measures of respondents' attitudes regarding the United Kingdom's relationships with the United States and Russia. Additionally, respondents answered questions about a number of demographics and reported pretreatment attitudes about foreign policy and national security topics.

The substitution logic of security guarantees would suggest that credible nuclear guarantees should be seen as reassuring, thereby solidifying the U.K.

alliance with the United States and ensuring that the United Kingdom does not need to further invest in its own military capabilities. This is the logic underscoring the purported nonproliferation effect of nuclear security guarantees. The backfire effect, which I articulate in this chapter, would predict the opposite. It would instead suggest that respondents informed about a credible U.S. nuclear guarantee should be concerned about unwanted nuclear escalation and may therefore support distancing the United Kingdom from the U.S. alliance and investing in independent U.K. nuclear capabilities.

Results

Do Credible Guarantees Substitute for, or Spur, Military Investments?

In this section, I assess the effects of the credibility of the U.S. security guarantee on public approval for U.K. investments in nuclear and conventional military capabilities. I measure support for military investments as a binary indicator. Respondents who reported that they strongly or somewhat approved of investments are coded as supporters, while respondents who strongly or somewhat disapproved of investments are coded as non-supporters. I use linear probability models to determine the correlation between guarantee credibility and support for military investments.

The independent variable of interest indicates whether respondents were told that the United States was very likely to use nuclear weapons in response to a scenario in which Russia attacked a NATO state.[54] The independent variable is represented by the interaction between the credibility treatment and the "U.S. Nuclear Use" treatment. The coefficient for "Credibility" on its own reflects the effect of a credible guarantee to use conventional weapons, and the coefficient for "U.S. Nuclear Use" on its own reflects the effect of a non-credible guarantee to use nuclear weapons. I also include a variable ("Russian Nuclear Use") indicating whether Russia's attack involved the use of nuclear weapons. This allows me to determine whether respondents' reactions are related to an increase in the perceived risk of *any* nuclear weapon use, or to U.S. nuclear use specifically. This variable is not significant in any of the models in Table 14.1, suggesting that any backlash against credible guarantees is the result of concerns about U.S. crisis behavior, rather than Russian behavior. Moreover, it shows that respondents opposed U.S. nuclear weapon use in both the first- and second-use conditions.

Table 14.1 includes models that involve only the experimental treatments (1 and 4) as well as models (2 and 5) that incorporate respondents' demographics, such as their political party, age, gender, education level, household income,

and citizenship status. In addition, I include models (3 and 6) that analyze the effects of credible security guarantees after taking into account respondents' foreign policy beliefs. These models include variables for the respondents' level of interest in news about foreign and military policy ("News Interest"); whether they, or members of their immediate family, have served in the military ("Military"); their views on the alignment of U.K. policy goals with those of the United States, NATO, and Russia ("Alignment"); whether they anticipate a war between Russia and NATO within the next two decades ("Anticipate War"); if they expect U.K. nuclear weapons will someday be used ("Anticipate U.K. Use"); and their belief in the nuclear taboo ("Nuclear Taboo"). I also include measures of respondents' attitudes about globalism: whether they think the United Kingdom should play an active role in solving conflicts around the world ("World Policeman") and whether they believe the use of military force only makes problems worse ("Dove"). These variables help identify broader patterns shaping respondents' preferences about military investments.[55]

While mainline academic theories of security guarantees would anticipate less support for costly investments in military capabilities when a client's security guarantees are perceived as reliable, I find little evidence to substantiate these predictions. Neither nuclear nor conventional security guarantees consistently substitute for nuclear or conventional military assets.[56]

Importantly, in all models in Table 14.1, credible nuclear guarantees are not associated with a statistically significant change in U.K. public support for nuclear investments relative to non-credible, conventional security guarantees. The effect of credibility on support for military investments is essentially the same as the effect of having only a very weak, conventional guarantee. Respondents fail to perceive credible nuclear guarantees as sufficient substitutes for their country's own nuclear modernization.

These results point to a potential backfire effect of credible nuclear guarantees. Credible guarantees that the United States will use its nuclear weapons to defend NATO are associated with between 5.4 and 8.6 percentage points more approval for U.K. nuclear investments than are credible guarantees to use conventional weapons.[57] Similarly, credible nuclear guarantees are correlated with between 2.9 and 4.4 percentage points more approval for nuclear investments than non-credible guarantees to use nuclear weapons.[58] Of respondents who were told a U.S. nuclear response to a Russian invasion of a NATO state was likely, thirty-six percent approved of nuclear investments, compared to thirty-three percent of respondents who were told a U.S. nuclear response was unlikely and thirty percent of respondents who were told a U.S. conventional response was likely.

Table 14.1. Credible Guarantees and Military Investment

	Dependent Variable					
	Nuclear Investments			Conventional Investments		
	(1)	(2)	(3)	(4)	(5)	(6)
Credibility	−0.072 (0.050)	−0.060 (0.048)	−0.078* (0.046)	0.008 (0.045)	0.013 (0.043)	0.007 (0.043)
U.S. Nuclear Use	−0.043 (0.044)	−0.046 (0.042)	−0.052 (0.040)	0.035 (0.040)	0.034 (0.038)	0.036 (0.037)
Russian Nuclear Use	0.015 (0.030)	0.024 (0.029)	0.026 (0.028)	−0.014 (0.027)	−0.009 (0.026)	−0.006 (0.026)
Credibility: U.S. Use	0.101° (0.063)	0.100* (0.060)	0.122** (0.057)	−0.055 (0.057)	−0.055 (0.055)	−0.047 (0.053)
Labour Party		−0.252*** (0.035)	−0.188*** (0.034)		−0.238*** (0.031)	−0.191*** (0.032)
Scottish National Party		−0.422*** (0.076)	−0.332 (0.074)		−0.325*** (0.069)	−0.271*** (0.069)
Liberal Democrats		−0.238*** (0.050)	−0.194*** (0.048)		−0.143*** (0.045)	−0.109** (0.044)
Green Party		−0.361*** (0.078)	−0.233*** (0.077)		−0.429*** (0.071)	−0.334*** (0.071)
Other Political Party		−0.204** (0.095)	−0.198** (0.092)		−0.142° (0.086)	−0.114 (0.085)
Age		−0.002** (0.001)	−0.001 (0.001)		0.0002 (0.001)	0.0004 (0.001)
Female		−0.114*** (0.029)	−0.103*** (0.030)		−0.010 (0.027)	0.011 (0.028)
Education		−0.024* (0.013)	−0.019 (0.013)		−0.010 (0.012)	−0.014 (0.012)
Household Income		−0.00004 (0.001)	−0.0001 (0.001)		−0.0004 (0.001)	−0.001 (0.001)
U.K. Citizenship		0.379 (0.323)	0.286 (0.309)		0.374 (0.293)	0.188 (0.288)

News Interest			0.012 (0.020)			0.045** (0.019)
Military			−0.014 (0.039)			−0.008 (0.037)
Alignment—U.S.			0.010 (0.022)			0.020 (0.021)
Alignment—NATO			−0.006 (0.022)			0.022 (0.020)
Alignment—Russia			0.016 (0.020)			−0.020 (0.018)
Anticipate War			0.014 (0.012)			0.012 (0.012)
Anticipate U.K. Use			0.033*** (0.013)			0.026** (0.012)
Nuclear Taboo			0.068*** (0.012)			0.007 (0.011)
World Policeman			0.050*** (0.017)			0.013 (0.016)
Dove			−0.087*** (0.020)			−0.093*** (0.018)
Constant	0.364*** (0.038)	0.346 (0.333)	0.080 (0.342)	0.755*** (0.035)	0.542* (0.302)	0.564* (0.319)
Observations	985	985	985	985	985	985
R2	0.003	0.099	0.197	0.002	0.095	0.149
Adjusted R2	−0.001	0.086	0.177	−0.002	0.082	0.127
Residual Std. Error	0.474 (df = 980)	0.453 (df = 970)	0.430 (df = 960)	0.429 (df = 980)	0.411 (df = 970)	0.401 (df = 960)

Note: °$p < 0.11$; *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

This suggests that credible nuclear guarantees may be worse for ally reassurance purposes in the U.S.–U.K. alliance than both credible conventional guarantees and non-credible nuclear guarantees. Should policy-makers wish to achieve a nonproliferation or arms control effect from security guarantees, they may be better off investing in promises to defend allies with conventional forces and demonstrating caution towards the use of nuclear weapons. In this case, credibility does not appear to assure and, instead, may backfire.

Testing the Mechanism: Why Credible Guarantees Backfire

The backfire effect theory offers a potential explanation for these results. The theory begins with an assumption that clients will want to avoid nuclear escalation more than guarantors. This preference is clear among U.K. respondents: eighty-three percent believe that the use of nuclear weapons cannot be morally justified. Respondents' strategic preferences are similar. When they were asked to imagine a Russian invasion of a NATO state involving the use of nuclear weapons, a substantial portion (forty-one percent) preferred that NATO would not use nuclear weapons under any circumstances, and a near-majority (forty-five percent) supported nuclear use against Russia only after exhausting conventional alternatives. When respondents were told that Russia did not initiate the use of nuclear weapons during its invasion of a NATO state, Britons were even more cautious about nuclear use. In this case, eighty-seven percent opposed the use of nuclear weapons "under any circumstances."

Although the literature on nuclear guarantees has largely presupposed that client states will be more willing to use nuclear weapons to resolve security threats in their region than their guarantors will be, my findings suggest that the consensus could require re-investigation. I find evidence of caution among the U.K. public about nuclear weapon use in the European theater. Further scholarly examinations of other clients' attitudes about nuclear use may shed more light on differential risk tolerance within nuclear alliances.

A mismatch in risk tolerance between clients and guarantors can cause clients to fear that their guarantor will precipitate or escalate a nuclear conflict when the client would have otherwise preferred caution. Britons perceive this mismatch to exist. Only fifteen percent of respondents believe that the policy goals of the United States and United Kingdom are very well aligned. This may well contribute to distrust of the United States and concerns about adventurism. Britons believe that the United States is overly risk-tolerant when it comes to the use of nuclear weapons. An estimated fifty-one percent of respondents say they only trust the United States with nuclear weapons a little, or that they do not trust the United States with nuclear weapons at all.

Likewise, fifty-eight percent believe that the United States will someday use its nuclear arsenal. This distrust is severe; respondents hardly trust the United States more than they trust Russia. Sixty-four percent of respondents predict eventual Russian nuclear weapon use. In comparison, just twenty-eight percent of respondents are skeptical of the United Kingdom's ability to steward its nuclear arsenal, and just twenty-nine percent predict eventual U.K. nuclear weapon use. Note, however, that concerns about Russian nuclear use may have worsened throughout the Russo–Ukrainian War, and the 2022 full-scale invasion of Ukraine took place after I conducted the survey experiment.[59]

I argue that preference misalignment can lead to concern that guarantors will rashly escalate. Supporting this mechanism, I find high levels of concern among British respondents about potential escalatory behavior by the United States. A majority of respondents (fifty-four percent) agree that "the U.K.–-U.S. alliance will cause the U.K. to be brought into a nuclear conflict it could otherwise have avoided." And seventy-six percent believe that the alliance will bring the United Kingdom into an avoidable conventional conflict.

Similar worries are evident in the control group. These respondents were not given any information about the U.S. security guarantee, but they were asked how they expected the United States and the United Kingdom to respond to a Russian invasion of a NATO state. Almost one-third (thirty-one percent) believed that the United States would use nuclear weapons first against Russia. And nearly twice as many (sixty percent) believed that the United States would engage in a second-use nuclear counterattack. In contrast, respondents trusted the United Kingdom to exercise caution. About one-half as many respondents (fifteen percent) anticipated U.K. nuclear first use against Russia. And about one-half as many (thirty-four percent) anticipated a U.K. nuclear second-use counterattack. These figures represent a serious mismatch in perceived risk tolerance. In addition, the relatively high levels of trust in the United Kingdom's ability to act responsibly with nuclear weapons may suggest that respondents see nuclear arsenal investments as a way to avoid escalation concerns associated with the U.S. nuclear guarantee. This reflects a potential belief that if the United Kingdom were more central to NATO nuclear decision-making, it could act as a counterweight to U.S. interests by calling for nuclear restraint.[60]

The backfire effect theory predicts that clients will resolve escalation fears by distancing themselves from their guarantor. As expected, a majority of respondents (fifty-six percent) support decreasing U.K. military interdependence with the United States. Moreover, under some conditions, credible U.S. security guarantees were associated with preferences for shifting the United Kingdom's

alliances. When respondents were told that the United States was very likely to respond to a non-nuclear Russian invasion of a NATO state with a nuclear attack, fifty-three percent supported distancing U.K. security policy from the United States, and twenty-nine percent supported establishing a closer military relationship with Russia. This compares to forty-nine percent that sought independence and nineteen percent that supported closer ties with Russia when U.S. nuclear first use was unlikely.[61] The fact that U.K. respondents react to fears of U.S. escalation not only by seeking independence from the United States, but also by being open to cooperation with Russia, demonstrates the severity of the escalation concerns. However, this particular manifestation of escalation anxiety may be situational; much sharper anti-Russia sentiment following Russia's full-scale invasion of Ukraine would likely reduce respondents' interest in cooperating with Russia if the study were replicated today.

Clients can distance themselves from their guarantor by acquiring stronger, more independent security forces. These forces can then be leveraged against the client's guarantor in order to gain greater influence over a joint security strategy. This framework anticipates a counterintuitive finding: Respondents with anti-nuclear views should nevertheless be willing to invest in nuclear weapons when faced with credible nuclear guarantees. These are the individuals who should most fear nuclear escalation by a guarantor. For them, nuclear investments could be seen as a way to minimize the risks of nuclear weapon use by displacing the guarantor's influence.

I find some suggestive evidence to this end. The data indicate that thirty percent of respondents who oppose the first use of nuclear weapons, and fourteen percent of respondents who oppose retaliatory nuclear second use, support investing in nuclear weapons when the U.S. nuclear guarantee is credible. A smaller percentage of respondents supports nuclear investments when the U.S. nuclear guarantee is not credible (twenty-eight percent and twelve percent, respectively).[62] Similarly, I find that respondents who are morally opposed to nuclear weapons nevertheless support nuclear investments when they are faced with a credible U.S. nuclear guarantee. Approximately thirty percent of these respondents support nuclear modernization when the U.S. nuclear guarantee is credible, compared to twenty-six percent who support nuclear investments when the guarantee is not credible.[63] Although these comparisons are not statistically significant, they consistently suggest that respondents who oppose the use of nuclear weapons backlash against credible U.S. nuclear guarantees. Such respondents may see U.K. nuclear investments as an alternative to a dangerous reliance on the U.S. nuclear arsenal.

Evidence of the Backfire Effect in Open-Ended Responses

How do respondents explain their support for investing in the U.K. nuclear arsenal? Using an iterative open-coding scheme, I assigned all complete open-ended responses by respondents in favor of nuclear investments to at least one category of justification.[64] Figure 14.1 presents the justifications for nuclear investment provided by respondents who were treated with information about a credible U.S. security guarantee. I find some evidence of respondents' thinking that is aligned with the backfire effect theory.

Some respondents identified a need for the United Kingdom to resist reliance on the United States and other allies in order to develop more independent nuclear capabilities. One respondent explained that, "It is paramount that the UK have an independent nuclear deterrent," and another said, "We can't be left behind with minimal nuclear weapons." These responses suggest a fear of reliance on the United States and NATO. They could also be interpreted as expressions of an individualist political ideology. Such beliefs could

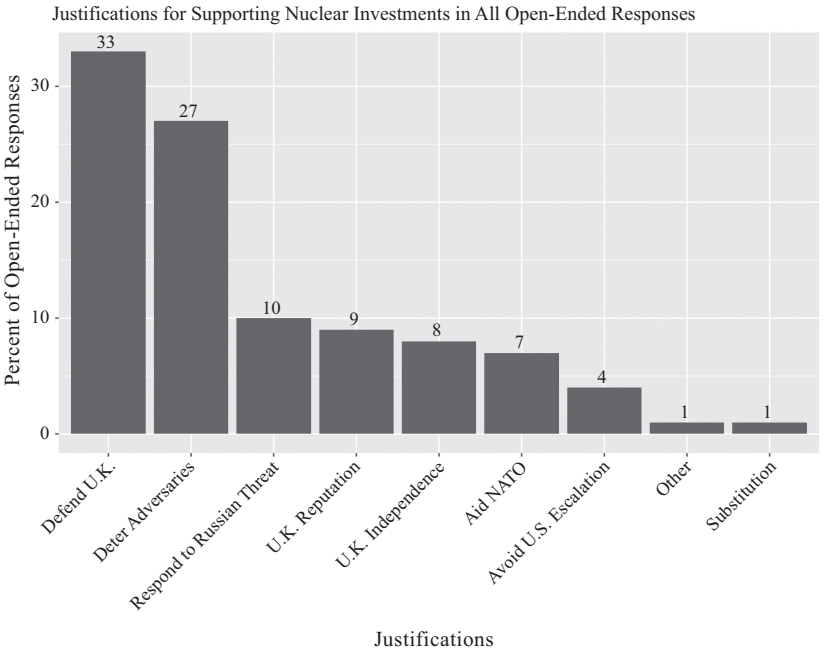


Figure 14.1
Justifications for supporting nuclear investments in open-ended responses of respondents assigned to the credible guarantee treatment.

be contributing to the backfire effect by making respondents more worried about potential unilateral, escalatory action by the United States.

Indeed, some individuals articulated concern about being "drawn into combat" by the United States. A small portion of respondents clearly expressed the fear of escalation at the core of the backfire effect. For example, one respondent wrote, "The UK is part of NATO [too] and has a strong connection with the US . . . it would be likely that the UK will be brought into a war." Other respondents agreed, saying "it is likely we will be brought into a nuclear conflict," "as a member of NATO we would probably get dragged into the action," and "[if] the US launched a nuclear attack [in retaliation against Russia] it wouldn't be long before a lot of countries would also launch [nuclear weapons]." Some respondents suggested that an independent nuclear capability could check escalation risks associated with the US nuclear guarantee. For example, one respondent explained that if the United States "were to utilise [nuclear weapons] . . . there would be little in the way of stopping a war" and that investing in a more independent nuclear arsenal could help the United Kingdom "overcome the risk of involuntarily getting roped into the action." These responses offer clear illustrations of the backfire effect mechanism.

An additional explanation for supporting nuclear investments relates to the global reputation of the United Kingdom. One respondent wrote that nuclear investments would help the United Kingdom "match other countries so they have less power over the UK." Another wrote that the United Kingdom needed more nuclear weapons "so that we don't look weak compared to the rest of the world's superpowers." Some responses highlight the need to be seen as a peer. For example, one respondent wrote, "We should stand shoulder to shoulder with our NATO allies." Another said nuclear investments would mean the United Kingdom could be one of the "'big boys' of NATO." These responses depict a core element of the backfire effect: Credible nuclear guarantees raise the profile of nuclear weapons as an instrument of power, a cornerstone of alliances, and as a necessary tool for resolving global security challenges—all of which make powerful nuclear arsenals a more desirable goal.[65] Moreover, many of these reputation-focused justifications suggest that respondents believe that greater nuclear capabilities could allow the United Kingdom to better counterbalance the United States and secure enhanced influence within NATO.

Some respondents who focus on the reputational benefits of nuclear modernization may be communicating a desire to increase the United Kingdom's prestige within the broader European security context, rather than within NATO or the U.S.–U.K. alliance specifically. This is not an alternative explanation for the treatment effect, however, since respondents who are primarily concerned

with the U.K. role in Europe would have the same incentives to modernize when the U.S. guarantee is credible as they would when it is not. Additionally, I find that respondents who read about a credible U.S. nuclear guarantee were not only more likely to support nuclear modernization, but they were also more than twice as likely to explain their support in reputational terms.

Other reasons to support nuclear modernization fail to explain the effect of U.S. guarantee credibility on support for nuclear investments. For example, some respondents argued that nuclear weapons were important for responding to, or deterring, the threat posed by Russia. These respondents may have been primed by the experiment, in both the credible and non-credible guarantee treatments, to consider Russian aggression. Concerns about Russia could play a role in the baseline level of support for U.K. nuclear modernization. But since all of the treatment scenarios involved a Russian invasion of a NATO state, attitudes about Russia do not drive the differences in support for nuclear modernization across different U.S. security guarantee types.

Similarly, the experiment primed all respondents to think about NATO commitments, and some respondents, in turn, supported investing in nuclear weapons in order for the United Kingdom to better assist NATO. For example, one respondent wrote that the United Kingdom "should help [its] allies and not leave them to do all the work." Some respondents could have supported nuclear modernization when the U.S. nuclear guarantee was credible, in anticipation of a need for the United Kingdom to use nuclear weapons in concert with U.S. forces. Yet, this is unlikely to be driving the observed positive effect of credibility on support for nuclear modernization. We should anticipate a heightened interest in U.K. nuclear protection of NATO when the U.S. guarantee is unreliable; this logic predicts stronger support for nuclear modernization with non-credible nuclear guarantees than with credible guarantees.

Some respondents may support nuclear development for military–strategic reasons unrelated to questions about credibility, such as a general belief that nuclear weapons are an effective deterrent. Figure 14.1 shows that the most common justifications feature a need to defend the United Kingdom and deter its adversaries. These views are also common among respondents supporting nuclear modernization when the U.S. guarantee is not credible. These attitudes contribute to the baseline level of support for U.K. nuclear modernization, but they should not vary based on the credibility of the U.S. guarantee unless respondents interpret the credibility of the guarantee as an additional signal of the "seriousness" of the Russian threat. If this interpretation were common, however, more respondents would justify support for nuclear modernization in terms of defense and deterrence when the U.S. guarantee is credible than when

it is not. Yet, I find the opposite: Fifty-seven percent of respondents use this framework when told that the U.S. guarantee is credible, compared to sixty-five percent when the guarantee is not credible.

Several considerations may generally inform the baseline level of support for nuclear modernization. These include concerns about defending the United Kingdom, deterring Russia and other U.K. adversaries, and aiding NATO. The open-ended justifications shed some light on why nuclear modernization is more popular when the U.S. guarantee is more credible. Respondents indicate a desire for independence from the United States, express fears of U.S. escalation, and argue that nuclear modernization would increase the United Kingdom's leverage.

Interestingly, concerns about U.S. escalation were also in play for some respondents who did not support nuclear investments. For example, respondents wrote: "The USA seem[s] willing to use nuclear weapons, and that is a scary prospect," "engaging in war with others just because of NATO and America is silly, as they go to war on everyone," and "the UK should not be getting involved in problems that do not concern them, especially if nuclear attacks are involved." One respondent added, "I don't believe further investment into nuclear military capabilities should be encouraged. A nuclear attack on Russia from the United States would have extreme consequences; the UK should act in a manner that dissuades the likelihood of such an outcome." While these escalation concerns do not result in respondents' support for nuclear investments—and therefore do not necessarily align with the backfire effect as articulated here—they do illustrate the seriousness of fears about guarantor-initiated nuclear escalation.

This survey experiment shows that the U.K. public backfires against credible U.S. nuclear guarantees. Relative to non-credible nuclear guarantees and credible conventional guarantees, credible nuclear guarantees increase support for additional investments in the U.K. nuclear arsenal. Credible nuclear guarantees are no more reassuring than the weakest guarantee option—a non-credible, conventional guarantee. This backlash is related to a perceived mismatch in preferences. The U.K. public views the United States as untrustworthy with nuclear weapons and anticipates that the United States will escalate to nuclear use in situations in which the United Kingdom would not independently choose to do so. As a result, Britons demonstrate a fear of reliance on the U.S. nuclear arsenal, with a majority of respondents believing such an alliance will lead to U.K. participation in an avoidable nuclear war. This fear drives support for investments in the U.K. nuclear arsenal.

Conclusion

The international relations literature generally argues that when nuclear guarantees are insufficiently credible, clients will fear being abandoned, while credible guarantees can substitute for a client's own military capabilities. The backfire effect, however, inverts this argument. I suggest that credible guarantees can actually reflect a mismatch in risk tolerance between clients and guarantors. The strong demonstrations of resolve often required to make security guarantees appear credible can provide evidence that a guarantor may rashly escalate when a client would prefer caution. For example, client states often face higher costs to escalation than do guarantors, since escalation is likely to occur closer to the client's territory. Thus, credible guarantees can demonstrate a misalignment of preferences, in which guarantors are more willing to accept escalation risks than are their clients. To avoid being dragged into unwanted danger by their guarantors, clients must distance themselves from their guarantees. One way to do so is by developing stronger and more independent military capabilities.

This theory supplements current literature on alliances by articulating a new alliance hazard. Much of the existing work on alliance hazards focuses on risks faced by guarantors—such as entanglement and emboldenment—while arguing that, for clients, more credibility is always more desirable. Instead, this chapter argues that more credibility can be less reassuring. In doing so, I identify a challenge for client states. Although alliance agreements are designed to protect clients from their security threats, they can sometimes endanger clients further by making it more likely that crises and conflicts escalate.

In this chapter, I tested the backfire effect theory using a survey experiment conducted among a sample of the U.K. public. This experiment contradicts the predictions of the substitution theory and shows how the microfoundations of the backfire effect theory are in play in the U.S.–U.K. alliance. I find that the U.K. public responds to credible nuclear guarantees with concern about U.S.-driven nuclear escalation and, as a result, supports additional investments in the U.K. nuclear arsenal. Moreover, I provide evidence for the mechanisms of the backfire effect theory, showing that the U.K. public perceives a mismatch in preferences, in which the United States is more risk-tolerant with nuclear weapons than the United Kingdom. Respondents express concerns about being dragged into conflicts or experiencing unwanted nuclear use by the United States, and therefore support efforts to enhance U.K. military independence, including through an expanded U.K. nuclear arsenal. These investments may be seen as a way to secure leverage over U.S. military decision-making and thereby reduce the risk of unwanted nuclear weapon use in the European theater.

This narrative aligns with historical scholarship on the U.K. decision to develop thermonuclear weapons. It also complements current trends in U.K. public opinion, such as the cooling of U.K. views about, and high levels of distrust towards, the United States. Findings showing fear of U.S.-driven conflict escalation may also help explain why a significant minority of the U.K. public reports seeing the United States as a global security threat. Opposition to nuclear weapon use and concern about nuclear escalation may also play a role in the United Kingdom's approach to the ongoing Russo–Ukrainian War. Britain, alongside the other NATO member countries, has eschewed direct intervention in favor of a more cautionary approach by providing aid and covert intelligence assistance to Ukraine.

These findings depict only a single case. Further work is needed to examine the effects of the credibility of guarantees more broadly. However, these findings comport with my prior work, in which the backfire effect was shown to portray the attitudes of South Korean citizens about the credibility of the U.S. nuclear guarantee.[66] Future research could expand the scholarly understanding and policy relevance of the backfire effect by examining guarantees to states with different risk tolerances, guarantee types, and regional security challenges.

Future research could also investigate how policy-makers and other political elites understand and respond to the credibility of nuclear guarantees. By studying public opinion, this research illuminates the microfoundations of the backfire effect theory and identifies ways in which elites may face pressure from the public in response to the dynamics of security alliances. However, this study does not test elites' preferences directly. Although elite–public decision-making gaps may often be overstated,[67] targeted analyses of elite attitudes could shed further light on the effects of guarantee credibility and could investigate how elites respond to public pressures about nuclear alliances.[68]

The backfire effect illustrated in this paper implies that guarantors like the United States face a difficult Goldilocks problem. Their nuclear guarantees must be credible enough to evade client fears of abandonment, but not credible enough to trigger a threat of escalation. To resolve this dilemma, guarantors should reassure clients that they will be defended, but also that they have the ability to exercise caution and restraint with their nuclear arsenal. Guarantors can emphasize credible conventional commitments while minimizing perceptions that they would be quick to use their nuclear assets. This strategy may be effective for reassurance, as minimally conventional commitments were found to have an essentially equal effect on client reassurance as credible nuclear guarantees. In addition, centering nuclear weapons in alliances can have the adverse effect of increasing their desirability for the client states.

Emphasizing conventional deterrence may therefore have the additional benefit of diminishing the possibility that clients react to security concerns (including guarantor escalation) by building or enhancing nuclear capabilities. Thus, conventional guarantees may help to minimize unintended, counterproductive consequences.

Guarantors can also try to resolve the preference mismatch with their clients by institutionalizing consultation mechanisms, providing clients with a say in how and when escalation occurs.[69] In cases of nuclear sharing, guarantors could implement more direct mechanisms, such as dual-key systems, to restrain the ability to use nuclear weapons without client state consent. Bilateral and multilateral talks could yield useful insights for determining how guarantees can best be managed to improve ally reassurance. Such policies could help guarantors minimize the misalignment of risk tolerance preferences with their clients.

Guarantors can also design nuclear-posture and ally-reassurance strategies with the intent of reducing client concerns about precipitous escalation. In this regard, guarantors may benefit from reconsidering policies primarily intended to enhance the credibility of nuclear guarantees—such as the use of overt threats against adversaries, forward deployment of tactical nuclear weapons, or the development of low-yield nuclear weapons. This research suggests such strategies may not only fail to reassure allies and accomplish nonproliferation and arms control objectives, but they may also raise the risk of intentional or inadvertent nuclear use. In doing so, they could cause credible nuclear guarantees to backfire.

Notes

1. The author would like to thank the Freeman Spogli Institute for International Studies at Stanford University and UNCE 24/SSH/018 (Peace Research Center Prague II) for their funding and support, as well as Michal Smetana, Marek Vranka, Heather Williams, the participants at the Hertie School Digital Nuclear Security Workshop, and the editors and contributors to this volume for their feedback.

2. Linton Brooks and Mira Rapp-Hooper, "Extended Deterrence, Assurance, and Reassurance in the Pacific During the Second Nuclear Age," in Ashley J. Tellis, Abraham M. Denmark, and Travis Tanner, eds., *Strategic Asia 2013–14: Asia in the Second Nuclear Age* (Seattle: National Bureau of Asian Research, 2013), pp. 292–293.

3. David S. Yost, "Assurance and US Extended Deterrence in NATO," *International Affairs*, Vol. 85, No. 4 (July 2009), p. 763, doi.org/10.1111/j.1468–2346.2009.00826.x.

4. Michael Middeke, "Anglo–American Nuclear Weapons Cooperation After the Nassau Conference: The British Policy of Interdependence," *Journal of Cold War Studies*, Vol. 2, No. 2 (May 2000), pp. 69–96, doi.org/10.1162/152039700510323 18; and

Michael Quinlan, "The Future of United Kingdom Nuclear Weapons: Shaping the Debate," *International Affairs*, Vol. 82, No. 4 (July 2006), pp. 627–637, doi.org/10.1111/j.1468–2346.2006.00558.x.

5. Richard K. Betts, "Wealth, Power, and Instability: East Asia and the United States After the Cold War," *International Security*, Vol. 18, No. 3 (Winter 1993–1994), pp. 34–77, doi.org/10.2307/2539205; Philipp C. Bleek and Eric B. Lorber, "Security Guarantees and Allied Nuclear Proliferation," in Neil Narang, Erik Gartzke, and Matthew Kroenig, eds., *Nonproliferation Policy and Nuclear Posture: Causes and Consequences for the Spread of Nuclear Weapons* (New York: Routledge, 2015), pp. 85–109; Dong-Joon Jo and Erik Gartzke, "Determinants of Nuclear Weapons Proliferation," *Journal of Conflict Resolution*, Vol. 51, No. 1 (February 2007), pp. 167–194, doi.org/10.1177/0022002706296158; Nuno P. Monteiro and Alexandre Debs, "The Strategic Logic of Nuclear Proliferation," *International Security*, Vol. 39, No. 2 (Fall 2014), pp. 7–51, doi.org/10.1162/ISEC_a_00177; Dan Reiter, "Security Commitments and Nuclear Proliferation," *Foreign Policy Analysis*, Vol. 10, No. 1 (January 2014), pp. 61–80, doi.org/10.1111/fpa.12004; and Scott D. Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security*, Vol. 21, No. 3 (Winter 1996–1997), pp. 54–86, doi.org/10.2307/2539273.

6. Philipp Bleek and Eric Lorber find strong support for a nonproliferation effect of nuclear guarantees. Sonali Singh and Christopher Way, and Dong-Joon Jo and Erik Gartzke, both find mixed support. Matthew Fuhrmann does not find support for such a nonproliferation effect. See Bleek and Lorber, "Security Guarantees and Allied Nuclear Proliferation"; Jo and Gartzke, "Determinants of Nuclear Weapons Proliferation"; Sonali Singh and Christopher R. Way, "The Correlates of Nuclear Proliferation: A Quantitative Test," *Journal of Conflict Resolution*, Vol. 48, No. 6 (December 2004), pp. 859–885, doi.org/10.1177/0022002704269655; and Matthew Fuhrmann, "Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements," *International Security*, Vol. 34, No. 1 (Summer 2009), pp. 7–41, doi.org/10.1162/isec.2009.34.1.7.

7. Kevin Ruane, "Agonizing Reappraisals: Anthony Eden, John Foster Dulles and the Crisis of European Defence, 1953–54," *Diplomacy & Statecraft*, Vol. 13, No. 4 (2002), p. 163, doi.org/10.1080/714000354.

8. David Holloway, "Nuclear Weapons and the Escalation of the Cold War, 1945–1962," in Melvin P. Leffler and Odd Arne Westad, eds., *The Cambridge History of the Cold War, Volume 1—Origins* (Cambridge: Cambridge University Press, 2010), pp. 376–397.

9. Ruane, "Agonizing Reappraisals," p. 163.

10. David Carlton, "Churchill and the Two 'Evil Empires'," *Transactions of the Royal Historical Society*, Vol. 11 (December 2001), p. 348, doi.org/10.1017/S0080440101000172. For a discussion of the potential consequences of U.S. misinterpretations of Russian nuclear intentions, see Chapter 7: Kristin Ven Bruusgaard, "Assessing Russian Nuclear Intentions: The Counterproductive Risks of Getting Them Wrong," pp. 161–188.

11. John Baylis and Kristan Stoddart, *The British Nuclear Experience: The Roles of Beliefs, Culture and Identity* (Oxford: Oxford University Press, 2014), p. 64.
12. John Baylis, "The 'Special Relationship': A Diverting British Myth?," in Cyril Buffet and Beatrice Heuser, eds., *Haunted by History: Myths in International Relations* (Providence, R.I.: Berghahn Books, 1998), p. 126.
13. On unwanted nuclear weapon use, see Lauren Sukin, "Credible Nuclear Security Commitments Can Backfire: Explaining Domestic Support for Nuclear Weapons Acquisition in South Korea," *Journal of Conflict Resolution*, Vol. 64, No. 6 (July 2020), pp. 1011–1042, doi.org/10.1177/0022002719888689.
14. Neil Narang and Rupal N. Mehta, "The Unforeseen Consequences of Extended Deterrence: Moral Hazard in a Nuclear Client State," *Journal of Conflict Resolution*, Vol. 63, No. 1 (January 2019), pp. 218–250, doi.org/10.1177/0022002717729025; Glenn H. Snyder, *Alliance Politics* (Ithaca, N.Y.: Cornell University Press, 2007); and Brett Ashley Leeds, Andrew G. Long, and Sara McLaughlin Mitchell, "Reevaluating Alliance Reliability: Specific Threats, Specific Promises," *Journal of Conflict Resolution*, Vol. 44, No. 5 (October 2000), pp. 686–699, doi.org/10.1177/0022002700044005006.
15. Tongfi Kim, "Why Alliances Entangle but Seldom Entrap States," *Security Studies*, Vol. 20, No. 3 (2011), p. 355, doi.org/10.1080/09636412.2011.599201.
16. Glenn H. Snyder, "The Security Dilemma in Alliance Politics," *World Politics*, Vol. 36, No. 4 (July 1984), p. 467, doi.org/10.2307/2010183.
17. Barry Posen, "Pull Back: The Case of a Less Activist Foreign Policy," *Foreign Affairs*, Vol. 92, No. 1 (January–February 2013), pp. 116–128; and Richard Rosecrance and Steven E. Miller, eds., *The Next Great War? The Roots of World War I and the Risk of US–China Conflict* (Cambridge, Mass.: MIT Press, 2014).
18. Brett V. Benson, *Constructing International Security: Alliances, Deterrence, and Moral Hazard* (Cambridge: Cambridge University Press, 2012), p. 50.
19. Alexander Lanoszka, *Atomic Assurance: The Alliance Politics of Nuclear Proliferation* (Ithaca, N.Y.: Cornell University Press, 2018), p. 236.
20. Allan Dafoe, Jonathan Renshon, and Paul Huth, "Reputation and Status as Motives for War," *Annual Review of Political Science*, Vol. 17 (May 2014), doi.org/10.1146/annurev-polisci-071112–213421; and Tudor A. Onea, "Between Dominance and Decline: Status Anxiety and Great Power Rivalry," *Review of International Studies*, Vol. 40, No. 1 (January 2014), pp. 125–152, doi.org/10.1017/s0260210512000563.
21. Thomas J. Christensen and Jack Snyder, "Chain Gangs and Passed Bucks: Predicting Alliance Patterns in Multipolarity," *International Organization*, Vol. 44, No. 2 (Spring 1990), pp. 137–168, doi.org/10.1017/s0020818300035232.
22. Snyder, "The Security Dilemma in Alliance Politics."
23. Michael Beckley, "The Myth of Entangling Alliances: Reassessing the Security Risks of U.S. Defense Pacts," *International Security*, Vol. 39, No. 4 (Spring 2015), p. 10, doi.org/10.1162/ISEC_a_00197.
24. Eliza Gheorghe argues, in this book, that clients may believe that the provision of security from a patron is a zero-sum game, such that support to one ally trades off with

support to another. See Chapter 12, Eliza Gheorghe: "Proliferation Within Alliances: The Unintended Consequences of Security Triangles," pp. 315–343.

25. Guarantors may be especially likely to adopt such policies in cases where commitments are harder to establish, for example, with significant geographical distance.

26. Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed, with New Sections on India and Pakistan, Terrorism, and Missile Defense* (New York: W. W. Norton & Company, 2003).

27. Sukin, "Credible Nuclear Security Commitments Can Backfire," pp. 1015–1016.

28. Sukin, "Credible Nuclear Security Commitments Can Backfire," p. 1015.

29. Baylis, "The 'Special Relationship,'" p. 127.

30. The survey was conducted several months into the U.S. presidential administration of Joe Biden. Lasting effects of Donald Trump's first presidency could have influenced respondents' attitudes. However, polling shows British public favorability towards the United States warmed by twenty-three percentage points between spring 2020 and spring 2021. See Richard Wike, Jacob Poushter, Laura Silver, Janell Fetterolf, and Mara Mordecai, "America's Image Abroad Rebounds with Transition from Trump to Biden," Pew Research Center, June 10, 2021, https://www.pewresearch.org/global/2021/06/10/americas-image-abroad-rebounds-with-transition-from-trump-to-biden.

31. Beth Armstrong et al., "How Does Citizen Science Compare to Online Survey Panels? A Comparison of Food Knowledge and Perceptions Between the Zooniverse, Prolific and Qualtrics UK Panels," *Frontiers in Sustainable Food Systems*, Vol. 4 (January 2020), p. 306, doi.org/10.3389/fsufs.2020.575021; and Pascal Geldsetzer, "Use of Rapid Online Surveys to Assess People's Perceptions During Infectious Disease Outbreaks: A Cross-Sectional Survey on COVID-19," *Journal of Medical Internet Research*, Vol. 22, No. 4 (April 2020), doi.org/ 10.2196/18790.

32. Eyal Peer, David Rothschild, Andrew Gordon, Zak Evernden, and Ekaterina Damer, "Data Quality of Platforms and Panels for Online Behavioral Research," *Behavior Research Methods*, Vol. 54, No. 4 (August 2022), pp. 1643–1662, doi.org/10.3758/s13428-021-01694-3; and Elissa M Redmiles, Yasemin Acar, Sascha Fahl, and Michelle L. Mazurek, "A Summary of Survey Methodology Best Practices for Security and Privacy Researchers," *Technical Reports of the Computer Science Department*, University of Maryland, May 3, 2017, doi.org/10.13016/M22K2W.

33. By studying the United Kingdom, I only examine the relationship between the credibility of a guarantee and support for nuclear modernization, not the relationship of the former to nuclear acquisition. On the relationship of credibility and nuclear proliferation, see Sukin, "Credible Nuclear Security Commitments Can Backfire."

34. Several studies have shown security concerns about Russia amongst the British public, and find that a majority of the U.K. population believes that continued NATO membership is important for the security of their country. See Anika Binnendijk and Miranda Priebe, *An Attack Against Them All? Drivers of Decisions to Contribute to NATO Collective Defense* (Santa Monica, Calif.: RAND Corporation, 2019); Sophia Gaston, "Public Opinion on Global Threats and the Future of NATO," British Foreign

Policy Group, December 3, 2019, https://bfpg.co.uk/2019/12/public-opinion-on-global-threats-future-of-nato; Moira Fagan and Jacob Poushter, "NATO Seen Favorably Across Member Countries," Pew Research Center, February 9, 2020, https://www.pewresearch.org/global/2020/02/09/nato-seen-favorably-across-member-states; and Sophia Gaston and Evie Aspinall, "UK Public Opinion on Foreign Policy and Global Affairs: Annual Survey—2021," British Foreign Policy Group, February 2021, https://bfpg.co.uk/wp-content/uploads/2021/02/BFPG-Annual-Survey-2021.pdf.

35. Bleek and Lorber, "Security Guarantees and Allied Nuclear Proliferation"; Fuhrmann, "Spreading Temptation"; Jo and Gartzke, "Determinants of Nuclear Weapons Proliferation"; and Singh and Way, "The Correlates of Nuclear Proliferation."

36. Douglas M. Gibler, *International Military Alliances, 1648–2008* (Washington, D.C.: CQ Press, 2008).

37. Bleek and Lorber differ from other quantitative studies by including this treaty.

38. Bleek and Lorber remove these defense pacts.

39. Lauren Sukin and Toby Dalton, "Reassure Northeastern Asian Allies by Reducing Nuclear Salience," *The Washington Quarterly*, Vol. 44, No. 2 (Summer 2021), pp. 143–158, doi.org/10.1080/0163660x.2021.1934257.

40. Kenneth A. Schultz, "Looking for Audience Costs," *Journal of Conflict Resolution*, Vol. 45, No. 1 (February 2001), pp. 32–60, doi.org/10.1177/0022002701045001002; Russell J. Dalton, *Citizen Politics: Public Opinion and Political Parties in Advanced Industrial Democracies* (Washington, D.C.: CQ Press, 2013); Andrew Healy and Neil Malhotra, "Retrospective Voting Reconsidered," *Annual Review of Political Science*, Vol. 16 (May 2013), pp. 285–306, doi.org/10.1146/annurev-polisci-032211–212920; Thomas Risse-Kappen, "Public Opinion, Domestic Structure, and Foreign Policy in Liberal Democracies," *World Politics*, Vol. 43, No. 4 (July 1991), pp. 479–512, doi.org/10.4324/9781315623665–9; and Erik Lin-Greenberg, "Soldiers, Pollsters, and International Crises: Public Opinion and the Military's Advice on the Use of Force," *Foreign Policy Analysis*, Vol. 17, No. 3 (July 2021), orab009, doi.org/10.1093/fpa/orab009.

41. Thomas U. Berger, "Norms, Identity, and National Security: Thomas U. Berger," in Christopher W. Hughes and Yew Meng Lai, eds., *Security Studies: A Reader* (Oxon, U.K.: Routledge, 2011), pp. 198–201; Paul M. Cole, "Atomic Bombast: Nuclear Weapon Decision-Making in Sweden, 1946–72," *The Washington Quarterly*, Vol. 20, No. 2 (Spring 1997), pp. 233–251, doi.org/10.1080/01636609709550250; Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, N.J.: Princeton University Press, 2014); Rodger A. Payne, "Public Opinion and Foreign Threats: Eisenhower's Response to Sputnik," *Armed Forces & Society*, Vol. 21, No. 1 (October 1994), pp. 89–111, doi.org/10.1177/0095327x9402100106; and Elizabeth N. Saunders, "The Domestic Politics of Nuclear Choices—A Review Essay," *International Security*, Vol. 44, No. 2 (Fall 2019), pp. 146–184, doi.org/10.1162/isec a 00361.

42. Gregory Flynn and Hans Rattinger, "The Public and Atlantic Defense," in George Flynn and Hans Rattinger, eds., *The Public and Atlantic Defense* (London: Routledge, 1985), pp. 365–388.

43. Joshua Kertzer, "Re-Assessing Elite-Public Gaps in Political Behavior," *American Journal of Political Science*, Vol. 66, No. 3 (July 2022), pp. 539–553; and Michael Tomz, Jessica Weeks, and Keren Yarhi-Milo, "Public Opinion and Decisions about Military Force in Democracies," *International Organization*, Vol. 74, No. 1 (Winter 2020), pp. 119–143, doi.org/10.1017/s0020818319000341.

44. Bernard Kramer, Michael Kalick, and Michael Milburn, "Attitudes Toward Nuclear Weapons and Nuclear War: 1945–1982," *Journal of Social Issues*, Vol. 39, No. 1 (1983), pp. 7–24, doi.org/10.1111/j.1540–4560.1983.tb00127.x; and Daryl G. Press, Scott D. Sagan, and Benjamin A. Valentino, "Atomic Aversion: Experimental Evidence on Taboos, Traditions, and the Non-Use of Nuclear Weapons," *American Political Science Review*, Vol. 107, No. 1 (February 2013), pp. 188–206, doi.org/10.1017/s0003055412000597; and Scott Sagan and Benjamin Valentino, "Revisiting Hiroshima in Iran: What Americans Really Think About Using Nuclear Weapons and Killing Noncombatants," *International Security*, Vol. 42, No. 1 (Summer 2017), pp. 41–79, doi.org/10.1162/isec a 00284.

45. Jonathon Baron, Rebecca Davis Gibbons, and Stephen Herzog, "Japanese Public Opinion, Political Persuasion, and the Treaty on the Prohibition of Nuclear Weapons," *Journal for Peace and Nuclear Disarmament*, Vol. 3, No. 2 (2020), pp. 299–309, doi.org/10.1080/25751654.2020.1834961; Lauren Sukin, "Experimental Evidence on Determinants of Support for Nuclear Use in Response to Threats of Nuclear Retaliation," *Peace and Conflict: Journal of Peace Psychology*, Vol. 26, No. 3 (2020), pp. 336–339, doi.org/10.1037; Michal Smetana, Michal Onderco, and Tom Etienne, "Time to Say Goodbye? Germany and the Netherlands Debate the Withdrawal of US Nuclear Weapons," *Bulletin of Atomic Scientists*, Vol. 77, No. 4 (July–August 2021), pp. 215–221, doi.org/10.1080/00963402.2021.1941603; Lauren Sukin, J. Luis Rodriguez, and Stephen Herzog, "Nuclear Preference Management: How Global Publics Accept Both Nuclear Deterrence and Disarmament," unpublished manuscript presented to the American Political Science Association Annual Meeting, September 5–8, 2024; Naomi Egel and R. Lincoln Hines, "Chinese Views on Nuclear Weapons: Evidence from an Online Survey," *Research and Politics*, Vol. 8, No. 3 (July–September 2021), doi.org/10.1177/20531680211032840; Lauren Sukin and Woohyeok Seo, "East Asia's Alliance Dilemma: Public Perceptions of the Competing Risks of Extended Nuclear Deterrence," *Journal for Peace and Nuclear Disarmament*, Vol. 7, No. 1 (2024): pp. 91–114, doi.org/10.1080/25751654.2024.2358596; Doreen Horschig, "Israeli Public Opinion on the Use of Nuclear Weapons: Lessons from Terror Management Theory," *Journal of Global Security Studies*, Vol. 7, No. 2 (June 2022), ogac006, doi.org/10.1093/jogss/ogac006; David M. Allison, Stephen Herzog, and Jiyoung Ko, "Under the Umbrella: Nuclear Crises, Extended Deterrence, and Public Opinion," *Journal of Conflict Resolution*, Vol. 66, No. 10 (November 2022), pp. 1766–1796, doi.org/10.1177/00220027221100254; Janina Dill, Scott D. Sagan, and Benjamin A. Valentino, "Kettles of Hawks: Public Opinion on the Nuclear Taboo and Noncombatant Immunity in the United States, United Kingdom,

France, and Israel," *Security Studies*, Vol. 31, No. 1 (2022), pp. 1–31, doi.org/10.1080/09636412.2022.2038663; Lauren Sukin and Alexander Lanoszka, "Credibility in Crises: How Patrons Reassure Their Allies," *International Studies Quarterly*, Vol. 68, No. 2 (June 2024), sqae062, doi.org/10.1093/isq/sqae062; and Michal Smetana and Michal Onderco, "From Moscow with a Mushroom Cloud? Russian Public Attitudes to the Use of Nuclear Weapons in a Conflict with NATO," *Journal of Conflict Resolution*, Vol. 67, No. 2–3 (February–March 2023), pp. 183–209, doi.org/10.1177/00220027221118815.

46. Sukin, "Credible Nuclear Security Commitments Can Backfire."

47. Michal Smetana and Carmen Wunderlich, "Nonuse of Nuclear Weapons in World Politics: Toward the Third Generation of 'Nuclear Taboo' Research," *International Studies Review*, Vo. 23, No. 3 (September 2021), pp. 1072–1099, doi.org/10.1093/isr/viab002.

48. Gaston, *Public Opinion on Global Threats and the Future of NATO*.

49. At this time, U.K. public trust in the United States remained far below trust levels among other allied publics. An estimated eighty-eight percent of Britons trusted Canada, and a majority—even after Brexit—prioritized the European Union relationship over the bond with the United States. See Gaston and Aspinall, *UK Public Opinion on Foreign Policy and Global Affairs: Annual Survey—2021*. Note that this data reflects the time period in which the survey was conducted; U.K. trust in the United States increased throughout the tenure of the Joe Biden administration.

50. There is some reluctance among the U.K. public about the circumstances in which the use of force would be advisable. In 2021, thirty-nine percent of Britons said the U.K. military "should only be deployed in three scenarios: a direct attack on British soil, a direct attack on British assets abroad, or in the case of genocide or a large-scale humanitarian crisis." See Gaston and Aspinall, "UK Public Opinion on Foreign Policy and Global Affairs."

51. Milan Dinic, "The YouGov Big Survey on NATO and War," YouGov, May 24, 2024, https://today.yougov.com/politics/articles/49677-the-yougov-big-survey-on-nato-and-war-overview.

52. The control groups were told to "imagine that Russia invaded and conducted a [nuclear attack / conventional (i.e. non-nuclear) bombing campaign] against a NATO state." In both versions, respondents were not given any information about a possible U.S. response to the attack or its likelihood.

53. All analyses drop thirty-one respondents who failed a manipulation check asking whether the experiment discussed a Russian attack on NATO, a U.S. attack on the United Kingdom, a U.S. attack on NATO, or a Russian attack on the United States.

54. Table 14.1 excludes the control conditions.

55. Table 14.1 shows that several control variables are correlated with respondents' support for military investments. For example, compared to members of the Conservative Party, members of the Labour Party, Scottish National Party, Liberal Democratic Party, Green Party, and other political parties were less likely to support investing in either nuclear or conventional military capabilities. Female respondents were less likely

to support investments in nuclear weapons; however, no gender difference emerges in levels of support for investing in conventional arms. Attitudes about nuclear weapons also affect respondents' support for nuclear modernization. For example, respondents who expect that the United Kingdom will eventually use nuclear weapons during a conflict are more likely to want to invest in the U.K. nuclear arsenal.

56. The exception to this is the coefficient on credibility in Model 3, which indicates that credible promises to use conventional weapons to defend NATO are associated with a 7.8 percentage-point decrease in support for nuclear investments compared to non-credible promises to use conventional weapons.

57. This effect holds in both logit and probit models. This effect is substantively meaningful. While it is not as large as the effects of political party, it is comparable to the effects of other measures that should be important contributors to preferences regarding military investments. For example, respondents who completed a graduate degree are 8.2 percentage points less likely to support nuclear investments than respondents whose highest education level was secondary school. The effect is also sizable enough to constitute an important difference politically.

58. The interaction effects are significant at the $p = 0.11$ (Model 1), $p = 0.1$ (Model 2), and $p = 0.05$ (Model 3) levels. These effects hold using both logit and probit models. These effects are smaller, but still substantively important. For example, this is greater than the difference between respondents who are very disinterested in foreign policy news and those who are somewhat interested (two percentage points), or the difference between respondents with military experience and those without (1.8 percentage points).

59. Alexander K. Bollfrass and Stephen Herzog, "The War in Ukraine and Global Nuclear Order," *Survival*, Vol. 64, No. 4 (August–September 2022), pp. 7–32, doi.org/10.1080/00396338.2022.2103255; and Lauren Sukin and Alexander Lanoszka, "Poll: Russia's Nuclear Saber-rattling Is Rattling Neighbors' Nerves." *Bulletin of the Atomic Scientists*, April 15, 2022, https://thebulletin.org/2022/04/poll-russias-nuclear-saber-rattling-is-rattling-neighbors-nerves.

60. Some respondents could be anticipating a lower likelihood of U.K. nuclear weapon use because they believe that the U.S. nuclear guarantee obviates the need for a U.K. nuclear strike. This interpretation, however, would contradict U.K. and NATO nuclear posture, and respondents elsewhere indicate understanding that U.S. nuclear weapon use would implicate U.K. nuclear forces.

61. The difference between support levels for independence from the United States was not statistically significant at conventional levels. The difference between support levels for closer ties with Russia was significant at $p = 0.11$.

62. These differences are not statistically significant in a two-sided t-test. This is, again, perhaps due to the small sample size when the data are divided in this way (for example, only 131 respondents oppose second-use nuclear attacks and are treated with a credible nuclear guarantee.)

63. This difference is also not statistically significant. It may, however, contribute to explaining the otherwise curious result in Table 14.1 of a positive and statistically significant correlation between belief in the nuclear taboo and support for investing in nuclear weapons.

64. Open-ended items left blank or unintelligible were not assigned to justifications.

65. Sukin and Dalton, "Reducing Nuclear Salience."

66. Sukin, "Credible Nuclear Security Commitments Can Backfire."

67. Kertzer, "Re-Assessing Elite-Public Gaps in Political Behavior."

68. For some good initial discussions that may potentially shed light on these topics and inspire such future research, see Michal Smetana and Michal Onderco, "Elite–Public Gaps in Attitudes to Nuclear Weapons: New Evidence from a Survey of German Citizens and Parliamentarians," *International Studies Quarterly*, Vol. 66, No. 2 (June 2022), sqac017, doi.org/10.1093/isq/sqac017; Jonathan A. Chu and Stefano Recchia, "Does Public Opinion Affect the Preferences of Foreign Policy Leaders? Experimental Evidence From the UK Parliament," *Journal of Politics*, Vol. 84, No. 3 (July 2022), pp. 1874–1877; and Michal Smetana, Lauren Sukin, Stephen Herzog, and Marek Vranka, "Atomic Responsiveness: How Public Opinion on Nuclear Weapon Use Shapes Elite Beliefs and Preferences," unpublished working paper, 2025.

69. Stephen Herzog and Lauren Sukin, "The Dueling Nuclear Nightmares Behind the South Korean President's Alarming Comments," Carnegie Endowment for International Peace, *Commentary*, January 25, 2023, https://carnegieendowment.org/2023/01/25/dueling-nuclear-nightmares-behind-south-korean-president-s-alarming-comments-pub-88879.

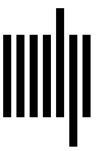
Atomic Backfires

When Nuclear Policies Fail

Edited by: Stephen Herzog, Giles David Arceneaux, Ariel F. W. Petrovics

Citation:

Atomic Backfires: When Nuclear Policies Fail
Edited by: Stephen Herzog, Giles David Arceneaux, Ariel F. W. Petrovics
DOI: 10.7551/mitpress/16163.001.0001
ISBN (electronic): 9780262051866
Publisher: The MIT Press
Published: 2025



The MIT Press

The MIT Press
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 02139
mitpress.mit.edu

The MIT Press would like to thank the anonymous peer reviewers who provided comments on drafts of this book. The generous work of academic experts is essential for establishing the authority and quality of our publications. We acknowledge with gratitude the contributions of these otherwise uncredited readers.

This book was set in Minion Pro by Westchester Publishing Services.

Library of Congress Cataloging-in-Publication Data is available.

ISBN: 978-0-262-05185-9

EU Authorised Representative: Easy Access System Europe, Mustamäe tee 50, 10621 Tallinn, Estonia | Email: gpsr.requests@easproject.com