

The Spotlight's Harsh Glare: Rethinking Publicity and International Order

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Abstract

How does the publicity of states' illicit activities affect the stability of international order? What does this tell us about how enforcers of international rules react to these states' violations? In contrast to the conventional wisdom that transparent monitoring strengthens the normative-legal order, this paper argues that these activities often undermine it. We develop two mechanisms through which this occurs: by raising the known rate of non-compliance, and by sharpening the threat that deviance poses to other states. We argue that when enforcers understand the dangers of publicizing transgressions, they do so selectively. Focusing on the nuclear non-proliferation domain, we demonstrate that these concerns shaped American decisions to reveal or obfuscate other states' efforts to obtain nuclear weapons. We formalize this argument and then empirically test the model's predictions using in-depth case study analyses. We find that the U.S. failed to disclose infractions when this publicity would have undermined the rules through the two mechanisms we identify. However, we also show that while concealing violations can prevent proliferation in response to specific nuclear programs, it can also create potential dangers to a regime's overall health and stability. In addition to reassessing a widely shared assumption about the value of transparent monitoring, this article's broad theoretical framework can shed light on enforcement and compliance dynamics in a variety of international settings.

Keywords: international institutions, international relations, international norms, nuclear weapons, publicity, transparency.

Word count: 13,574.

“PUBLICITY IS JUSTLY COMMENDED AS A REMEDY FOR SOCIAL AND INDUSTRIAL DISEASES. SUNLIGHT IS SAID TO BE THE BEST OF DISINFECTANTS; ELECTRIC LIGHT THE MOST EFFICIENT POLICEMAN.”

Louis Brandeis

How does the publicity of noncompliance affect international order? Brandeis’ sunshine analogy invokes an intuitive and widely shared answer: revealing infractions can strengthen socio-political rules. This positive association between the exposure of violations and a well-regulated political system is manifested in several influential areas of international relations scholarship. Rational institutionalist theories, along with research on norms and international law, have argued that publicizing noncompliance can reverse deviant behavior through punishment and sanctions, and can reassure compliers that they will learn whether others fail to comply.¹ Indeed, many international organizations (IOs) that monitor state compliance reflect this logic, as they are designed to facilitate the identification and publicity of transgressions.²

Despite this intuitive logic, theoretical and empirical studies in sociology, criminology, and economics suggest that the relationship between visible rule-breaking and social order is more complex. Decades ago, social theorists noted that the *opacity* of violations of social norms allows many implicit and explicit rules to persist.³ More recently, studies of compliance with laws about everything from alcohol consumption to tax reporting have found that increased transparency about the rate of non-compliance can increase individuals’ propensities to break these regulations.⁴

This raises two puzzles for scholars of international politics. First, when might the publicity of international rule violations strengthen regimes, and when might it endanger

¹E.g. Keohane 1984; Mitchell 1994; Finnemore and Sikkink 1998. We discuss exceptions noting potential downsides of monitoring subsequently.

²These arguments have strong micro-foundations outside of international relations as well, as demonstrated by studies of voter turnout and legislative responsiveness that find a positive link between publicity and compliance. See Gerber, Green and Larimer (2010); Grose (2014).

³See Goffman (1963); Simmel (1950).

⁴See Groeber and Rauhut (2010).

them? Answering this question requires first identifying the mechanisms through which the revelation of noncompliance affects regime health. Second, how do rule enforcers react to noncompliance in light of these concerns? Well-informed states that detect non-compliance can influence whether the international community learns about deviant behavior. Such states should strategically manipulate the provision of information about violations of international laws in light of the likely impact of publicity.

This article develops and tests a theory that answers these questions, arguing that while the conventional wisdom often holds, it breaks down under key circumstances that are prevalent in international settings. We develop two mechanisms by which exposing rule violations endangers norms and formalized legal regimes: 1) when a state learns of high levels of non-compliance in the international community, the perceived social opprobrium from that state violating the norm is reduced (the pessimism mechanism), and; 2) when a state learns of specific instances of non-compliance that may pose a direct threat to the state's security, it may seek to defend itself (the threat mechanism). Next we analyze how these mechanisms inform the strategic behavior of a well-informed state with enforcement capabilities, modeling the conditions under which such a state intentionally hides another state's rule violations to protect the regime. When the well-informed state finds it difficult to reverse a case of non-compliance, publicity can encourage additional instances of rule abandonment, leading regime advocates to strategically withhold information to perpetuate the practical and legal ambiguity about a given infraction. Otherwise, such a state will publicize non-compliance in line with with the conventional view.

We evaluate the theory's observable implications in the nuclear non-proliferation setting, focusing on whether decision-makers in the regime's strongest advocate, the United States, intuitively grasped the appeals and dangers of revealing violations. Drawing on recently declassified internal documents, we find that U.S. leaders strategically obfuscated violations of the nuclear regime when they believed that a state's nuclear progress was irreversible and would lead to other states' noncompliance. Otherwise, U.S. leaders shared their information

with other states to reassure such states and to organize punishment of the violator, mirroring the conventional wisdom. We also discuss how the nuclear domain illustrates potential downsides of this pattern of behavior for the regime as a whole: high rates of concealment can undermine confidence in the enforcement of the regime.

The article makes two primary contributions. Within the nuclear context, it contributes to research on nuclear proliferation and the non-proliferation regime. Our focus on how strategic actors react to nuclear proliferation allows us to shed light on an empirical puzzle: Why would a regime advocate withhold information about another state's nuclear program, especially given extant theory about the benefits of revelation? While obfuscating a state's own nuclear ambitions is sensible, the strategic purpose of hiding other states' programs is less clear. Beyond the nuclear realm, the article re-examines and revises the common assumption of scholarship on both international norms and international organizations that knowledge improves compliance with rules and norms. We combine game theoretic tools, social theoretic insights from outside of political science, and archival documentary evidence to show that this view is incomplete. Under some conditions, shining a spotlight on rule violations increases the stress on a regime, resulting in the strategic withholding of intelligence. By addressing these large theoretical debates, our findings also speak to treaty violations and enforcement efforts in other arenas including ceasefire agreements, global trade rules, and environmental accords.

The Spotlight's Benefits

A common theme of studies of both norms and international regimes is that widely shared knowledge about non-compliance helps to maintain a rule-based international order. A monitor's standard role is to facilitate cooperation when states mistrust each other, which occurs when they remain uncertain about whether their partner prefers to respond to cooperation with cooperation or defection (Gambetta, 1988; Kydd, 2006). A monitor can

allow cooperation to emerge when both parties are too mistrustful to do so otherwise by reassuring each that the other side wants to cooperate (Kydd, 2006, 2005). A variety of studies echo this positive view of monitoring; for example constructivist models of norm evolution argue that drawing attention to norm-inconsistent behavior can stimulate domestic and international pressure and sanctions, which can force deviant states to enter or rejoin normative regimes.⁵ Recent applied studies have systematically assessed this intuition by analyzing how publicity campaigns impact compliance with international human rights norms,⁶ typically finding that condemnation motivates the target state to comply.⁷

Also germane to our theory is the larger literature on cooperation and international institutions. Beginning with Keohane (1984), rational institutionalists have argued that cooperation is often difficult because states fear being suckered into complying while their partner violates the agreement. International institutions and other monitors, however, can facilitate cooperation by easing access to information about states' adherence to the rules. This can reassure states that they will not be taken advantage of because they will learn of defections.⁸ By providing such information, IOs can encourage reciprocity, solve political hold-up problems, allow states to develop reputations for compliance, and provide punishments for defection.⁹ While the degree of centralized monitoring varies,¹⁰ a common assumption is that exposing non-compliance strengthens regimes.

⁵See Finnemore and Sikkink (1998); Risse-Kappen, Ropp and Sikkink (1999); Sikkink (2002). For exceptions that note that public shaming can provoke a domestic backlash or articulation of a counter-norm, see Risse-Kappen, Ropp and Sikkink (1999, Chapter 4), Bailey (2008).

⁶See Barry, Chad Clay and Flynn (2013); Murdie and Davis (2012).

⁷Though see Hafner-Burton (2008). Factors that erode norm health have received less attention than the drivers of norm emergence, though see Panke and Petersohn (2011); Bailey (2008). We follow the widely used definitions of norms, regimes, and laws. Norms are "standards of appropriate behavior for actors with a given identity" and can be formalized as international law via an explicit agreement. See Finnemore and Sikkink (1998, 891). Regimes are a larger conceptual construct – "implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations." See Krasner (1982, 2). We refer to rules and regimes interchangeably because our claims are relevant to both formalized international legal rules and informal international norms. However, see Buzas (Forthcoming) for the argument that norms and laws can differ and that leaders can exploit these differences.

⁸See Lindley (2004, 2007). While our focus is on information provision about compliance, institutions may perform other functions such as the clarification of what constitutes compliance.

⁹See Keohane (1984); Milgrom, North et al. (1990); Carnegie (2015, 2014).

¹⁰See Koremenos, Lipson and Snidal (2001); Dai (2007).

The Spotlight's Dangers

Despite the widespread positive view of transparent monitoring, a countercurrent of research on the possible dangers of information revelation in global governance hints at a more complex story. For example, some studies suggest that greater domestic institutional transparency provides information that sharpens value conflicts among groups, empowers dangerous non-governmental actors, and breeds misperception of intentions during crises.¹¹ Others highlight the downsides of revealing diplomatic negotiations regarding international agreements, a step prior to the compliance stage on which we focus.¹² Most relevant to our argument is Lindley's finding that information gleaned from institutionalized monitoring can be counterproductive because it can facilitate coercive diplomacy.¹³

We build on these ideas by arguing that when states are willing to cooperate with each other without additional information about each others' willingness to respond to cooperation with more cooperation, monitoring can actually *prevent* cooperation by publicizing defections, leading the other party to defect as well. As mentioned previously, this can occur through the pessimism and threat mechanisms, where the first is triggered when high levels of noncompliance reduce the perceived social opprobrium from violating the norm, and the second is activated when specific violations that pose a direct threat lead a state to defend itself by defecting. To make our argument, we adapt related theoretical and empirical findings from outside of political science to the context of states in an anarchic international system.

The first mechanism builds from mid-century social theoretic analyses of privacy and deviance, which argue that ignorance and concealment can create the appearance that a normative consensus exists when in fact it may not. Actors may then comply due to a mistaken belief that if they do not, they will face ridicule or stigma. Hiding transgressions

¹¹See Finel and Lord (1999); Florini (2002); Lord (2012).

¹²See Hafner-Burton, Steinert-Threlkeld and Victor (2016); Stasavage (2004). Similarly Daxecker (2012) shows that revealing electoral fraud can spark violence. Other studies demonstrate that states strategically limit information; for example, Carson (2016) demonstrates that states sometimes collude to minimize the visibility of provocative war-related events and Marquardt (2007) argues that monitoring regimes can be used for strategic rather than cooperative gains.

¹³See Lindley (2007, 109-114).

is thus not only attractive for the rule violators, but is also “an important functional requirement for the effective operation of social structure”¹⁴ because it “reinforc[es] the assumption that deviation from the rules is statistically insignificant.”¹⁵ Influential sociologists like Erving Goffman, Georg Simmel, and others thus noted the stabilizing effects of masking deviance,¹⁶ as the higher rates of perceived compliance strengthen the social bonds and shared commitment to the rules.¹⁷ In contrast, if actors discovered that many others violated the rules, they would conclude that following the norm was less highly valued than they had previously thought, and that straying from it would trigger less severe reputational consequences. This theme also appears in more recent work, as in diverse settings from juvenile gangs to tax compliance, sociologists and economists have found that hard-to-observe transgressions lead actors to underestimate the rate at which such violations occur, reinforcing the economic incentives and perceived social pressures for others to remain in compliance with the rules.¹⁸

These studies point to an overlooked effect of publicizing rule violations in the *international* realm: doing so can eliminate ignorance and uncertainty about defections, relaxing the strategic incentives and normative pressure to remain within a regime. As states become aware of other states’ violations – regardless of the direct threat that the violations pose – the behavioral and ideational consensus in the international community may weaken, which can alter states’ assessments of the benefits associated with their own cooperation. States may realize that their reputations will not be tarnished from breaking the rules to the degree that they once believed. The increasing pessimism about the overall rate of compliance can thus lead to second-order or reactive violations.¹⁹

¹⁴See Merton (1968, 375).

¹⁵See Moore and Tumin (1949, 791); see also Kitts (2003, 226).

¹⁶See Goffman (1963); Simmel (1950); Schwartz (1968).

¹⁷ Moore and Tumin (1949, 791) concludes, “the normative system...may suffer more from knowledge of violations than from the violations themselves.” See also Schimmelfennig (2002).

¹⁸See Bicchieri and Fukui (1999); Kitts (2003); Groeber and Rauhut (2010). See Scott (1990, 203-16) for a similar argument about sexual norms within the Catholic church. The visibility of rule violations depends on the social structure’s features (Coser, 1961) as well as the rule breaker’s tactics (Goffman, 1963).

¹⁹The extent to which knowledge of a single violation creates pessimism likely depends on several factors including the norm stage and a state’s prior beliefs. Regimes and norms may be most fragile early in their

A second and distinct effect of publicizing rule violations – which is especially relevant to the anarchic international system – is a sharpening of the threat that these violations pose to other states. This scenario is most plausible in regimes that govern interdependent state activities where economic, military, or other advantages are generated by defections from norms.²⁰ Because a rule violation can create negative consequences for other states, the publicity of noncompliance can alert states to the threat and thereby lead to reactive violations. Unlike the pessimism mechanism, which results when any state violates a given norm, this mechanism comes into play when a violation poses a direct danger. For example, in the nuclear realm, the acquisition of weapons by nearby or enemy states can have particularly severe consequences.²¹ These second-order rule violations, in turn, can accumulate and generate a wider unraveling of participation in a regime.²²

We argue that many states recognize these dangers of transparent monitoring, and thus often seek to limit knowledge of violations.²³ When an enforcer is not “exploitation averse” (Kydd, 2006) – that is, when it prefers a single defection to mutual defection – it has an incentive to hide the original defection to prevent additional violations from occurring. Our theory thus expects states with unique information about violations which support the goals of the regime to carefully manage the publicity of violations when the dangers we highlight are present.

life-cycles (Finnemore and Sikkink, 1998) and, as we discuss subsequently, if states already assume that rule violations are common then publicizing them will have no meaningful effect. Further, international politics may be more intimate than politics in other settings due to the relatively small number of states, which can magnify the impact of non-compliance.

²⁰Examples include regimes for the use of military force, arms control and ceasefire agreements, trade regulations, and access to natural resources. In contrast, violations of human rights agreements often pose little threat to other states. On this distinction, see Simmons (2010).

²¹On the threat posed by defection from mutual restraint in security settings, see Legro (1995, 175-200). Legro also notes that states may dampen the publicity of their rival’s noncompliance to minimize tit-for-tat violations.

²²See Kahler (2000, 679). A similar dynamic is noted outside of the international context in Bicchieri and Fukui (1999); Groeber and Rauhut (2010). While the pessimism mechanism focuses on perceptions of the overall level of noncompliance, the threat mechanism highlights violations made in response to specific instances of noncompliance. Threat concerns are less relevant in settings like college campuses or tax compliance, where individual defections do not directly endanger other community members, but are common in anarchic settings such as international politics.

²³Lindley notes the promise of analyzing strategic deception in light of institutionalized transparency. See Lindley (2007, 109-14).

Signaling and Strategic Obfuscation

We develop a formal model in order to generate testable empirical hypotheses about how enforcers strategically manage information in light of the countervailing effects of publicity that we identify. The game is referenced, but the formalization appears in the supplemental appendix due to space constraints. The central actors are three states: a regime monitor and enforcer (E), state A , and state B , where B represents a member of the international community. Prior to the start of the game, neither A nor B have broken the law. The game begins with Nature randomly drawing A 's benefit from a violation, so that A derives a large benefit (\bar{b}) with probability $1 - p$ and a small benefit (\underline{b}) with probability p , where $\bar{b} > \underline{b}$.²⁴ A then chooses whether to violate the rules (v_A) or not ($\neg v_A$). B does not observe A 's action while E does, due to E 's informational advantage.

If A violates the rules, Nature determines E 's capacity to persuade A to come into compliance. E is able to inflict a large punishment \bar{e} with probability q , or a small punishment \underline{e} with probability $1 - q$, where $\bar{e} > \underline{e}$.²⁵ When E has more leverage over A and can punish A more severely by inflicting \bar{e} , it is more likely to persuade A to come into compliance. E observes A 's type and whether it violates, along with its own type. If a violation occurred, E decides whether to reveal A 's violation (r) or to obscure its information (o). If E publicizes the violation, A decides whether to come back into compliance with the law or to continue to violate it. If A continues to break the rules, it is punished, while if A comes into compliance, it is forgiven. Further, if E reveals the violation, B learns A 's type and actions, whereas if A either does not break the law or does so but the violation is concealed by E , B does not observe A 's decision. Finally, B decides whether to violate the rules (v_B) or not ($\neg v_B$).

A 's payoff is made up of four components. First, if A violates and E hides it, or if A violates at both of its moves, the state receives a net domestic benefit $b_A = \{\bar{b}, \underline{b}\}$. Next, if B violates the rules, A receives utility from doing so as well due to its resulting enhanced

²⁴To minimize notation, \bar{b} and \underline{b} also denote A 's type.

²⁵To minimize notation, \bar{e} and \underline{e} also denote E 's type.

capacity to defend itself against B , denoted d , and vice versa. If E publicizes A 's violation and A does not come into compliance, A incurs a punishment of $e = \{\bar{e}, \underline{e}\}$, which captures the resulting economic sanctions or loss of reputation. If A rolls its violation back, however, it escapes punishment. Finally, A cares about the total number of states that comply with the agreement, represented by $\Omega_A(2 - 1_{\{v_A\}} - 1_{\{v_B\}})$. This specification is in line with the discussion above, as the idea that actors gain more from obeying the law when others do also is central to this literature. Since this simple model consists of two potential violators, their utility from following the norm in effect depends on whether A and B themselves follow it.

B 's payoff depends on three items: it receives domestic costs and benefits from a violation that are summarized by the parameter b ; it obtains d if both A and B violate the agreement since B can defend itself; and it derives greater utility the more states comply with the norm $\Omega_B(2 - 1_{\{v_A\}} - 1_{\{v_B\}})$. Finally, E 's utility is made up of two components: it cares about compliance with the law since E must enforce it, and it incurs a small cost s from the strategic obfuscation of a violation. The enforcer's utility function is thus $\pi_E(v_A, v_B, o) = \Theta_E(2 - 1_{\{v_A\}} - 1_{\{v_B\}}) - s1_{\{o\}}$.²⁶ This discussion is summarized in the game tree and the players' strategies are laid out fully in the supplemental appendix. We focus on pure strategy weak perfect Bayesian equilibria and solve the model through backward induction.

²⁶ $1_{\{o\}} = 1$ if E conceals information; otherwise $1_{\{o\}} = 0$. Similarly, $1_{\{v_i\}} = 1$ iff player i violates the agreement.

Table of Parameters

Term	Description	Range
$\Omega_i(x)$	Normative utility pertaining to health of regime	$\in \mathbb{R}^+$
$\Theta_E(x)$	Normative utility of preserving nonproliferation regime	$\in \mathbb{R}^+$
d_i	Player i 's security through matched capabilities	$\in \mathbb{R}^+$
b_i	Net benefit to player i of possessing nuclear weapons	$\in \mathbb{R}^+$
e	Cost of incurring sanctions	$\in \mathbb{R}^+$
s	Cost of obfuscating evidence	$\in \mathbb{R}^+$

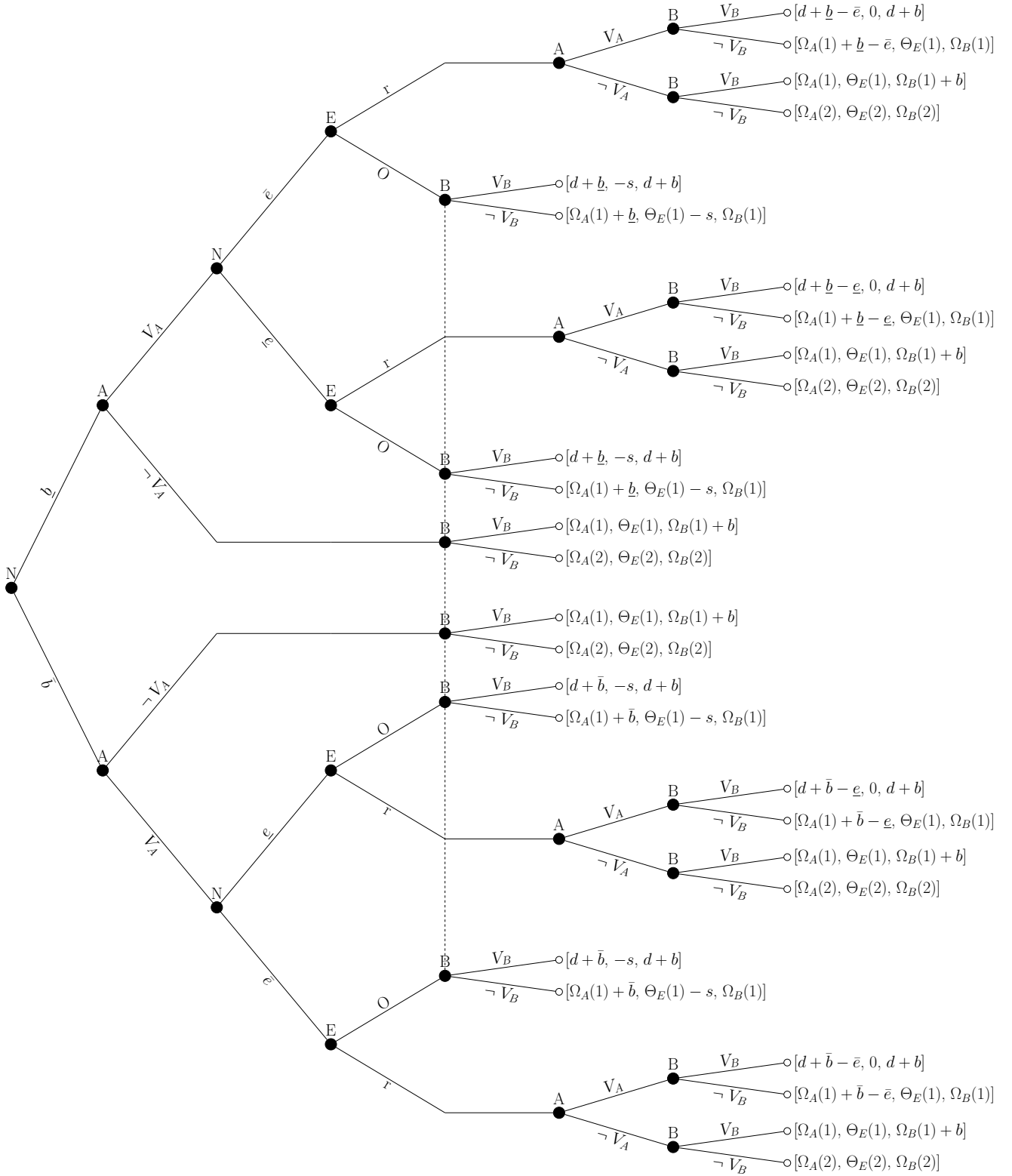
Assumptions and Discussion

We make several parametric assumptions. First, we assume that $\bar{b} - \bar{e} > \underline{b} - \underline{e}$, so that the difference in the potential domestic benefits associated with having nuclear weapons is greater than the difference between the two potential severities of E 's punishment. Second, we assume that $\underline{b} > \Omega_A(1)$, where \underline{b} is A 's payoff if only A has nuclear weapons while $\Omega_A(1)$ is A 's payoff if only B has nuclear weapons. We thus assume that if only one country possesses nuclear weapons, A strictly prefers that A has them. Third, we assume that $\Omega_i(\cdot)$ is linearly additive, which ensures that a state's willingness to comply does not depend on the rate of non-compliance.²⁷

We also make several simplifying modeling choices. First, we solve the game under imperfect information. Otherwise, if A 's type were common knowledge, E 's role would be minimal since B would know whether A violated the rules with certainty. Uncertainty about whether A desires cooperation – or whether B can “trust” A – is thus required for E to

²⁷This is because $\Omega_i(2) - \Omega_i(1) = \Omega_i(1) - \Omega_i(0)$, which indicates that i 's additional benefit from complying does not depend on the number of other countries that have already complied. To simplify the discussion, we also do not consider equilibria under knife-edge conditions in which B is indifferent between complying with the rules or violating them after A 's second move. Similarly, we assume that A strictly prefers either violating the rules or complying at its second move. We also assume that if A 's payoff from violating at its first move and complying at its second move is the same as its payoff from complying from the beginning, A complies. Since states are rarely indifferent between two actions in reality, this is not a strong assumption.

Figure 1: Game Tree



influence B 's response. Moreover, we could instead assume that B obtains some information, or that E has imperfect information; the key assumption is that E possesses an informational advantage over B .

Second, we include only one B in the model, though typically many states are affected by A 's decision in reality. A more complicated model could include additional B s, though the intuition would remain the same. In such a model, E would not need to possess an informational advantage over all such states, as E faces incentives to hide a given violation as long as doing so would impact the information received by at least one B .

Third, we conceptualize E as a state even though, as noted above, international organizations and non-governmental organizations also frequently possess information about compliance (Mitchell, 1994; Dai, 2007; Lindley, 2007). However, states have the capacity for *strategic* monitoring, while other actors often lack private information about compliance and thus cannot withhold it selectively.²⁸ Finally, we assume that evidence is necessary to change B 's beliefs, so that E cannot alter its views by simply asserting otherwise. In effect, this means that E cannot lie, though this could be relaxed without changing the basic results.

Finally, E cannot publicize a violation if one did not occur. Since E must present evidence of a violation, we think it is reasonable to assume that E cannot lie, though this could be relaxed.

Analysis

While the full proof of the model appears in the supplemental appendix, we describe E 's incentives and actions here. Specifically, consider E and B 's responses to two scenarios: first, when A complies following E 's threat to punish it, and second, when it does not. In the first case, E publicizes the violation. Then, B becomes aware that A is no longer breaking the law, and therefore does not need to do so in self-defense. Further, A 's capitulation preserves the norm, so B continues to follow it since everyone else is doing so. Publicizing A 's violation

²⁸The contrast with a non-strategic monitor is addressed in the Discussion section.

thus enhances the regime's health.

In the second case, publicity may still represent a rational response for E . The decision to hide A 's activity may be exposed later, risking international and domestic criticism. However, if E publicizes the violation and A does not roll its program back, B may respond by violating the rules for two reasons. First, consistent with our threat mechanism described previously, B may require self-defense capabilities if A 's violation poses a direct threat. Second, consistent with the pessimism mechanism, B may view the overall rate of compliance more negatively, and learn that the reputational consequences of violating the norm are not as severe as it thought. Whether this mechanism comes into play depends on the strength of the regime; if many other states follow the rules, the effect of A 's violation is smaller than if few other states follow them. Thus, through both the threat and pessimism mechanisms, knowledge of a violation can weaken B 's incentives to obey the rules.

By contrast, if E obfuscates the violation, B cannot detect it; it only knows that no violation was publicized. It thus believes that an infraction took place with some probability. Since A 's transgression remains hidden, B is left with the impression of a greater consensus than if B knew that a violation occurred, creating stronger pressure to conform. Further, B 's environment may be less threatening, since it is only *possible* that B faces a threat from A , rather than certain. The costs of violating the rules may not be worth addressing this potential threat, while they may be justified in the face of a known one.

When E observes a violation, then, its best response depends on whether it can reverse A 's decision and the likelihood that B will transgress following publicity. If B 's self-defense needs are low and the regime is strong, such that B will not break the law regardless of A 's actions, E always publicizes A 's violation. Or, if E can reverse A 's noncompliant behavior by exposing its violation, it will do so. However, if B would react to A 's deviance by violating the rules itself, and E cannot reverse A 's transgression, E hides the violation to avoid triggering the pessimism and threat mechanisms that might otherwise endanger the international regime. This discussion is captured formally by the following proposition and,

under the assumptions listed previously, is summarized in Table 1:

Proposition 1. *Assume $d + b > \Omega_B(1) > b$, $d + \bar{b} - \underline{e} > \Omega_A(2) > d + \underline{b} - \underline{e}$ and $p[\Omega_B(1) - b] + (1 - p)(1 - q)[\Omega_B(1) - d - b] > 0$.*

Under the assumptions above, E 's equilibrium strategy is to hide A 's violation if: 1) A will not come into compliance and 2) B will not violate if A 's violation is hidden. Otherwise, E publicizes the violation.

Table 1: Choice of Strategic Obfuscation versus Publication

	<i>A</i> Will Comply	<i>A</i> Will Not Comply
Low Risk of <i>B</i> 's Violation	Publicize	Publicize
High Risk of <i>B</i> 's Violation	Publicize	Strategic Obfuscation

Further, while we have focused on the enforcer's incentives, the model is rich and provides many insights into issues such as overall regime stability. For example, the model also indicates that the *possibility* of obfuscation can erode the regime because B suspects that unobserved violations could be occurring but are hidden. Reliance on a monitor with less discretion, such as an IO, may help to mitigate this issue under some conditions. While we focus our empirical examination on E 's strategic behavior, we address many of these additional implications in the discussion section.

The Nuclear Non-Proliferation Regime

We examine our model's predictions empirically by focusing on a particular international regime to make our problem tractable: the prohibition on the use of nuclear technology for developing nuclear weapons arsenals. Nuclear proliferation is a rich empirical setting in which to test our claims, as it features powerful states – the U.S. in particular – that sought to create and enforce a prominent and substantively important international regime affecting many countries over a long period of time. Moreover, it contains numerous cases in which the

United States possessed unique, private information about other states' violations, giving it the opportunity to strategically choose whether to reveal this knowledge. Finally, the nuclear domain hosts variation in our critical independent variables and includes a corpus of recently declassified archival materials that permits the examination of the motivations behind these decisions.

The nonproliferation regime was formalized in 1968 in a binding multilateral agreement known as the Non-Proliferation Treaty (NPT). Since the norm specifically regulates military uses of nuclear technology, we define a rule violation as the pursuit of nuclear facilities and nuclear weapons-related research and development by any state besides the five classified as nuclear weapons states in the NPT (the U.S., Russia, the UK, France, and China.) Broad agreement exists that non-proliferation has become a strong norm,²⁹ and while the NPT did not create the norm, it “codified the sentiment that states should not seek to acquire nuclear weapons.”³⁰ Thus, though not all states signed the NPT, all were expected to abide by the rules of the nonproliferation regime more broadly.³¹ Indeed, many scholars argue that normative and legal penalties for pursuing nuclear weapons constrain both their acquisition and use and that “violating these international norms will result in severe constraints to *any* state, such as political, economic and possibly even military reactions.”³² This broad prohibition was reflected in the 1974 Zangger Committee’s trigger list, under which members noted the importance of “the application of safeguards in non-nuclear-weapon states not party to the NPT,”³³ as well as in the norm’s enforcement outside of the NPT more generally.³⁴

Monitoring of the norm takes place in part through the International Atomic Energy Agency (IAEA), which collects reports submitted by individual member governments, inspects their declared facilities, and conducts special inspections in response to particularly suspicious

²⁹See Hymans and Herrera (2011, 4) and Rublee (2009).

³⁰See Rublee (2009, 39).

³¹See Hymans and Herrera (2011, 4).

³²See van der Meer (2011, 39). See also Rublee (2009); Coe and Vaynman (2015); Fuhrmann and Lupu (2016).

³³See INFCIRC/209, September 3, 1974. Appendix, Memorandum A, paragraph 3.

³⁴See Rublee (2009, 39).

member activities. In practice, however, its activities are limited, particularly during the period we analyze, as “IAEA safeguards inspections had been quite pro forma. IAEA inspectors only checked on nuclear facilities that states chose to declare; they typically did so in a ‘cursory’ manner, and up to 1991 they had never undertaken even a single ‘special inspection’ of suspect facilities.....Essentially, the regime was strong enough only to ensure that the IAEA would become aware of a ‘smash and grab’ operation on declared nuclear fuel within six months of its occurrence.”³⁵ As a result, effective monitoring typically depends on intelligence collected by member states.³⁶ We focus on the U.S. in particular because it devotes substantial resources to tracking nuclear programs, possesses superior intelligence, and exercises greater discretion about whether to publicize that information.³⁷

Empirical Analysis

We test an implication of our argument that is normally difficult to observe: whether a well-informed state that both supports and helps to enforce the regime (E) manipulates its private information consistent with the conditions that we derive in the model. The model suggests that when B mistrusts A and has an incentive to arm if A does, it should develop nuclear weapons since it assumes that A likely violated the norm. However, if B has relatively high trust in A and only seeks weapons if A has them, it should not pursue them in the absence of additional information. The key implication is that if an enforcer publicizes A 's decision to proliferate and cannot convince A to reverse its program, B will seek its own arsenal when it otherwise would not have. In such a scenario, the enforcer will obfuscate A 's activities to prevent B 's reactive defection.³⁸ Otherwise, we expect the enforcer to disclose information in line with the conventional wisdom.

³⁵See Hymans (2012, 14).

³⁶See Fuhrmann (2012, 220).

³⁷The U.S.'s decision to release such intelligence necessarily raises the possibility of sanctions, as codified by the 1976 Symington and Glenn amendments to the 1961 Foreign Assistance Act and the 1978 Nuclear Non-Proliferation Act. See Miller (2013).

³⁸More precisely, E should hide A 's activities as long as E favors a single defection over violations by both states.

Our empirical strategy draws heavily on declassified American intelligence and related documents. This primary evidence helps us to accomplish three goals: we identify cases in which a state's intelligence was withheld despite the difficulty in observing such cases using traditional open sources; we test the theory by evaluating the conditions under which intelligence was hidden; and we test our theoretical mechanisms by assessing leaders' intentions and beliefs about the consequences of their actions.³⁹ The United States was a key regime advocate throughout the period we analyze and often had private information about other states' nuclear activities that allowed it to make strategic decisions about how to handle violations of the non-proliferation norm.⁴⁰ Indeed, in each case we analyze, the U.S. had an informational advantage over both the IAEA and most other states, though it did not necessarily possess an informational monopoly, which is not necessary for the enforcer to hold and exercise such an advantage.⁴¹

Our specific research question narrows the relevant universe of cases to: (1) states that pursued a military nuclear capability; (2) states with clandestine programs that were active after the emergence and formalization of the norm against proliferation; and, (3) states that had not overtly demonstrated a nuclear weapons capability through a test or a political announcement.⁴² These criteria include the nuclear programs of states outside of the NPT,

³⁹On the value of archival and similar transcript evidence for testing models' mechanisms, see Lorentzen, Fravel and Paine (2016).

⁴⁰On U.S. information advantages and interests in regime protection, see Monteiro and Debs (2014). Lindley suggests in a different empirical context that states can use deception to avoid publicity's negative effects on regimes. See Lindley (2007).

⁴¹On the special importance of the U.S. to the nonproliferation norm, see Lantis (2011). Others, such as the Soviets, also played a role in monitoring and enforcement; an extension of the model could explore tacit or explicit collaboration, though the basic conclusions would remain. See Coe and Vaynman (2015). Nuclear capable states other than the U.S. sometimes possessed knowledge of other states' programs as well. Our theory does not require that all potential proliferators are completely uninformed. Rather, it requires meaningful uncertainty about the program's existence or extent in relevant heads of state or domestic populations, which means *E*'s (i.e. the United States) exposure could alter decisions.

⁴²We define "pursuit" as "a political decision by cabinet-level officials, movement toward weaponization, or development of single-use, dedicated technology." See Singh and Way (2004, 866). "Clandestine" refers to programs that were not established facts in the international community, such that other potential proliferators were uncertain about their status. The second criterion excludes cases prior to 1967 because the regime's emergence coincided with its formalization in the NPT's negotiation and signature. Regarding the third criterion, a test whose existence and sponsorship is not acknowledged is not considered an overt demonstration.

for both empirical and theoretical reasons. Empirically, the prohibition on new arsenals since 1967 has been treated as universal (as we discussed previously) and, as our case evidence demonstrates, key states perceived non-members' programs to be central to the fate of the non-proliferation regime. Theoretically, including non-members is important because previous studies of naming-and-shaming have explicitly identified publicity as a useful tool for convincing new states to join the regime. Table 2 lists the resulting universe of cases.⁴³ Because we require access to internal assessments and discussions, we take advantage of the recent release of declassified material on U.S. views of nuclear proliferation trends, supplementing these data with secondary sources where necessary.⁴⁴

Our main independent variables are the perceived likelihood that the proliferator would comply following publicity (i.e. *A*'s reversal), and the perceived risks of second-order proliferation (i.e. *B*'s reaction). The former is coded using U.S. assessments of this probability. Since the U.S. generally believed that compliance was more likely when the U.S. possessed strong unilateral leverage over the country and when a multilateral coalition could be assembled in opposition to the program, we note when either of these factors were present.⁴⁵ In such cases, tactics such as diplomatic pressure and threats of sanctions were frequently effective. However, the primary determinant of how this variable is coded is whether the internal U.S.

⁴³We began with all proliferation cases from Montgomery and Mount (2014) and Singh and Way (2004). However, we exclude cases that did not meet our specific criteria, which include: China (program prior to regime; declared), France (program prior to regime; declared), India post-1998 (declared), North Korea post-2011 (declared), Pakistan post-1998 (declared), Romania (declared), Sweden (program prior to regime), Switzerland (program prior to regime), the U.S. (program prior to regime; declared), Ukraine (declared), the USSR (program prior to regime; declared), and Australia (no active program after 1967). While Australia explored acquiring an indigenous capability after 1967, it did not actively pursue the bomb during this period. See Walsh (1997, 12). We exclude Iran because of its status as an open case. We exclude Yugoslavia due to missing data; since key U.S. documents remain classified, we cannot determine the extent of the U.S.'s knowledge and its policy response. We exclude Syria because the U.S. did not have an information advantage over other states. See Albright and Brannan (2008) and Spector and Cohen (2008).

⁴⁴The National Security Archive, George Washington University, and the Woodrow Wilson Center's Nuclear Proliferation International History Project constituted especially valuable collections.

⁴⁵In general, assembling a large, multilateral coalition was much more feasible after the end of the Cold War and in response to the activities of "pariah" states such as Libya. Further, the U.S. tended to hold greater unilateral leverage when it had more extensive ties with the proliferator in areas including trade, foreign and military aid, and others. Leverage was also typically greater when the proliferator's program was less advanced.

assessments indicate a belief that compliance was likely.⁴⁶

The risk of reactive proliferation is coded in two parts. First, we assess the U.S.'s *belief* that other states would react to a violation by pursuing nuclear weapons and/or hosting an existing nuclear power's nuclear weapons.⁴⁷ Specifically, we code the regional threat as "low" if it was deemed unlikely that other states would proliferate in response, "medium" if one other state might have done so, and "high" if more than one other state was thought to respond by proliferating.⁴⁸ Second, we determine the strength of the regime at the time of the violation, which we simplify by coding three phases following Wan (2014): Phase I includes 1968-1978, which encompasses the date the NPT entered into force through a period of reforms to strengthen the regime that took place in the 1970s.⁴⁹ Phase II includes 1979-1990, a period that featured only minor changes to the regime. Phase III includes 1991 and beyond, during which major reforms were implemented that were catalyzed by the 1991 Gulf War,⁵⁰ and the Cold War's end left the U.S. as the sole superpower, facilitating multilateral pressure on violating states. If neither of these two components are coded as "high," then this variable is coded as "low."

Finally, for our dependent variable – the U.S.'s (i.e. *E*'s) reaction to each violation – we code whether the U.S. chose to publicize or conceal its private assessments of each state's nuclear activities. Publicity occurred when the U.S. shared its private information through bilateral contacts with other governments, international organizations, official public media statements, or authorized leaks by government officials.⁵¹ The U.S. engaged in the strategic

⁴⁶While the assessments were not always correct, our interest is in the *expected* probability of compliance.

⁴⁷The NPT prohibits non-nuclear states from controlling another state's nuclear weapons. Further, doing so is often a short-term solution to a lack of indigenous production and carries similar security risks for neighbors and rivals. See Fuhrmann and Sechser (2014).

⁴⁸On the role of reactive proliferation in U.S. decision-making generally, see Miller (2014).

⁴⁹These included new restrictions on the diffusion of nuclear materials in 1974, the establishment of the Nuclear Suppliers Group which put additional restrictions on nuclear supplies in 1975 and its expansion in 1977, and the initiation of the yearly Safeguards Implementation Reports in 1977. The U.S. Congress then passed the 1978 Nuclear Non-Proliferation Act which increased supply requirements still further. See Wan (2014).

⁵⁰The IAEA's powers increased during this period, culminating in the Additional Protocol in 1997.

⁵¹Private information sharing may not always be observed; however, we are interested in the U.S.'s overall strategy of the publicity or obfuscation of violations, which is reflected in strategy papers and other declassified documents. Further, while most leaks are unauthorized, we only code leaks that are sourced to

obfuscation of another state’s noncompliance when it attempted to minimize the scrutiny of the violation and abstained from sharing private information about the program at any time following a state’s initial violation.⁵²

Table 2: Choice of Strategic Obfuscation versus Publicity

	<i>A</i> Likely to Comply	<i>A</i> Unlikely to Comply
Low Risk of <i>B</i> Violations	Algeria Libya	Brazil Argentina
High Risk of <i>B</i> Violations	North Korea Iraq After 1990 Taiwan South Korea	Israel India Pakistan Iraq Before 1990 South Africa

Note: The table shows which cases featured conditions that should lead *E* to strategically obfuscate (lower right box) or publicize violations (other three boxes).

We analyze each case and organize our empirical analysis according to the four scenarios shown in Table 2. As Table 3 summarizes, we find that the U.S. strategically obfuscated violations in five cases: Israel, Pakistan, India, Iraq (pre-1990), and South Africa. In the remaining examples, the U.S. chose to publicize states’ noncompliance. We analyze the full universe of cases, though due to space constraints, we focus our presentation on exemplar cases from three of the four potential scenarios shown in Table 2 and assess the remainder in the supplemental appendix.⁵³

administration officials (or similar individuals) as instances of intentional publicity of private information.

⁵²Note that obfuscating a program and attempting to privately pressure a state to come into compliance are not mutually exclusive decisions, especially early in the life of a program. States can also still signal in the covert realm. See Carson and Yarhi-Milo (2017). Moreover, once the U.S. sought to mask a state’s activities, the proliferating state could threaten to go public as a bargaining chip. See Rabinowitz (2014).

⁵³We do not present an exemplar case for the upper left box because the combination of independent variables provides an especially strong reason to expect the conventional wisdom to hold and is therefore least interesting for theory testing purposes.

Israel (Proliferator Unlikely to Comply and High Risk of Reactive Proliferation)

When the threat of reactive proliferation is high and the violator is unlikely to comply following U.S. efforts to compel it to do so, our theory expects the U.S. to strategically obfuscate the infraction since publicizing it would sharpen the threat posed to regional rivals and weaken other states' confidence in the norm. We find that these conditions held in five cases and that the U.S. chose conceal the state's activities each. We focus on Israel here and analyze the others in the supplemental appendix.

The U.S.'s confidence that Israel was clandestinely progressing towards a nuclear arsenal grew in a political climate marked by strong concerns about larger proliferation trends.⁵⁴ This period marked the earliest, most fragile stage of the norm; since relatively few states adhered to it, a single deviation could have revealed the norm's weakness and shown states that the consequences from violating it were less severe than they previously thought. As early as 1961 the U.S. had concluded that Israel would obtain plutonium by 1965-6 and would have a weapon by 1966-7. By 1969, the U.S. had determined that Israel possessed a weapon.⁵⁵

The U.S. was convinced that Israel was highly unlikely to relinquish its program despite the U.S.'s efforts to convince it to do so, such as threatening to curtail the U.S.'s support for Israel and offering security guarantees, military assistance, and foreign aid.⁵⁶ U.S. intelligence officials believed that even regional diplomatic solutions like a Middle East peace agreement would not change Israel's course; moreover, open pressure or a multilateral coalition was seen as futile.⁵⁷ Indeed, Henry Kissinger concluded that it was "impossible to deprive Israel of the option to put together an operational nuclear capacity" because it would be "impossible politically for an Israeli Prime Minister to give up completely an advantage deemed vital and

⁵⁴See Smith, Hendrick. "U.S. Assumes the Israelis Have A-Bomb or its Parts." *The New York Times*. July 18, 1970.

⁵⁵See Montgomery and Mount (2014).

⁵⁶See Rabinowitz and Miller (2015) and Richelson (2007, 253-260).

⁵⁷See Cohen (2013, 9).

achieved at considerable cost...[the U.S.] has no way of forcing Israel to destroy any nuclear devices or components it may now have."⁵⁸

Thus, while the U.S. had kept estimates of Israel's nuclear program secret since 1960,⁵⁹ a September 1969 visit by Israeli Prime Minister Golda Meir made this secrecy permanent in an agreement to hide Israel's nuclear status.⁶⁰ Evidence for both the pessimism and threat mechanisms is showcased during debates surrounding this meeting. Obfuscation advocates argued that avoiding the publicity of Israel's nuclear arsenal would reduce the chances that surrounding states that were hostile towards Israel would reject the NPT to seek their own nuclear capabilities. Cohen notes, "The most serious concern...was that the Israeli nuclear project would lead to a dangerous regional nuclear arms race."⁶¹ U.S. leaders feared that Syria and Egypt might seek a Soviet nuclear security guarantee due to the direct threat that Israel's activities posed, as Kissinger's top advisor on the Middle East wrote, "Until the Arabs could develop nuclear weapons, they might seek, and get, Soviet agreement to extend a 'nuclear umbrella' to the Arab states."⁶² Publicity would exacerbate this because the Soviet Union might find it harder to decline such a request once Israel's arsenal became an established fact and, over time, other Arab states could seek their own nuclear capabilities.⁶³ Kennedy also expressed concerns that Egypt would respond by developing a nuclear weapon, and the U.S. worried about the possibility of a nuclear arms race among Arab states more generally.⁶⁴

The U.S. also worried about the reaction of states that were further afield, since they might believe that the emerging non-proliferation norm had weakened and would likely feel less pressure to adhere to it themselves. For instance, an issue paper widely circulated within the Nixon Administration claimed that Israel's nuclear arsenal could jeopardize the

⁵⁸Cited in Cohen (2013, 17).

⁵⁹See (Montgomery and Mount, 2014, 14).

⁶⁰See Cohen (2013, 2).

⁶¹See Cohen (2013, 50).

⁶²See Sisco (1969, 3).

⁶³See National Security Council (1969).

⁶⁴See Rabinowitz and Miller (2015).

momentum towards global acceptance of the treaty. Similarly, a State Department Policy Planning staff memo argued, "A known Israel nuclear capability would have far-reaching unfavorable effects," first among them that "[o]ther nuclear capable countries would be more likely to opt in favor of nuclear weapons for themselves and...would be less likely to sign the NPT."⁶⁵ Indeed, internal documents show that leaders outside of the Middle East considered reactive proliferation; for example, the West German chancellor cites the possibility of Israel's proliferation as a key consideration in Germany's nuclear pursuits.⁶⁶ The U.S. intelligence community, too, argued that an awareness of Israel's activities would influence the non-proliferation norm's fate due to the resulting changes in general perceptions of proliferation trends.⁶⁷ The New York Times reported, "American officials are particularly worried about the pressures that [Israel's possession of the bomb] may put on such countries as India, Japan and Sweden, which are believed to have the technical capacities for producing atomic arms, but are not believed to have done so."⁶⁸

The U.S. thus created "circumstances in which Israel would not 'announce' a nuclear capability and would maintain secrecy" through "private, bilateral assurances that Israel would not deploy or test nuclear explosive devices."⁶⁹ Indeed, "Nixon probably guaranteed that the United States would not pressure Israel to roll back its program and join the NPT if it kept a low profile; this entailed a non-testing and non-declaring guarantee."⁷⁰ As Kissinger succinctly stated in the summer of 1969, "Public knowledge is almost as dangerous as possession itself."⁷¹ A subsequent memo from Kissinger reminded Nixon that during his visit to Israel he had "emphasized [to Meir] that our primary concern was that the Israelis

⁶⁵See Owen (1969, 2).

⁶⁶See Gavin (2006, 127).

⁶⁷See multiple references to "global permissiveness" and the "general course of proliferation" in the analysis of considerations driving proliferation in several states in National Intelligence Council (1974).

⁶⁸See Smith, Hendrick. U.S. Assumes the Israelis Have A-Bomb or its Parts." *The New York Times*. July 18, 1970.

⁶⁹See Davies (1969, 2).

⁷⁰See Rabinowitz and Miller (2015, 60). Israel's decision to develop and test nuclear weapons was independent of the U.S.'s decision to strategically obfuscate its program. Israel believed that its test would remain undetected, not that the U.S. would hide it. See Rabinowitz (2014, 96).

⁷¹See Kissinger (1969b, 2).

make no visible introduction of nuclear weapons or undertake a nuclear test program."⁷² While other states might suspect that Israel had nuclear weapons, the U.S. hoped that enough doubt would remain to dissuade reactive proliferation.⁷³ Kissinger argued,

Our interest is in preventing Israel's possession of nuclear weapons. But since we cannot—and may not want to try—control the state of Israel's nuclear program and since Israel may already have nuclear weapons, the one objective we might achieve is to persuade them to keep what they have secret. This would meet our objective because the international implications of an Israeli program are not triggered until it becomes public knowledge...[O]ur aim is to keep Israel's possession of nuclear weapons from becoming public knowledge and to do what we can to stop further proliferation (Cohen, 2013, 18).

Although many leaders suspected that Israel intended to acquire a weapon – Egypt's Nasser had publicly warned the Arab world about a possible future Israeli arsenal in 1960 – the U.S. thought that hiding the weapons could “keep Israeli possession from becoming an established international fact.”⁷⁴ While information about the arsenal was leaked to the New York Times in 1970, we find no evidence in the sourcing of this story or histories of this period that this was an authorized leak used to place pressure on Israel. Since the U.S. *intended* to keep the secret, this case is coded as an example of concealing the violation. Moreover, the U.S. assumed that some leaks would take place, as “[n]ews about Israeli progress could continue to seep out...until it is generally taken for granted that Israel has this capability”⁷⁵ but the U.S. administration hoped that “‘other nations might be kept in line,’ and nuclear weapons acquisition might be delayed ‘at least 5-10 years.’”⁷⁶

⁷²See Kissinger (1969a, 1).

⁷³The U.S. had an intelligence advantage over most other states, so it possessed the ability to meaningfully influence what other states knew (Bollfrass, 2017).

⁷⁴See (Cohen, 2013, 14). A possible alternative argument is that Nixon initially weakly supported the NPT and thus the obfuscation of the program represented a failure to uphold it. However, Nixon's support increased over time, and because the U.S. government generally endorsed it, Nixon would not dare to scuttle it. See Burr (2014); Gavin (2012); Rabinowitz and Miller (2015). Thus, this logic cannot explain why Nixon continued to hide Israel's arsenal.

⁷⁵See Owen (1969, 1).

⁷⁶See Gavin (2006, 112). In fact, the *New York Times* stated, “The issue has been so sensitive that the personal assessments of Mr. Helms and other senior advisers have been passed directly to Presidents Johnson and Nixon, and restricted from normal circulation within the Government and the intelligence community.” See Smith, Hendrick. U.S. Assumes the Israelis Have A-Bomb or its Parts." *The New York Times*. July 18, 1970.

Brazil (Proliferator Unlikely to Comply but Low Risk of Reactive Proliferation)

When the threat of reactive proliferation is low, the U.S. should publicize programs even when the proliferator is unlikely to comply with the U.S.'s demands. This strategy avoids the international and domestic scrutiny that occurs if obfuscation of the violation is later exposed, along with the costs of convincing the proliferator to keep its program secret. These conditions held in two closely linked cases—Argentina and Brazil. We focus on Brazil here and analyze the Argentina case in the supplemental appendix.

Brazil began constructing a nuclear power plant in 1971, and by 1983 the U.S. had determined that it could produce highly enriched uranium by the mid-1990s. The program remained secret throughout the 1970s and 1980s before it was dismantled in 1990. While Brazil acquired the technology to produce nuclear weapons, it did not build them and instead acceded to the NPT in 1998. The U.S. determined that while Brazil was unlikely to comply as a result of U.S. efforts, the threat of reactive proliferation was relatively low (with the possible exception of Argentina, which we detail subsequently), so the U.S. did not hide the program.

The U.S. argued that Brazil would not come into compliance due to U.S. publicity and pressure, stating that Brazil would “persist in its...resistance to any U.S. effort to constrain its nuclear ambitions.”⁷⁷ Furthermore, U.S. officials claimed, “Brazil strongly resists what it perceives as foreign effort to limit its access to new equipment and technologies.”⁷⁸ Intelligence officials concluded, “It will be difficult for the United States – or any other nation – to have a major impact on its nuclear policies...Brazilian leaders have a strong determination to pursue their own self-interest – especially with regard to the acquisition and development of nuclear technology – and the confidence to oppose those who stand in their way.”⁷⁹ Brazilian officials echoed these sentiments. For instance, a Brazilian embassy

⁷⁷See National Intelligence Council (1983, 2).

⁷⁸See National Intelligence Council (1983, 8).

⁷⁹See National Intelligence Council (1983, 12-13).

representative stated, “We know how to resist any and all U.S. pressures...Our nuclear program will continue, at least to the extent it depends on us, against all internal and external pressures.”⁸⁰ Indeed, U.S. coercion and its publicity of the program did not compel Brazil’s compliance, but instead propelled Brazil and Argentina to work together. While the two states had faced a brief period of tension over hydroelectric resources, U.S. pressure made both so angry that they overcame their differences to cooperate in the nuclear domain.⁸¹ A multilateral coalition was also unlikely to form, as states were divided over whether to support Brazil’s nuclear program. For example, West Germany and China assisted Brazil, while the Soviets joined the U.S. in opposing it.⁸²

Although obtaining Brazil’s compliance was improbable, the threat environment was also not particularly high, leading the U.S. to expose the violation. First, the norm was in its intermediate stage; therefore the threat of a defection to the overall regime was moderate since a single defection would be unlikely to significantly change states’ views of the likely consequences. Second, Argentina was the main concern regarding second order proliferation, since Brazil’s activities could directly threaten the state. Yet, “neither Argentina nor Brazil perceived the other as having the intention to introduce instability into the Southern Cone by building nuclear weapons.”⁸³ Instead, they held talks beginning in 1967 that helped to ensure that nuclear energy would be used for peaceful purposes.⁸⁴ Though the talks had several fits and starts, they picked up in the early 1980s and continued until the dismantling of the programs. This “fluid dialogue...kept both sides comfortably aware of their counterparts’ intentions and capabilities and prevented the development of a nuclear rivalry.”⁸⁵ Further, Brazil and Argentina’s nuclear interests appeared to be safely short of weaponization, as

⁸⁰See US Embassy in Brazil (1973, 1-2). In 1975, Brazil signed a secret deal with the U.S. to terminate its order of reprocessing plants from Germany in exchange for arms and security guarantees but the deal was leaked to the U.S. press and Brazil then canceled it. After being burned once, it would not make such a deal again. See Levite (2006).

⁸¹See Hymans (2001).

⁸²See the Wilson Center Digital Archive.

⁸³See Hymans (2001, 161).

⁸⁴See Mallea (2014*b*).

⁸⁵See Mallea (2014*a*, 1).

“[t]he Brazilian military sought to reach the same technological level that Argentina was on the verge of achieving: that of enrichment capacity and the resulting nuclear option. In this regard the technology itself was seen as a ‘species of deterrent’; the mere capacity to match a potential Argentine bomb was presumed sufficient to deter its construction.”⁸⁶ The U.S. therefore believed that “relations between the two nations are marked by intermittent rivalry rather than overt hostility,”⁸⁷ and chose not to hide Brazil’s program.

South Korea (Proliferator Likely to Comply)

Our theory expects the U.S. to publicize a violator’s activities regardless of the threat of reactive proliferation if the U.S. is likely able to compel compliance. The U.S. was confident that it could do so in six cases: North Korea, Iraq after 1990, Taiwan, South Korea, Libya, and Algeria. To illustrate the common logic leading to the publicity of these programs, we assess the South Korean case here and analyze the remaining cases in the supplemental appendix.

The U.S. correctly ascertained that South Korea was moving towards obtaining a nuclear weapon in 1975.⁸⁸ The threat environment was high both because the risk came during Phase I of the norm’s development – so a single defection could signal weak social consequences for doing so – and because the U.S. feared proliferation by nearby states for whom a violation by South Korea would represent a direct threat. U.S. internal policy memos highlighted the danger, stating, “[O]ur general concerns are intensified by...the impact which any Korean effort to establish nuclear capability would have on its neighbors, particularly North Korea and Japan. ROK possession of nuclear weapons would have [a] major destabilizing effect in an area in which not only Japan but USSR, PRC, and ourselves are directly involved. It could lead to Soviet or Chinese assurances of nuclear weapons support to North Korea in the event of a conflict.”⁸⁹

⁸⁶See Reiss (1995, 15).

⁸⁷See National Intelligence Council (1983, 9).

⁸⁸See Montgomery and Mount (2014).

⁸⁹See National Security Council (1975, 1). Note the IAEA’s weakness in detecting the program, as “the

However, the U.S. expected public scrutiny and its own private threats to lead to compliance. Policy officials explained, "We believe that [a] direct, early, and firm approach...will have best chance of success."⁹⁰ The U.S. thus advocated for "several complementary policy courses...[that would] be evolved inside of, or in consonance with, the multilateral framework." These policies included working with other nations to "inhibit ROK access to sensitive technology and equipment,...press the ROK to ratify the NPT, [and] improve our surveillance of ROK nuclear facilities."⁹¹ The U.S. had strong leverage over South Korea as its biggest trading partner, primary buyer of South Korean debt, large provider of aid and nuclear materials, and military guarantor. Further, due to South Korea's reliance on the U.S.'s nuclear umbrella, security guarantees were thought to be a particularly effective inducement⁹² particularly due to "the U.S. rapprochement with China and withdrawal from Vietnam, both of which communicated to South Korea that anti-Communism was no longer sufficient to merit unwavering military and political support from the U.S."⁹³ The U.S. acted on this leverage in various ways, such as making Export-Import Bank loans for the country's nuclear industry contingent on NPT ratification, threatening to cut its annual \$225 million in military assistance, and threatening to restrict technology sharing, financing, nuclear cooperation, and security guarantees.⁹⁴ Reagan also promised security guarantees and economic support to reward South Korea's compliance.⁹⁵ This strategy succeeded, as "under U.S. pressure, in January 1976 it suspended negotiations for a reprocessing facility; in December 1976 it suspended the whole formal program to develop nuclear weapons technology that it had inaugurated only two years earlier."⁹⁶

Its close political relationship with South Korea not only provided the U.S. with leverage

fact that [the IAEA] took...nearly four years to learn of South Korea's secret program does not inspire confidence." See Hersman and Peters (2006, 549).

⁹⁰See US Embassy in Seoul (1975, 2).

⁹¹See National Security Council (1975, 3-5).

⁹²See CIA (1978).

⁹³See Miller (2013, 33).

⁹⁴See Miller (2013).

⁹⁵See Miller (2013).

⁹⁶See CIA (1978, 1).

but also necessitated a discreet method of publicizing its potential proliferation. Due to the U.S.-South Korean partnership during the Cold War, the U.S. believed that explicit and official public criticism of Seoul's nuclear program was unwise. Instead, U.S. policymakers quietly consulted with potential nuclear suppliers and indirectly publicized its activities through authorized leaks to the media. For example, major news headlines at the time⁹⁷ warned of South Korea's nuclear ambitions and France's cooperation on reprocessing technology citing "high-ranking Administration officials" as sources. Thus, while the U.S. used an ally-friendly publicity strategy, the overall approach comports with the theory's predictions.

Possible Alternative Explanations

The results of the case study analysis are largely consistent with our theoretical hypotheses, as the U.S. withheld private information on non-compliance when it faced a hard-to-reverse proliferator and probable reactive proliferation. Absent these conditions, the U.S. tended to publicize its private information. This basic logic also appeared in broader private U.S. assessments of nuclear proliferation. Two classified American intelligence reviews of overall proliferation trends show a widespread perceived link between the publicity of nuclear activity and the health of the regime. For example, a 1975 CIA analysis of proliferation trends invokes the logic of the pessimism mechanism, arguing that the U.S. should seek to "delay...successive nuclear debuts to prevent or reduce the momentum of change." It concludes that if proliferating states "leave their nuclear status purposely ambiguous," then "the rate of proliferation ...would itself be ambiguous and threshold states would react to the suspicion rather than the demonstrated certainty of nuclear debuts" (CIA, 1975 p. 40-1). A classified assessment of proliferation trends from the mid-1980s similarly notes that "[t]he norm against developing weapons may become psychologically harder to breach the longer it persists overtly unbroken."⁹⁸ It further assesses that the U.S.'s efforts to avoid

⁹⁷See Gelb (1975); Binder (1976).

⁹⁸See National Intelligence Council (1985).

and delay visible violations of the norm “lessened the adverse impact their development of a nuclear capability otherwise would have had on the international system for containing proliferation.”⁹⁹ Note that these conclusions were not intended for public consumption; they represent candid internal judgments about the value of past U.S. efforts to avoid public, overt violations of the non-proliferation regime.

We also consider several alternative explanations of the patterns that we observe. One possibility is that the U.S. strategically obfuscated violations by its allies and publicized those of its adversaries or its adversaries’ clients. This is plausible in part because U.S. domestic law requiring sanctions for proliferation raised the stakes of publicly acknowledging an ally’s nuclear program; moreover, the Cold War increased the cost of alienating friends. Yet the evidence casts doubt on the power of this explanation. Two countries whose violations were obfuscated, Iraq and India, were not U.S. allies. Moreover, other key proliferation cases involved political relationships that fluctuated during the Cold War. For example, the U.S.’s views of states like South Africa and Pakistan changed significantly due to shifting geostrategic and presidential priorities.¹⁰⁰ Additionally, recent work suggests that states are more likely to proliferate when they are *less* dependent on the U.S. because the U.S. maintains weaker leverage over them.¹⁰¹ Finally, even in a case like Pakistan where this alternative explanation has some purchase, we still find archival material consistent with the theory’s mechanisms. Thus, even if these considerations occasionally play a role, they do not explain the observed variation across cases.

Another potential alternative explanation is that the U.S. obfuscated to avoid looking weak when it was unable to reverse a program; otherwise, publicity risked humiliation. However, many of the cases we analyze do not fit this logic. For instance, the U.S. publicized Argentina and Brazil’s efforts but did not believe it could roll back their programs. Further, the U.S. often applied sanctions ineffectively in order to deter potential future proliferators,

⁹⁹See National Intelligence Council (1985).

¹⁰⁰See Rabinowitz (2014).

¹⁰¹See Miller (2013).

demonstrating that it was not deterred from punishing states by the slim chance of success.¹⁰² Finally, we found little to no discussion of these concerns in our primary or secondary documents.¹⁰³

A third possible alternative is that the U.S. strategically obfuscated violations by states that were not formal members of the NPT because such deception was unlikely to be discovered by the IAEA. We do not think this consideration played a significant role for several reasons. First, the empirical pattern does not comport with this explanation. For example, the U.S. hid Iraq's program even though it was an NPT signatory, while the U.S. publicized Argentina, Brazil, and Algeria's programs even though these states were not signatories at the time. Second, as mentioned previously, the IAEA had very limited information-gathering capabilities for members and non-members during the period we analyze. Since the IAEA was restricted to routine inspections and declared facilities, U.S. leaders could be reasonably confident that the information they gleaned from confidential sources and methods would not be discovered by the organization regardless of the state's NPT status. As one former IAEA Director-General explained, during the 1970s and 1980s, "[f]or regimes that chose to conceal their illicit activities, the IAEA was a beat cop with a blindfold."¹⁰⁴

Discussion: Potential Regime Erosion

The model and case studies support our core claim that well-informed states strategically exercise informational discretion to buffer regimes from problematic cases of noncompliance, but what effect might this practice have on a regime's long-term health? After all, reliable information about noncompliance can reassure states that they will not become victims of undetected defection and that violators will be punished. Indeed, the formalization of

¹⁰²See Miller (2013).

¹⁰³However, an additional factor in the U.S.'s policy decisions toward Israel was the concern that it would be held responsible for letting Israel develop nuclear weapons. See Cohen (2013, 24).

¹⁰⁴See ElBaradei (2011, 10).

our theory suggests that a potential downside of an enforcer's ability to hide infractions is an erosion of compliance within the regime.¹⁰⁵ If it is possible for the enforcer to hide noncompliance, states may infer that unobserved proliferation is taking place, creating a possible risk of reactive proliferation when no initial proliferation took place. Further, the enforcer cannot credibly commit *ex ante* to reveal all infractions because once it detects a breach that it cannot roll back and that will lead to further proliferation, it faces strong short-term incentives to obfuscate it.¹⁰⁶ In contrast, if the enforcer reports all violations, member-states will feel more confident that unobserved proliferation is not taking place. Yet, as we have described, this will include exposure of violations that likely cannot be reversed and which risk creating reactive violations that endanger the regime.

An enforcer's ability to exercise discretion about whether to reveal information thus creates a trade-off, mitigating some dangers to the regime while enhancing others. These costs and benefits associated with strategic monitoring may help to shed light on questions surrounding institutional design including recent moves towards a more aggressive monitoring role for the IAEA. Delegating the capacity to gather compliance-related information to IOs may make strategic obfuscation less likely, as many states are involved in IOs' operations and their conclusions are typically more transparent than those of states. Since the IAEA's powers increased after 1990, as discussed previously, the potential for obfuscating nuclear programs has likely been reduced. A plausible interpretation of the IAEA's evolution is that it was prompted, at least in part, by fears of regime erosion resulting from the U.S.'s efforts to hide several defections.¹⁰⁷ Assessing the downsides of strategic obfuscation and its impact

¹⁰⁵For related claims about the effects of unpunished non-compliance and the erosion of a hegemon's power, see Alt, Calvert and Humes (1988).

¹⁰⁶A system in which the enforcer obfuscates infractions is only beneficial when the objective is to deter reactive proliferation; if reactive proliferation is not a large concern or is unavoidable, then overall proliferation is minimized when the monitor publicizes all violations. Further, note that we focus on the enforcer's incentives for preventing overall proliferation; however, states that most highly value the ability to defend themselves against specific instances of proliferation may prefer as much information about violations as possible. A given state's preferences about objectivity and discretion in regime monitoring thus vary depending on the value it places on regime stability versus its own ability to defend itself through nuclear weapons acquisition.

¹⁰⁷Specifically, the U.S.'s obfuscation of Iraq's clandestine nuclear program during the 1980s became apparent when the international community discovered Iraq's progress after the first Iraq War. See the

on decisions to delegate monitoring remains an interesting direction for future research.

Conclusion

In general, shining a light on violations of social rules is often thought to foster compliance and build social order. This logic is manifested in models of norm emergence, international legal compliance, and theories of the cooperation-enhancing function of international organizations. Although there is truth to this view, we have shown that the full picture is more complex. Drawing on studies both within and outside of political science, we developed two mechanisms through which the publicity of rule violations can endanger international regimes: it can alert neighbors and enemies to the direct threat posed by a state's deviance and can create pessimism about the overall rate of compliance, lessening the perceived social opprobrium that results from a violation. We modeled these dynamics to identify the conditions under which a well-informed state might manipulate its private information about infractions to avoid triggering these dynamics. The model shows that such a state does so when it cannot reverse a violator's activities and when those activities would create additional defections if they were revealed. We found considerable support for our core hypothesis in our examination of how the U.S. has handled information about nuclear proliferation. However, we also discussed our model's insight that the concealment of violations can possibly erode the regime over time.

While we focus on the nuclear setting, our theory's mechanisms are relevant for a wide range of empirical domains, though some areas may support the threat and pessimism mechanisms differently. In particular, the greater the negative externalities associated with a given violation, the more relevant the threat mechanism becomes, as we noted previously. Yet this is a modest scope condition, as defections impose direct harm to other states in many if not most areas of international laws and norms including those governing security,

discussion of the Iraq case in the appendix. On the IAEA's use of state-derived intelligence after 1991 to enable more aggressive monitoring, see Allison Carnegie and Austin Carson, "The Disclosure Dilemma: Nuclear Intelligence and International Organization," working manuscript.

economic, and environmental issues. Further, a required condition for our central empirical prediction is that the enforcer must possess information advantages that create opportunities for exercising discretion over whether to report violations. This also represents a modest condition, as many states hold information advantages – even if only temporarily – about economic and security-related activities that confront leaders with meaningful choices about whether to publicize their knowledge. Moreover, even when information advantages are rare, our mechanisms linking the publicity of infractions with compliance behavior apply.

Most generally, this article suggests the substantive importance and theoretical promise of addressing secrecy and strategic information management in studies of international compliance. Potentially fruitful extensions of our theory include investigating dynamics in a world with multiple regime enforcers, and the domestic political concerns associated with hiding violations.¹⁰⁸ Scholars could also incorporate new technologies or practices into the theory such as social media and unauthorized leaks, as these developments could reduce states' informational discretion and therefore shrink opportunities to obfuscate violations. Finally, while we have demonstrated our theory's application to the nuclear domain, our model could be productively tested in many other empirical arenas as well.

¹⁰⁸Our cases shed some light on the latter direction; for example, Arab states' reactions to Israel's program hint that the likelihood of reactive proliferation may be influenced by how domestic constituents respond to publicized violations.

Table 3: Summary of Cases

Proliferator	A Likely to Comply?	Regional Threat	Norm Stage (Implied Risk)	Strategic Obfuscation?	Consistent with Theory?
Israel	No	High	I (High)	Yes	Yes
India	No	High	I (High)	Yes	Yes
South Africa	No	High	Mostly I (High)	Yes	Yes
Pakistan	No	High	I,II (Medium-High)	Yes	Yes, but overdetermined
Iraq (Pre-1990)	No	High	I,II (Medium-High)	Yes	Yes
Brazil	No	Medium	Mostly II (Medium)	No	Yes
Algeria	Yes	Low	III (Low)	No	Yes, though leaked
Argentina	No	Medium	Mostly II (Medium)	No	Yes
Libya	Yes	Medium	Mostly II (Medium)	No	Yes
North Korea	Yes	High	I,II,III (Medium)	No	Yes
Iraq (Post-1990)	Yes	High	III (Low)	No	Yes
Taiwan	Yes	High	I,II (Medium)	No	Yes
South Korea	Yes	High	I (High)	No	Yes

Notes: The table summarizes the coding of each of our cases. Note that the fourth column codes the norm stage as described in the text, and in parentheses we list the resulting severity of the threat of reactive proliferation.

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