What prompts countries to pursue their objectives on the international arena by simultaneously employing both “carrots and sticks”? Research has shown when and why countries abandon one policy instrument in favor of another. But we know less about when countries decide instead to combine multiple tools at once, thus diversifying their policy portfolio. Focusing on nuclear issues, I posit that nuclear issue salience increases the appeal of diversifying the counterproliferation portfolio by pushing nuclear issues closer to the top of the political agenda and stoking fear. The article tests this theoretical statement leveraging original data. Results suggest that the decision to combine different policies responds less to international strategic considerations than previously thought. In showing the role that domestic contingencies play, these results highlight the challenges countries might face trying to sustain strategies combining carrots and sticks over time. In so doing, these results raise questions on the implications of such unintentional fickleness for both these policies’ actual outcomes and countries’ credibility in international politics.

Countries engage in a variety of activities on the international arena. They exchange diplomatic visits, initiate militarized disputes, escalate crises, praise other countries’ behaviors, and impose sanctions. These are just some examples of the many behaviors countries can embrace.

Numerous studies have investigated when and why countries prefer one policy tool over the other—illuminating, for example, when countries opt for offering food assistance rather than economic aid, when military intervention is preferred to diplomatic intervention, when cooperative tools are favored over conflictual ones to solve crises, and so on.¹

Yet we know relatively less on why countries at times go the opposite route and instead of substituting policies, they decide to complement them, therefore using more than one simultaneously. Understanding the reasons why countries choose to combine policies matters—for instance, to learn about policy outcomes. If maximizing effectiveness is not the paramount preoccupation when combining policies, for example, then those policies’ lack of effectiveness might in part be explained by how they were selected to begin with.²

The choice of combining multiple policies toward a counterpart at once is particularly interesting when the policies implemented together rely on different incentives—or, in common parlance, on both “carrots and sticks.” Using both simultaneously risks sending mixed, confusing signals to a country’s counterpart, therefore possibly making it harder for that country to achieve its ultimate purpose. While this practice concerns policy realms as diverse as human rights promotion and regime change, examples of such practices are especially conspicuous in the context of counterproliferation. During the period 1971–1991, for example, the United States imposed sanctions on South Africa to deny it access to strategic materials, including nuclear ones, while also, simultaneously, providing the country with security aid. The United States also used sanctions and aid

¹ Respectively, Regan (2000), Clark, Nordstrom, and Reed (2008), Fariss (2010).
² On the centrality of this question, see Palmer and Bhandari (2000).
at the same time when dealing with North Korea as recently as the 2000s. Yet, when Brazil first established a nuclear weapons program, the US refrained from imposing sanctions, leveraging instead aid. 3

This article focuses on the US counterproliferation policy, given both the prominent role that the United States has played in combating proliferation and the far-reaching consequences of its choices in this area. I argue that when the salience of nuclear issues in the American political sphere increases, it encourages the United States to diversify its counterproliferation policy portfolio and to simultaneously use multiple policies. Nuclear issue salience refers to the extent to which nuclear-related events and entities spanning both the civilian and the military realm (nuclear plants, explosions, arms race, energy, and so on) become “focal points of public attention and concern” for both elites and the public, acquiring a more prominent position in the domestic debate between voters and decision-making elites alike. 4

Using more than one policy at once becomes more appealing than usual to decision-makers because nuclear issue salience puts decision-makers in a bind. On the one hand, salience encourages both the public and elites to take some form of action instead of doing nothing. On the other hand, taking any form of action at all seems to them even more daunting and risky than usual, because salience increases fear. Given the two horns of the dilemma, increasing salience amplifies the appeal of policies that make it possible to diversify risks and hedge bets. Diversifying risk entails combining options relying on different incentives, so as to create some sort of insurance: if one option fails, the other may succeed. Specifically, countries do not know how others will react to positive or negative inducements. Since positive and negative inducements tend to rely on opposite leverages of influence—respectively, reward and punishment—using them simultaneously enables decision-makers to hedge their bets more effectively than relying only on one type of inducement and thus of leverage.

Relying on original data, I conduct a systematic analysis of when the United States uses aid and sanctions simultaneously for counterproliferation purposes. This analysis reveals that the United States combines carrots and sticks parsimoniously, possibly because, while potentially spreading the risks of failure, implementing two policies on average requires more political will than just implementing one. But, when the United States does combine carrots and sticks, this decision is correlated with increases in nuclear issue salience.

Findings in this paper challenge conventional wisdom on the tradeoff between consistency and diversification by pointing to the importance of considering the domestic payoffs of using both incentives and disincentives at once. Thus, these findings open new questions regarding possible challenges to the credibility of states’ commitments on the international arena as well as their counterparts’ proneness to cooperate with them. I explore these questions in the conclusions.

**Argument**

I posit that higher nuclear issue salience encourages the United States to use positive and negative inducements simultaneously in its counterproliferation policy. To present this argument, this section proceeds as follows. First, I discuss what issue salience is and how it shapes policies. The next two sections explore, respectively, which nuclear issues’ features make it possible for nuclear issues to increase in salience; and what the drivers of nuclear issue salience are. Then, I shed light on how salience affects decision-makers’ choice to utilize carrots and sticks simultaneously, also elaborating testable hypotheses.

**Issue Salience and Policy Choice**

Issue salience is “the importance individuals place on certain issues.” 5 Issues acquire more salience compared to others when they become focal points attracting the attention of both decision-makers and the public. Both groups start thinking about issues differently when such issues become more salient. Such different ways of thinking affect policy-making, in several ways.

First, salient issues, studies find, are more likely to be present on voters’ minds and to contribute to guiding their voting choices. 6 This is not to say that voters always advance sophisticated preferences or even detailed policy proposal on issues as complex as health care, the environment, or national security. Instead, those voters are likely to have broad preferences as to how to approach such complex issues when they become more salient. 7 Second, when issues grow more salient decision-makers become more likely to act on them according to the public’s preferences (Miller and Stokes 1963) to show responsiveness (Walgrave and Van Aelst 2006, 100–1). Third, even when the consequences of the policies they choose might not be immediately evident to voters, decision-makers tend to be responsive on salient issues because they worry that their legacy will be evaluated in the future based especially on salient issues. This is especially true in systems, such as the American one, that display “retrospective oversight” (Colaresi 2012).

For these reasons, the impact of issue salience runs deep in American politics, influencing the type of legislation introduced in the Senate and in the House (Lazarus 2013), the Presidential political agenda (Gelman, Wilkenfeld, and Adler 2015), and even Supreme Court decisions. 8

But why can nuclear issues gain greater salience?

**Nuclear Issues as Salient**

Ever since the Trinity test, nuclear issues have often acquired greater salience and become focal points by virtue of being public issues. In other words, the American public and decision-makers have repeatedly perceived them as issues whose implications could affect the health and wellbeing of the domestic population and thus whose regulation was often of interest and concern for both decision-makers and the public.

Scholars have debated whether issues related to foreign policy are of interest to the public and can thus acquire salience, on account of these events being far removed from Americans’ everyday experience. But recent experimental research finds that foreign policy proves as electorally significant as economic and religious policy. 9

In addition, nuclear issues have hardly remained contained to the realm of foreign policy. First, because of its...
civilian uses, nuclear technology has often entered the everyday life of Americans (Barker-Devine 2006; Cameron 2014). The Eisenhower administration, for example, highly publicized everyday uses of nuclear technologies (Hewlett and Holl 1989, 307). Second, even military aspects of nuclear technology have hardly been removed from the public’s experiences—be it in the form of daily drills to prepare for a possible nuclear attack (Weart 2012) or of concerns for radioactive contamination of the residential areas near nuclear weapons production facilities (Flynn et al. 1998). Events such as explosions or accidents have often spurred instances of “social scare” in the broader public: “acute episodes of collective fear that accelerate demands in the political (or related) arena” (Ungar 1992, 485).

Examples of nuclear issues affecting US public life as public issues abound. Nuclear issues have become crucial during elections (as in the case of the 1954 Bravo accident and its impact on the 1956 Presidential elections). They have mobilized voters and legislators on issues of budgets and security (for instance, in reference to the Sentinel program). They have raised concerns over trusting the government (most recently, after new evidence suggested in 2016 that the US Administration might have misrepresented the presence of WMD in Iraq).

**How Nuclear Issue Salience Increases**

The previous section has explored why historically nuclear issues have acquired increased salience at different points in time. How, then, do nuclear issues tend to acquire greater salience? In other words, what are the drivers of nuclear issue salience? Studies have highlighted at least three key features.

First, single events often matter. Nuclear issues are indeed often prone to display focusing events—described as “event[s] that [are] sudden; relatively uncommon; can be reasonably defined as harmful or revealing the possibility of potentially greater future harms; [...] and that are known to policy makers and the public simultaneously.” Focusing events increase salience because they catapult nuclear issues at the center of attention and to the top of the policy agenda. For example, on March 28, 1979, one of the Three Mile Island (TMI) nuclear reactors in Pennsylvania experienced a partial meltdown, quickly grabbing the attention of the whole nation. A diverse set of events can catalyze an increase in salience (from nuclear plant disasters, to nuclear explosions, to oil crisis, etc.) and the effects of such events on salience, in turn, may be cumulative. For example, salience soared in the second half of the 1950s and slowly waned in the early 1970s, as a consequence of the abatement of the Cuban conflict, the test ban treaty, and vague signs of rapprochement between the superpowers.

Second, events per se, however, cannot systematically explain surges in salience. Instead, the context in which such events take place matters. This is the case because, in addition to being a continuous concept (we can have more or less salience), salience is a relative concept (the degree to which nuclear issues display salience also depends on what other issues are present and notable at any given time). For example, the numerous nuclear tests conducted by both the Soviets and the Americans in the late 1950s increased nuclear issues salience in part because they took place in a context in which concerns and warnings on radiation poisoning were common (Ungar 1992, 485). Similarly, the TMI incident, hailed by some as a quintessential example of a focusing event, took place in a context in which nuclear issues were already salient. Specifically, several developments—“the rapid growth of nuclear power in the United States and abroad, increasing terrorist actions and threats around the world, and the testing of a nuclear explosive by India”—had increased the salience of issues of domestic and international nuclear safeguards. In addition, nonproliferation concerns had developed already regarding the Pakistani, South African, Israeli, and Taiwanese nuclear programs.

Finally, “[the sociopolitical climate in 1979—including the release of the film The China Syndrome and public protest over the Seabrook and Shoreham nuclear plants—made the political containment of the [TMI] accident difficult.” This complex domestic and international context of increasing nuclear issue salience might in part explain why the TMI accident had a stronger and longer lasting effects on the public discourse than accidents, such as the 1967 one in Detroit at the Fermi reactor, that might have been, technically, even more dangerous.

Finally, given the importance of context, of events, and of their interplay, though it is possible to capture what salience looks like a posteriori, it is very hard to predict a priori which events will systematically increase salience. For example, instances of nuclear proliferation alone cannot systematically explain nuclear salience increases, for two reasons.

First, salience is a relative concept, and therefore whether instances of proliferation increase nuclear salience will depend on other, contemporaneous events. In the late 1960s, for example, nuclear issues were not as salient as they had been before, as issues such as decolonization and trade liberalization increasingly took center stage. Such variation through time of nuclear issue salience, in turn, suggests that different episodes of proliferation are embedded in quite different American political contexts. When China exploded its first nuclear device in 1964, for example, the nuclear discourse was dominated by events such as the (less than successful) Test Ban Treaty negotiations, the Cuban missile crisis, as well as various civil defense initiatives and programs. In comparison, India’s “peaceful explosion” of 1974 took place in a context where nuclear issues were less salient than before.

Second, these cases enter the public debate in different ways and thus it is not a given that such events will increase salience. In some instances, as the Chinese one, the public learnt immediately about it; in others, the press reported on reprocessing activities that a country was trying to keep hidden; in still others, the Administration repeatedly went to great lengths to prevent proliferators from “publicly...

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10 Weart (2012, 112).
11 Spinardi (2010).
12 Birkland (1998, 54).
13 For a recent review of the connection between focusing events and salience, see Liu, Lindquist, and Vedlitz (2011).
14 Birkland (1998).
15 See also Ungar (1992).
16Rabinowitch in Boyer (1984, 825).
17 Birkland (1998) and Ballesen et al. (2017).
18 Walker (2001, 2015).
19 Martinez (2002), Rabinowitz and Miller (2015), Burr (2021).
20 Birkland (1998, 70).
21 Birkland (1998, 70).
22 Burr and Richelson (2001).
23 In August 1976, for instance, the Washington Post published an expose of the Taiwanese nuclear reprocessing activities (Albright and Stricker 2018, 68). IAEA inspectors had detected missing fuel rods just a few months earlier (something on which the Washington Post had also reported, Albright and Stricker 2018, 65), but the United States had suspected that the Taiwanese nuclear program had a military component since 1966 (Debs and Monteiro 2016, 304–5).

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declaring their capabilities” (Rabinowitz and Miller 2015, 47).

**How Increasing Nuclear Issue Salience Creates a Quandary**

But how does nuclear issue salience spur action? Rising nuclear issue salience puts decision-makers in a bind. On the one hand, it increases, for both the public and the elites, the appeal of taking any form of action on such salient issues, in two ways.

First, voters are more likely to ask for action on issues when those issues become more salient. In 2002, when nuclear issues were more salient, 84 percent of surveyed Americans stated that preventing proliferation was a very important US foreign-policy goal, and that it should be given precedence over searching for members of Al Qaeda. In 2012, another period characterized by increasing nuclear issue salience, the majority of the American public was deeply concerned about Iran’s nuclear ambitions and urged action on this very issue.

Second, decision-makers also have more incentives to act on issues that are increasingly salient to show their responsiveness to the public. Examples of leaders considering voters’ reactions on nuclear issues when nuclear issues become more salient are numerous. President Johnson worried about voters’ reactions to his handling of Chines nuclear proliferation (Burr and Richelson 2001, 79) and President Nixon worried about the voters’ possible reaction to overt threats to use nuclear weapons (Sagan and Suri 2003, 150–83). More broadly, surges of voters’ fear catalyzed by increased nuclear issue salience due to unexpected Soviet nuclear and military achievements were fundamental in explaining phases of expansion of spending on nuclear weapons and armaments throughout the Cold War (Unger 1990). Indeed, US policies are found to be more consistent with the preferences of the public on issues that are salient than on issues that are not salient (Oppermann and Viehrig 2011, 5). Thus, implementing neither sticks nor carrots will be even less appealing than usual in times of rising nuclear issue salience.

On the other hand, while it increases the appeal of taking action, nuclear issue salience also increases the appeal of diversifying policies, because, studies have reliably shown, it catalyzes fear in the minds of both the public and the elites. I will unpack this claim in the paragraphs below, explaining, respectively, why nuclear technology has historically spurred concerns. Nuclear fear constitutes “a remarkably powerful political and cultural resource, used to mobilize people, logics, institutions, and international relations” (Masco 2013, 332). Indeed, groups with very different agendas, such as the anti-disarmament movement (in the 1980s) and the Committee on the Present Danger (in the 1950s), tried stoking nuclear fears to achieve their goals.

As Boyer (2005, 74) shows, “the strategy of manipulating fear […] helped fix certain basic perceptions about the bomb into the American consciousness.” Even today, survey experiments show, fear is still deeply connected to nuclear technology in the American public consciousness (Abdulla et al. 2019; Baron 2020; Baron and Herzog 2020).

Whether or not nuclear issue salience provokes fear seems to depend little on what catalyzes increases in salience to begin with. Instead, a variety of events and contexts seem to spur comparable levels of fear—something that sets nuclear technology apart from other technologies (Slovic, Fischhoff, and Lichtenstein 1981). Experimental evidence suggests that this phenomenon is rooted in the presence of “a belief that most, if not all, nuclear technology is inherently violent or dangerous” (Baron and Herzog 2020, 7) and that “public associations of nuclear technologies with destruction exist even absent priming about nuclear weapons” (Baron and Herzog 2020, 6). In particular, even when thinking about nuclear issues that have little to do with nuclear war, Americans end up associating such events to fears of nuclear war and therefore feeling that same dread that they associate with dramatic, violent events (Baron 2020; Baron and Herzog 2020). Indeed, recent experimental evidence suggests that individuals associate nuclear technology with fear even when contemplating the possible positive reverberations of nuclear technology (such as the reduction in CO₂ emissions). A 1982 report concluding an investigation by the American Psychiatric Association on the relation between nuclear technology and fear, for example, remarked that when thinking about nuclear technology, “[p]eople are faced with a technology which can affect them profoundly but which they cannot fully understand. This creates emotional dissonance and uncertainty, anxieties and stress, and perhaps explains the complementary reasons. To begin, by its nature, nuclear technology, regardless of its uses, invokes the risk of contamination, which constitutes a taboo in most human cultures. Since the contaminating damage of radiations or waste cannot be easily localized in time or space, it becomes hard to predict who will be affected and when. For this reason, salience often increases the perception of nuclear issues as a “catastrophic technology” (Breakwell 2014, 189) and a threat by a broader range of the population (Weart 2012, 45–70). Likewise, because of this early and pervasive association of nuclear and military achievements were fundamental in overt threats to use nuclear weapons (Sagan and Suri 1981).
interchangeable use of and reaction to the concepts of nuclear weapons and nuclear power.\textsuperscript{32}

Thus, the report continued, a multiplicity of diverse and nuclear-related events, including “enemy attack, terrorism, human accident, computer error or power plant disaster creates an environment of fear and imposes stresses upon the human psyche which are without precedent.”\textsuperscript{33} Polls taken at different point in time suggest that the public has often struggled to parse out military and peaceful uses of nuclear power. In a poll taken all the way in 1989, more than 40 years after Hiroshima, two in three respondents agreed with the statement that “[…] plants produce a risk of an explosion similar to an atomic bomb” (Baumgartner and Jones 2010, 61–3). Earlier on, concerns over the negative impact of radiation as a result of nuclear plants in the late 1970s were found to be linked to concerns over the possible implications of a nuclear standoff between the United States and the USSR (Ungar 1992).

In sum, nuclear technology catalyzes fears for reasons intrinsic to the technology but also for historical ones and perhaps almost regardless of how nuclear issues increase in salience. But why does such fear encourage people to leverage both carrots and sticks?

It could be that fear makes individuals more likely to engage in one-sided policies, for example, making them more extremist and therefore more likely to engage in sticks rather than in carrots (or vice versa). But psychological studies suggest that, on average, instead of pushing individuals to prefer one-sided policies, fear pushes individuals to prefer hedging their bets and diversifying their courses of action. This is the case because fear makes individuals more risk averse.\textsuperscript{34} Therefore, fear makes individuals prefer courses of actions, such as hedging bets, that help coping with those risks associated with acting by spreading such risks across multiple options.\textsuperscript{35} Combining carrots and sticks simultaneously is particularly helpful to diversify the portfolio of options to shape behavior because it builds on different leverages of influence, such as reward and punishment, to a greater degree than using only one inducement or only one type of inducements (e.g., only relying on positive or negative inducements). Building on different leverages can help better hedge bets and spread risk for two reasons. First, it is hard to predict which type of inducement countries will be more responsive to, so relying on just one tool might backfire if it is the wrong one. Second, countries might be more responsive to rewards when punishments are also offered (or vice versa). Indeed, fear leads individuals on average to reject one-sided policies.\textsuperscript{36}

Such findings on the link between fear and policy diversification are echoed in studies of foreign-policy preferences. Experimental and survey evidence from multiple studies on the American public suggest that fear, for example, encourages members of the public to prefer policy diversification.\textsuperscript{37} Survey evidence on the preferences of the public regarding how to deal with proliferation seems to echo these insights. In 2012, for instance, during a period of higher issue salience, the American public favored an approach that combined both positive and negative inducements to deal with Iran’s nuclear plans.\textsuperscript{38}

Moreover, studies of elites and states behaviors such as those focusing on foreign-policy hedging have found, for instance, that it is fear that motivates countries to hedge their bet and diversify their policy portfolio.\textsuperscript{39} Combining different tools might be appealing to policy-makers rendered more risk-averse than usual by fear because, while there is no scholarly consensus on whether combining carrots and sticks maximizes counterproliferation effectiveness, doing so allows them to hedge their bets more effectively. Hedging bets by adopting multiple options helps coping with those risks associated with acting by spreading such risks across multiple options. The fact that similar psychological processes are at play at both the elite and the public level should not surprise us, as recent research suggests such similarity in psychological processes among these two groups is quite common (Kertzer 2020).

Hedging Bets

That nuclear issues have often become more salient does not mean that the American public has always completely understod the highly technical subject of nuclear technology, or the military doctrine behind it. Indeed, experts have at times even questioned the capability of decision-makers to understand those complexities\textsuperscript{40} and found little difference in how sophisticated the opinions of decision-makers and the public are on nuclear technologies (Herron and Jenkins-Smith 2002, 454–5). Instead, I argue, in times of rising nuclear issue salience, given incentives to both take action and to do diversify, implementing neither carrots nor sticks will become even less appealing than usual. Hedging bets, instead, becomes even more appealing than usual.

H1a: An increase in nuclear issue salience correlates with an increase in the probability that the United States will diversify its counterproliferation policy portfolio.

H1b: An increase in nuclear issue salience correlates with a decrease in the probability that the United States will use neither carrots nor sticks.

Alternative Hypotheses

Whether the United States diversifies its counterproliferation portfolio could instead depend on foreign-policy considerations. First, the nature of nuclear ambitions might matter. Recent studies show that progress toward nuclear acquisition is nonlinear\textsuperscript{41} and that the counterproliferation effort does not end when countries acquire nuclear weapons.\textsuperscript{42} In this sense, it is possible that the more advanced the nuclear plans are, the more likely the United States will become to change its counterproliferation approach and invest in one that combines both incentives and deterrents, so as to improve its chances of success.

Second, the United States impulse to diversify its foreign-policy portfolio could instead depend on the characteristics of the country it is facing. For example, the United States could be more likely to use a diverse counterproliferation

\textsuperscript{32} American Psychiatric (1982, IV).
\textsuperscript{33} American Psychiatric (1982, 94).
\textsuperscript{34} For a seminal article on how fear spurs risk aversion (but, e.g., anger does not), see Lerner and Keltner (2001).
\textsuperscript{35} For recent experimental evidence on fear, risk aversion, and hedging bets, see Habib et al. (2015).
\textsuperscript{36} Mackuen et al. (2010).
\textsuperscript{37} Lerner et al. (2005), Huddy, Feldman and Cassese (2008), Huddy and Feldman (2011). For a review of similar studies, see Wagner and Morisi (2019).
\textsuperscript{38} “Iran, the Bomb, and U.S. Public Opinion,” Council on Foreign Relations and the Program on International Policy Attitudes (PIPA), July 16, 2012.
\textsuperscript{39} For example, see Koga (2018).
\textsuperscript{40} Narang and Panda, “North Korea, Trump, and Strategic Stability,” War on the Rocks, August 10, 2017.
\textsuperscript{41} Mattiacci and Jones (2016).
\textsuperscript{42} Rabinowitz (2014).
portfolio when the proliferator is a fellow democratic country. Unlike neopatrimonial regimes or personalistic regimes, whose agendas might appear more capricious, the leadership in democratic countries might be perceived as responding to multiple and competing interests, and therefore to be more susceptible to a diverse set of incentives and deterrents.

The US impulse to diversify its foreign-policy portfolio could hinge instead on the type of relation that it entertains with the specific counterpart. In particular, the United States could be more likely to employ both carrots and sticks if the counterpart is an ally, a policy that would better reflect its recurrent ambivalence with respect to its allies’ nuclear plans.43 By contrast, the United States might be more likely to diversify its policy portfolio when confronting a hostile state. Existing hostilities make both the pursuit and acquisition of nuclear weapons more likely.44 In order to counterbalance these tendencies, the US, in turn, could be more likely to employ both carrots and sticks.

The status of the potential proliferator as a:

H2: country with a nuclear weapons program.
H3: democratic country.
H4: US ally.
H5: US opponent.

correlates with an increase in the probability that the United States will diversify its counterproliferation policy portfolio.

Research Design

The most effective way to probe a causal relation between salience and policy choice is to run a controlled randomized experiment. The random assignment that an experiment would require, however, is not feasible in this context. Therefore, I rely on an observational study to seek to uncover a possible correlational relationship over time.

In particular, my empirical strategy leverages a systematic, large-N study of the US counterproliferation policy toward all members of the international system (COW) for the period 1949–2005. Research has shown that the United States has been very inefficient when trying to estimate the existence and progress of nuclear weapons programs (Montgomery and Mount 2014), so including all the countries is important to more accurately capture when and why countries are first targeted with nuclear-related carrots or sticks. I then replicate the analysis on a subset of nuclear-ambitious countries (see online Appendix for definition and details), finding that my results are robust.

Capturing the tradeoff between carrots and sticks entails accounting for the diverse set of US counterproliferation policies while avoiding adding noise to the analysis by making false analogies. To reconcile both priorities, I focus on sanctions and security aid. This comparison can account for such diversity in the US counterproliferation effort—security aid and sanctions representing an important example of, respectively, positive and negative inducements.

At the same time, focusing on aid and sanctions avoids generating noisy comparisons through false analogies, because of two features of these policies. First, both policies use the same type of leverage—namely, shaping the domestic distribution of cost and benefits from nuclear behavior: via negative inducements in the case of sanctions (which “punish or deny benefits to leaders, ruling coalitions, or broader constituencies”) and via positive ones with aid (which allocates instead “benefits or rewards” to those same individuals).45

Second, these policies undergo comparable enactment processes involving both Congress and the President, as opposed to other counterproliferation efforts (such as covert strikes or diplomatic cables).46 Both features suggest that the data-generating process is comparable for the two policies, which in turn leaves out potential sources of noise (e.g., different norms and laws regulating the use of force vs the imposition of sanctions), focusing instead this comparison more precisely on the central goal of the analysis: understanding when and why the United States perceives it to be advantageous to use both carrots and sticks.

Data for sanctions come from the TIES dataset and include only all the sanctions aimed at curtailing a country’s access to sensitive material such as uranium and those aimed at ending nuclear proliferation. The variable is 1 if such US sanctions are in force for that country in that year. Conversely, foreign aid data come from the US Overseas Loans and Grants (Greenbook), which records US foreign assistance flows, as required by the Foreign Assistance Act, Section 634. This variable is 1 if a country benefits from US counterproliferation-related aid for that year (military or economic), and 0 otherwise.

I use dichotomous variables, as opposed to continuous variables. On the one hand, the dichotomous variables capture whether sanctions or aid are in place, just as a continuous variable would. On the other hand, the dichotomous version of the variables is less noisy than the continuous one because, for example, the actual amount of aid disbursed is found to often reflect not just policy considerations, but also earmarks and similar extraneous dynamics (Lundsgaarde 2012, 167–8).

Independent Variables

The variable Salience captures nuclear issue salience. For each year, the variable captures the proportion of the total number of articles appeared in general-interest periodicals published in the United States whose subject includes nuclear issues. Data come from the Readers’ Guide to Periodical Literature.47

The relative frequency of nuclear issues on periodicals is a useful measure of salience because it captures convergence of attention in the political sphere—that is, the degree to which nuclear issues consistently and significantly occupy discussions among the public and the elites at that time, relative to other issues. Recent research demonstrates that unlike official, Presidential documents such as strategic plans or Presidential speeches, periodicals do not simply reflect what elites deem to be (or seek to establish as) salient.48

Instead, the media has structural incentives to focus on current concerns of the broader public—the paying readership.49 Therefore, media such as periodicals acts as an

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43 Rabinowitz (2014).
44 See findings in Singh and Way (2004).
45 Solingen (2012, 4).
46 Milner and Tingley (2015, 36–7).
47 Weart (2012) and Baumgartner and Jones (2010) also rely on this source to measure nuclear issue salience, though Baumgartner and Jones (2010) use absolute numbers. List of included periodicals are available at https://www.cbowhost.com/titlesLists/rgl-coverage.pdf. The list is both comprehensive and diverse, including outlets such as “Nation,” “Parade,” “The Saturday Evening Post,” “US News World Report,” “Foreign Policy,” “Newsweek,” “The Reader’s Digest,” “Life,” etc. The numerator on the proportion is the outcome of a Boolean search for “nuclear” on TX (i.e., All Text Fields). Note that I include articles that discuss a broad number of nuclear issues, including military and civilian uses. I explain this choice below.
48 See also Epstein and Segal (2000).
49 Baum and Groeling (2009).
intermediary in the relation between the public and the elites and capture the debate between the public and elites on public issues considered to affect the wellbeing of large swaths of the population.

This salience measure performs better than its alternatives. It does not conflate instances when a certain concern is pressing and pervasive (i.e., salient) and instances when an issue is perceived as consequential but not salient or of immediate concern, as surveys of “the most important issues” do.\textsuperscript{50} It also constitutes a less noisy measure of salience than, for example, the proportion of bills introduced in Congress on nuclear issues, as the latter has been found to significantly reflect the electoral vulnerability of the legislator proposing the bill,\textsuperscript{51} and to be often out of sync with the most salient concerns among the public.\textsuperscript{52} Using media also makes it possible to create a measure that is “reproducible, valid, and transportable.”\textsuperscript{53}

Relying on the proportion of articles on nuclear issues in periodicals each year is particularly useful to capture salience, for several reasons. First, since periodicals are published at longer time intervals (weekly or monthly) than newspapers, this measure allows me to gauge the pervasiveness of those issues in the broader debate by capturing whether they linger or not. By contrast, newspapers’ articles fail to capture whether an issue persists in the political discourse because of \textit{media fatigue}—defined as a systematic decrease in the space dedicated to a specific event as time since its occurrence increases.

Second, since periodicals are geared toward providing a commentary on the most prominent events for a broad audience, this measure allows me to gauge the saliency of those issues in the broader debate by capturing whether they persist or not. By contrast, newspapers’ articles fail to capture whether an issue persists in the political discourse because of \textit{media fatigue}—defined as a systematic decrease in the space dedicated to a specific event as time since its occurrence increases.

I adopt a comprehensive approach to the definition of “nuclear issues,” including both military and civilian uses. As discussed in the \textit{Argument} section, experimental evidence suggests that nuclear technology as a whole, regardless of its uses, on average tends to evoke “destructive imagery” while being perceived as “inherently violent or dangerous.”\textsuperscript{54} In fact, many articles treat both civilian and military uses simultaneously—focusing, for example, on the role of “unsafe” nuclear energy production on rogue individuals’ attempts to manufacture nuclear bombs, or on the crucial role of the Atomic Energy Commission for both nuclear energy and weapons.\textsuperscript{55} Even if one was to implement this arbitrary distinction between military and civilian uses, therefore, the correlation between those types of articles will be high, raising collinearity concerns.

Figure 1 illustrates the dynamics of the variable \textit{Salience} over the years. The Figure suggests that the measure captures the increase in salience registered in the 1950s and early 1960s, as well as its decline during the early 1970s and 1990s, after a brief resurgence in the 1980s. Nuclear issue salience, however, exists \textit{relative to other events}, meaning that its levels also depend on the whether other events taking place at the same time grab the spotlight.

Comparing the picture of salience that the measure I employ paints to the picture presented in other studies corroborates its construct validity, whether comparing it to studies using both primary and secondary sources\textsuperscript{56} or those tracking survey activity in the period 1945–1982.\textsuperscript{57}

I test \textit{Salience} for the presence of non-stationarity using a Dickey–Fuller test and a Phillips–Perron test of the null hypothesis of a unit root, and de-trend the variables accordingly if they present trends over time. Moreover, I lag the variable in the analysis.

\textsuperscript{50} Wlezien (2005).
\textsuperscript{51} Lazarus (2013).
\textsuperscript{52} See Wolfe, Jones, and Baumgartner (2013, 181) on crime legislation.
\textsuperscript{53} Epstein and Segal (2000, 66).

\textsuperscript{54} Baron and Herzog (2020, 7).
\textsuperscript{55} “Nuclear Nightmare,” New York Times, 22/26/79. “Nuclear Energy, its Peacetime Use” US News and World Report, 2/14/72.
\textsuperscript{56} As Boyer (1984) does for the period 1963–80. Similarly, Hogan and Dorsey (1991) find an increase of the salience of nuclear issues in the first years of the 1980s.
\textsuperscript{57} Kramer, Kalick, and Milburn (1983, Figure 1).
Alternative Explanations and Controls

I also test for H2–H4 (Models 2–3). First, I measure how advanced the nuclear plans are—that is, whether a state has established a nuclear program or has acquired nuclear weapons, with, respectively, dummies Pursue and Acquire.68 I include an indicator of whether the potential proliferator has an alliance with the United States or not and an indicator that captures the moving average of disputes between the country and the United States in the past five years (using COW data on alliances and MIDs). I measure regime type using Polity IV.

In addition, I control for factors that might confound the relation between the dependent and independent variables. In particular, I control for administration-specific characteristics such as the party of the President with a dummy equal to 1 if the President belongs to the Democratic Party. Party affiliation might impact the relationship between salience and diversification systematically if certain party identities tend to evoke specific preferences in foreign policy, thus affecting the relation between salience and diversification by making both more likely. I also control for Congresspeople’s voting records and how polarized they are, because their idiosyncratic preferences might impact the relationship between salience and diversification systematically by making both more likely.59 I then control for whether the same party controls both the Presidency and Congress, a scenario that might increase both salience and the propensity to adopt both carrots and sticks. I add a dummy to control whether events take place during the Cold War (1) or not (0). Cold War dynamics might impact the relationship between salience and policy diversification by making both more likely. Since the probability of imposing sanctions or aid might depend on the time passed since the last instance of either, I include time polynomials, to account for time dependence and inertia.60 Standard errors are clustered by country.

I also estimate two separate probit models and a bivariate probit on a smaller subset of nuclear ambitious states (see online Appendix for details).

The Model

To investigate the conditions under which the United States diversifies its counterproliferation policy portfolio, I use a bivariate probit, considering two dichotomous variables at once (sanctions and aid) and hypothesizing that (and testing whether) the disturbances in the two variables’ equations are correlated.61

\[ y_1 = x_1 \beta_1 + \epsilon_1 \quad y_1 = 1 \quad \text{if} \quad \epsilon_1 > 0, \quad 0 \text{ otherwise} \]

\[ y_2 = x_2 \beta_2 + \epsilon_2 \quad y_2 = 1 \quad \text{if} \quad \epsilon_2 > 0, \quad 0 \text{ otherwise} \]  

(1)

Substantively, the model indicates that the presence of one outcome might positively or negatively correlate with the occurrence of the other, depending on the sign and significance of the correlation coefficient \( \rho \).

Results

Nuclear Issue Salience and Complementarity

Table 1 reports results for three models accounting, respectively, for possible domestic (Model 1) and foreign-policy (Model 2) confounders, and for both types of confounders together (Model 3). Six results emerge from the analysis. First, an increase in nuclear issue salience correlates with an increase in the probability that the United States will use carrots and sticks simultaneously, lending support to H1a. The theory suggests that, when salience increases, countries such as the United States will prefer to spread the risk of failing to combat proliferation by diversifying their policy portfolio, and so the probability of using both carrots and sticks simultaneously will increase. The empirical analysis supports this intuition: in each of the three models in Table 1, the coefficients for Salience are statistically significant, positive predictors of both aid and sanctions. Figure 2 plots the marginal effects of increasing salience on the probability that the United States will implement both carrots and sticks at once, with all other variables held constant to their median value, and 95 percent confidence intervals. Figure 2 shows that, as salience increases, so does its marginal effect on the probability of using both aid and sanctions simultaneously. These large-N results also echo recent events. The early 2000s, for example, correspond to a period of rising salience, as the data suggest that values for this variable were well above the mean during that period. During those years, the data also reveal that the United States used both sanctions and aid simultaneously to deal with North Korea’s nuclear plans.62

Moreover, the theory predicts that an increase in nuclear issue salience correlates with a decrease in the probability of countries such as the United States using neither sanctions nor aid, because salience incentivizes such countries to act, albeit while taking precautions. Figure 2 plots the marginal effects of increasing salience on the probability that the United States will implement neither carrots nor sticks simultaneously, with all other variables held constant to their median value and 95 percent confidence intervals. The pattern emerging in Figure 3 is consistent with the one predicted by H1b.

How Foreign-Policy Complementarity Emerges

Second, Table 1 suggests that the decision to implement carrots is not independent from the decision to implement sticks, and vice versa. The estimated correlation coefficient \( \rho \) hovers around the non-trivial values of 0.53 and 0.39 (\( p \)-value = 0.001). Studying the decisions to impose sanctions in isolation from the decision to give aid, this result suggests, risks biasing findings, because the decision-making processes involved in each are correlated.

Third, even though the United States often considers combining sanctions and aid simultaneously, it decides in favor of this option only sporadically. The average predicted probability that the United States will use both sanctions and aid, holding every variable to the mean, is 0.16 percent. Statistically, this probability is also significantly different from zero at the 95 percent confidence level. As Miller (2014, 926) also finds, such small predictive probabilities are to be expected in the study of counterproliferation, as proliferation is a relatively rare phenomenon. Even though the probabilities are low, these probabilities relate to very prominent instances of proliferation—including Pakistan in the late 1980s, India in the 1970s, and North Korea in the early 2000s. Understanding why those tools were used in conjunction in those high-profile cases is thus paramount. Moreover, the probability of

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58 Data from Singh and Wav (2004).
59 Lewis et al. (2018). Voteview: Congressional Roll-Call Votes Database.
60 Carter and Signorino (2010).
61 Greene (2003, 710).
62 Source: TIES dataset and Greenbook.
Table 1. Bivariate models’ results

|                | Aid     | Sanctions | Aid     | Sanctions | Aid     | Sanctions |
|----------------|---------|-----------|---------|-----------|---------|-----------|
| Salience, Lagged | 0.743*** | 0.352**   | 0.671*** | 0.373*    | 0.861***| 0.419***  |
|                | (0.113) | (0.148)   | (0.122) | (0.215)   | (0.120)| (0.190)   |
| Cold War       | 0.372*** | -0.00471  | 0.440***| -0.126    | 4.126   | -7.063*** |
|                | (0.061) | (2.319)   | (0.067) | (2.404)   | (1.182)| (3.051)   |
| Divisions in Congress | -0.866 | -6.614*** | -1.264  | -7.063*** |
|                | (1.115) | (2.319)   |         |           |
| President’s Party | 0.0768 | 0.432***  | 0.095   | 0.392     | 0.099  | 0.270     |
|                | (0.086) | (0.171)   |         |           |
| Same Party in Congress/Presidency | -0.230** | -0.531*** | -0.193**| -0.456*   |
|                | (0.086) | (0.173)   |         |           |
| Regime         | 0.0220  | -0.00672  | 0.005   | 0.016     |         |           |
|                | (0.004) | (0.016)   |         |           |
| Pursuit        | -0.248  | 0.709***  | -0.123  | 0.710**   | 1.076***| 0.267     |
|                | (0.180) | (0.257)   |         |           |
| Acquisition    | -0.142  | 1.069***  | -0.193  | 1.076***  |         |           |
|                | (0.222) | (0.262)   |         |           |
| Hostilities    | -0.0456 | 0.210***  | -0.0428 | 0.216**   |         |           |
|                | (0.034) | (0.059)   |         |           |
| Alliance       | 0.269***| -0.0946   | 0.372** | -0.103    |         |           |
|                | (0.069) | (0.183)   |         |           |
| Time           | -3.434***| 9.821*****| -3.344**| 8.557**   | -3.393**| 8.925**** |
|                | (0.804) | (2.928)   |         |           |
| Time2          | 220.3***| 39.70***  | 220.7***| 36.97***  | 211.1***| 37.42**** |
|                | (13.613)| (10.102)  |         |           |
| Time3          | -377.9***| -364.7*** | -362.5***| -264.9*** | -348.7***| -271.8****|
|                | (42.216)| (68.244)  |         |           |
| Constant       | -1.135***| -3.555*** | -1.294***| -3.139*** | -1.322***| -3.129*** |
|                | (0.040) | (0.292)   |         |           |
| N              | 7772    | 6972      | 6972    | 5999.668  | 5401.028|
| rho            | 0.528***| 0.388***  | 0.386   | 0.386**   |         |           |
| BIC            | 6445.196| 5652.476  | 5599.668| 5401.028  |         |           |
| AIC            | 6312.989| 5508.634  | 5599.668| 5401.028  |         |           |

**Note:** Standard errors in parentheses.  
* p < 0.10, ** p < 0.05, *** p < 0.001.

Figure 2. Marginal effects of salience (de-trended) on the probability of combining sanctions and aid at the same time. With 95 percent confidence intervals.

Figure 3. Marginal effects of salience (de-trended) on the probability of neither applying sanctions nor aid at the same time. With 95 percent confidence intervals.

Results Are Robust to Confounding Factors and Alternative Explanations

Fourth, results reject the hypothesis that the correlation between salience and diversification can be simply explained using carrots and sticks simultaneously increases twofold when salience goes from lower (10th percentile) to higher (90th percentile), holding all the other variables to their median.
away by whether the proliferator is an ally or an opponent or a democratic regime and by how advanced its programs are. Instead, even controlling for the impact of these factors, salience exerts a positive, independent, and significant effect on the probability of diversification.

Fifth, those foreign-policy factors such as the nature of the proliferator as an ally or a hostile country or the status of its nuclear plans, cannot explain the decision to combine carrots and sticks simultaneously. So what is the role of such international factors? The United States is significantly more likely to employ aid with allies but more likely to use sanctions with hostile countries (Table 1). Thus, the model confirms that, intuitively, the United States significantly adjusted its counterproliferation policy when dealing with “friendly states with nuclear weapons ambitions” compared to other states. Yet the model also reveals the limits of foreign-policy considerations, by showing that they do not significantly push the United States to complement aid with sanctions: coefficients for those regressors can significantly predict one outcome, but not the occurrence of both simultaneously.

Finally, Table 1 suggests that the effect of salience is robust to idiosyncratic characteristics, such as the President’s party affiliation, whether the President and Congress share party affiliation, how idiosyncratic and polarized Congress is, and whether the decision is made in the midst of the Cold War or not.

**Broader Implications and Discussion**

Focusing on US counterproliferation policy, this article has shown how rising nuclear issue salience correlates with an increase in the appeal of diversifying the counterproliferation portfolio by stoking fears and therefore increasing the appeal of hedging US bets. Implications stemming from these results raise important research questions.

First, these results raise new questions regarding the effectiveness of combining multiple policies. Scholars are indeed divided as to the benefit of such choice. Findings in this article add a crucial nuance to this debate. They show that it is not just international and foreign concerns that are taken into consideration when choosing whether to substitute a policy or complement it, but also domestic ones. Can the impact of domestic salience, often waxing and waning, erode the credibility of a country’s commitment to its policies, by making countries more fickle in the international arena? Experts fear, for example, that the US inability to commit to a single, consistent counterproliferation policy erodes its credibility (Jervis and Rapp-Hooper 2018, 106–7), undermining its global leadership (Singh 2018). When can countries instead leverage such domestic constraints to their advantage?

Second, these results have important implications for how the counterparts of the actor adopting multiple policies simultaneously will react. The way in which others make sense of an actor’s motivations for acting matters. IR studies of reciprocity, for example, find that when the recipients of cooperative overtures suspect that those cooperative overtures have second motives (such as to weaken the recipient, or to extract resources from it), they are less likely to reciprocate them (Jervis 1988, 336; Larson 1997, 716). Instead, when cooperative overtures are perceived as honest, they are more likely to be reciprocated. This suggests in turn that when countries such as the US decides to implement both carrots and sticks simultaneously, the way their counterparts respond to this strategy is likely in part dependent on how they make sense of why the strategy was implemented. Thus, if salience encourages countries to embrace foreign-policy complementarity, to what degree is this process observable by their counterparts? And will observing the effect of domestic salience on the choice of foreign policies be reassuring or threatening to them?

Finally, focusing the analysis on a set of comparable, overt policy tools, the analysis has honed in on the tradeoffs that salience imposes on decision-makers weighing whether to simultaneously use carrots and sticks. Does issue salience also encourage policy-makers to prefer publicly observable sanctions to secret threats? And if so, how does the effect of salience vary across policy areas (human rights, regime change, etc.)?

**Supplementary Information**

Supplementary information is available at the ISAGSQ data archive.

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