

## Nuclear Strategies of Emerging Nuclear Powers: North Korea and Iran

What if nuclear aspirants get the bomb? How likely are they to use it? Which nuclear strategies might emerging nuclear powers adopt? These may seem like academic questions, but they are loaded with strategic significance. Different nuclear strategies have historically been associated with distinct types of risk. Some nuclear strategies are more likely to deter U.S. freedom of action; some more sharply increase the risk of accidental or unauthorized nuclear use. The type of nuclear posture or strategy a state is likely to choose, then, ought to affect the price the international community is willing to pay to stop or rollback emerging nuclear powers. These questions merit urgent answers. North Korea is believed to have at least a rudimentary plutonium-based nuclear weapons capability, is presently assessed to have a uranium enrichment capability to expand its fissile material stockpile, and periodically threatens to restart its plutonium production pathway. The international community is intensively trying to prevent Iran from achieving a nuclear weapons capability based on uranium enrichment. Much policy and academic energy has centered on trying to prevent the spread of nuclear weapons. But if these efforts fail, what next? Which nuclear strategy might these states choose?

To explore which potential nuclear strategy North Korea and Iran might adopt as nuclear weapons states, this article deploys insights from the sources and consequences of other regional power nuclear strategies examined in my recent book, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict*. The Cold War and the experiences of the superpowers dominate

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current thinking on nuclear strategy. But regional nuclear powers with independent nuclear forces—China, India, Pakistan, Israel, France, and South Africa<sup>1</sup>—have had orders-of-magnitude smaller arsenals, stronger nonproliferation constraints, sometimes unstable civil-military relations, and volatile local security environments. They have thus had to think more carefully about nuclear strategy and posture than the superpowers did, allocating their scarce deterrent power to achieve very specific security and political objectives. Their choices of nuclear strategy and posture have thus been very different from those of the United States and the Soviet Union. Yet, the Cold War hangover especially in academic scholarship has hamstrung our ability to systematically think about the nuclear strategy choices these regional powers made.

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## North Korea's nuclear strategic choice turns on the role of China.

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In this article, I first present a typology of nuclear strategies that are available to the regional nuclear powers, and then briefly present my theoretical framework for why regional powers might select one strategy over another. This theory illuminates the critical variables driving nuclear strategic choices among regional nuclear states. I then apply it here to the two emerging nuclear powers, North Korea and

Iran, to try to provide some insight into how they might approach decisions about nuclear posture and strategy. The goal of this article is to provide a framework to use in thinking about which nuclear posture pathway North Korea and Iran may take.

I argue that the choice of North Korean nuclear strategy turns on the role of China as a patron and protector for Pyongyang. If North Korea views China as a reliable patron, albeit one that requires the periodic threat of nuclear breakout to mobilize, then its nuclear arsenal can remain limited and recessed. If not, then North Korea might move toward an alternative nuclear strategy: an aggressive first-use posture—including developing short-range and tactical nuclear weapons—to deter the conventional and nuclear superiority of the United States and South Korea, which North Korea would be facing alone. This is a scary alternative, and suggests that the United States has an interest in encouraging China to continue playing the role of North Korea's patron, in order to keep Pyongyang's nuclear posture and strategy limited.

Contrary to much of the conventional wisdom on Iran, my theory suggests that a potentially nuclear Iran would most likely adopt a relatively recessed assured retaliation posture to assert maximal centralized control over its nuclear assets. For management and civil-military reasons, Iran is unlikely to develop or predelegate tactical nuclear weapons, and is more likely to rely on a recessed strategic force to deter strictly nuclear use and coercion against it. In other

words, a nuclear Iran is more likely to look like India or China, rather than Pakistan.

## Regional Power Nuclear Strategies

The superpowers both developed massive nuclear architectures during the Cold War. Although an oversimplification, strategies popularly known as flexible response, massive retaliation, assured destruction, and damage limitation were largely variations on the same theme involving first-use capabilities and sufficient retaliatory forces, and evolved as the superpowers' nuclear architectures grew. In contrast, regional nuclear powers—which face different international and domestic constraints than the superpowers did—have adopted different, but identifiable, nuclear postures which have resulted in diverse capabilities, management procedures, and levels of transparency. They have had to make choices about how and where to allocate their deterrent power. These varied choices create a spectrum of distinct and identifiable postures available to regional powers. That is, a typology of superpower nuclear strategies cannot be easily superimposed on regional powers. To understand the choices that the regional nuclear powers have made, a novel classification scheme is required.

I distinguish between three analytically distinct regional power nuclear postures: the catalytic posture, the assured retaliation posture, and the asymmetric escalation posture. Each of these postures gives different answers to the key questions motivating the selection of nuclear posture: what is a regional power seeking to deter and how can it best do so? These postures are clearly differentiated by their primary envisioned employment—political catalyst, nuclear retaliation, and nuclear first-use—their capabilities, their command-and-control architectures, and the levels of transparency regarding the latter characteristics. Although the three postures may have minor variations within them, empirically each regional nuclear power clearly falls into one of these three categories, suggesting that they are mutually exclusive and empirically exhaustive.

### Catalytic

A catalytic nuclear posture primarily envisions catalyzing third-party military or diplomatic assistance when a state's vital interests are threatened. This term was used to describe South Africa's nuclear posture, which envisioned using ambiguous capabilities as a strategy to compel U.S. intervention on its behalf against a feared 'total communist onslaught.' (In addition to South Africa, both Israel and Pakistan have employed this strategy at various points.)<sup>2</sup> A state can catalyze assistance by threatening to break out known nuclear weapons capabilities, or previously ambiguous or non-operational nuclear capabilities,

and escalate conflict if assistance is not forthcoming. It depends on the existence of a more powerful third-party patron whose interests in regional stability—or in forestalling the client state from nuclear breakout—are sufficiently high, and the costs of assistance commensurately acceptable, that it might be compelled to intercede on the state's behalf to affect de-escalation. It is therefore a posture available only to regional powers, which can employ it to augment external balancing, and was by definition an option unavailable to the superpowers.

Because even a small risk of nuclear use may be sufficient to trigger third-party intercession, this posture can rely on a limited arsenal that may not even be fully assembled or functional. Since it often depends on high levels of ambiguity surrounding capabilities and conditions of use, the catalytic posture tends to emphasize centralized control and does not integrate nuclear weapons into a state's military doctrine. The key feature of the catalytic posture is that the state in question does not have survivable second-strike forces or explicit tactical nuclear weapons, and deterrent signals do not travel primarily to the envisioned opponent but rather to a *third party* in an attempt (successful or not) to induce or blackmail an intervention on its side. Certainly, as an extreme last resort, the state could potentially use nuclear weapons on an adversary, and so this posture ought to directly deter attempts to outright extinguish a state. However, direct use is not the primary envisioned purpose and, indeed, the nuclear forces may be so recessed that assembly and use may not be a trivial matter.

Employing small numbers of nuclear capabilities to catalyze third-party intervention to augment conventional deterrence, or to effect de-escalation

**The attempt to draw in third-party intervention is the defining feature of a catalytic posture.**

through external balancing, could offer more deterrent power than attempting to directly deter adversaries with such limited nuclear forces, especially if the adversary possesses nuclear superiority. This posture might best be thought of as “existential-plus” deterrence, where ancillary existential deterrent effects may exist, but the primary aim is to compel a third party to honor extended deterrence and intervene on the state's behalf. The *attempt* to draw in third-party

intervention—a political rather than a narrow deterrence goal—is thus the defining feature of a catalytic posture, regardless of whether that attempt succeeds (though empirically it often has). The political advantage of selecting this posture is that it can mobilize external balancing assistance without suffering the costs of outright breakout (e.g. sanctions or preventive military strikes).

Several regional powers have adopted catalytic postures, anticipating U.S. intervention on their behalf and orienting their nuclear forces to ensure that Washington might do so: Israel from 1967 through 1991, South Africa during the 1980s, and Pakistan in the late 1980s. (It could also be argued that Japan has a broad catalytic nuclear posture, using the implicit threat of potential breakout to ensure continued U.S. military support and alliance.) Because bipolar competition enabled regional powers to more easily exploit superpower behavior through the risk of nuclear escalation, this posture may have been easier to implement and execute during the Cold War. However, there is no theoretical reason why the catalytic posture should be limited only to the Cold War, since it simply requires the perceived reliability of a greater power third party.<sup>3</sup>

### **Assured Retaliation**

Unlike the catalytic posture, the assured retaliation posture seeks to *directly* deter nuclear attack and coercion. It does so by threatening an adversary with certain nuclear retaliation even after sustaining some level of damage. Assured retaliation is therefore distinguished by the presence of survivable second-strike forces capable of targeting an opponent's key strategic centers with definite, though not necessarily immediate, retaliation. Survivability can be achieved by a variety of stewardship and command-and-control procedures (e.g., dispersion, concealment, and deception) or technical means (e.g., some sea-based systems, if quiet) that render it impossible for opponents to be confident of achieving a disarming first strike. In addition to possessing survivable nuclear forces, a state employing assured retaliation must have forces that are capable of penetrating the adversary's defenses and imposing certain retaliation.

This posture requires greater transparency about capabilities than in the catalytic posture, such that the envisioned opponent has no doubt about the state's ability to retaliate with nuclear forces following a first strike, but deployment patterns can be ambiguous to enhance survivability. To be sure, nothing precludes a state with an assured retaliation posture from using nuclear weapons first in a conflict, but the posture's centralized deployment patterns and procedures would make it difficult for nuclear weapons to be released immediately for at least battlefield use. Thus, rather than planning for nuclear use in a deterrence-by-denial mission—using nuclear weapons to deny an opponent its military objectives on the battlefield—against conventional forces (indeed, deployment patterns for tactical nuclear use can undermine survivability), the assured retaliation posture is often oriented primarily for deterrence by punishment against high-value targets. The clearest indicator of an assured retaliation posture is the development of secure second-strike forces, and the absence of tactical nuclear weapons within a state's arsenal.

China since 1964 and India since 1974 (though with obviously greater reliability and robustness since 1998) have both adopted assured retaliation postures. Both have relatively permissive security environments and have coupled conventional defense-in-depth strategies (delaying rather than preventing an attack) with assured retaliation nuclear strategies. Each relies on a small but secure and survivable nuclear force, arrayed for an assured retaliatory strike against their primary opponents' strategic targets.<sup>4</sup> Both have paired a declaratory no-first-use policy with operational procedures that make the first use of nuclear weapons unlikely. But both assure nuclear retaliation, should they sustain a nuclear strike (or, adversaries must assume, unacceptable conventional damage).

### **Asymmetric Escalation**

The asymmetric escalation posture is explicitly designed to deter primarily ground conventional attacks by enabling a state to respond with rapid, asymmetric escalation to first-use of nuclear weapons against military and/or civilian targets. Peacetime deployments can be centralized but, to credibly deter conventional attack, nuclear weapons must be operationalized as war-fighting instruments. An asymmetric escalator therefore must have the ability to disperse and deploy nuclear assets quickly, pre-delegating authority for their release to military end-users on the front edge of the battle, who would be charged with employing tactical or strategic nuclear weapons in a deterrence-by-denial mission against an adversary's advancing conventional forces or war-production capacity.<sup>5</sup> This can include both deterrence-by-denial and deterrence-by-punishment missions.

While this posture may have a significant deterrent effect against conventional attacks, it can also enable a revisionist state to aggress at low levels against an opponent and use the posture as a shield behind which to achieve those objectives. But this requires that the primary target of aggression is a bordering state envisioning ground retaliation, for which nuclear use could potentially provide a deterrent mission.

**Asymmetric escalation is the most aggressive posture available to nuclear states.**

The asymmetric escalation posture is thus the most aggressive option available to nuclear states. It does not require numerical superiority of nuclear weapons—posture and the number of weapons are often erroneously conflated—but depends instead on how a state arrays its nuclear forces and how it could credibly use them. To achieve credibility, asymmetric escalators must be transparent about capabilities, deployment patterns, and broad

conditions of use—requirements that can generate significant command-and-

control pressures and increase the risk of inadvertent use of nuclear weapons. The key distinguishing feature of the asymmetric escalation posture is the capability and expressed intention to use nuclear weapons in a theater setting against an adversary's conventional forces. This can place extensive costs and strain on the operational management of nuclear weapons.

States that select asymmetric escalation postures are often those which face severe security threats, and therefore have little choice but to adopt an aggressive posture. France since 1960 and Pakistan since 1998 have both adopted asymmetric escalation postures. During the Cold War, French forces faced a conventionally superior, nuclear-armed proximate threat in the Soviet Union. In order to deter the Warsaw Pact's superior conventional forces, and seized with the fear that it would be left alone to face the Red Army, France threatened first use of nuclear weapons against Soviet forces and strategic targets should they breach Western Europe.<sup>6</sup> After testing nuclear weapons in 1998, Pakistan shifted to an overt asymmetric escalation posture (from a catalytic posture in the 1980s, as previously discussed) to deter India's superior conventional power. The precise strategy used with an asymmetric escalation posture can vary (e.g., massive retaliation vs. flexible response), but the key feature is enabling a credible, asymmetric first-use of nuclear weapons against conventional aggression, in an attempt to deter its outbreak. The catalytic posture attempts to signal primarily third parties, while assured retaliation attempts to directly deter adversaries by holding strategic targets at risk. Both envision nuclear employment as relatively last-resort measures; asymmetric escalation, however, is oriented toward nuclear use as a potential option in the early stages of a conflict.

Although the asymmetric escalation posture may have unintended catalytic effects by alarming an outside party, the critical distinction is that an asymmetric escalator explicitly sends early first-use deterrent threats directly to its *adversary*, and not to a third party; and an asymmetric escalator may or may not have survivable second-strike forces (France does, for example, but for a long time Pakistan did not). However, a state with a catalytic posture cannot simultaneously adopt either assured retaliation or asymmetric escalation postures; and assured retaliation is both conceptually and practically distinct from a catalytic or asymmetric escalation posture. I code a state's nuclear strategy by what its posture is *maximally capable* of doing.

## A Theory for Strategy Selection

Why might states select one of these three nuclear postures over the others? We presently have no systematic theory for why regional nuclear powers select the nuclear strategies that they do. At the most general level, I argue that states select nuclear postures in a way that largely rationally optimizes their force

structure for their external security environment and their internal threats and constraints. That is, states carefully calculate what strategy they require to deter their likely foes, and what they are organizationally and financially capable of doing, and optimize their choice of posture in response.

Specifically, I argue that a series of sequential variables facing a state—from the international to the domestic level—produce a specific posture. These can be thought of as questions that a state’s leaders ask, whose answers will shape nuclear strategy choices. A state’s relative power position and the international structure determine what exactly a state must deter with its nuclear forces. Sometimes structural variables alone can determine a state’s nuclear posture. In other cases, however, the international threat environment permits a range of possible postures, and it is domestic-level variables which ultimately determine the final choice, based on what the state can organizationally manage and what it can afford. The framework I develop is thus effectively a rationalist decision-tree that privileges a state’s structural opportunities and constraints. It does assume that choices about nuclear strategy, which unfold over long periods of time and require systematic investment as well as development decisions, are rational in the means-ends sense, even in the most ‘rogue’ regimes.

The key considerations, in sequence, that determine a regional power’s choice of nuclear strategy are:

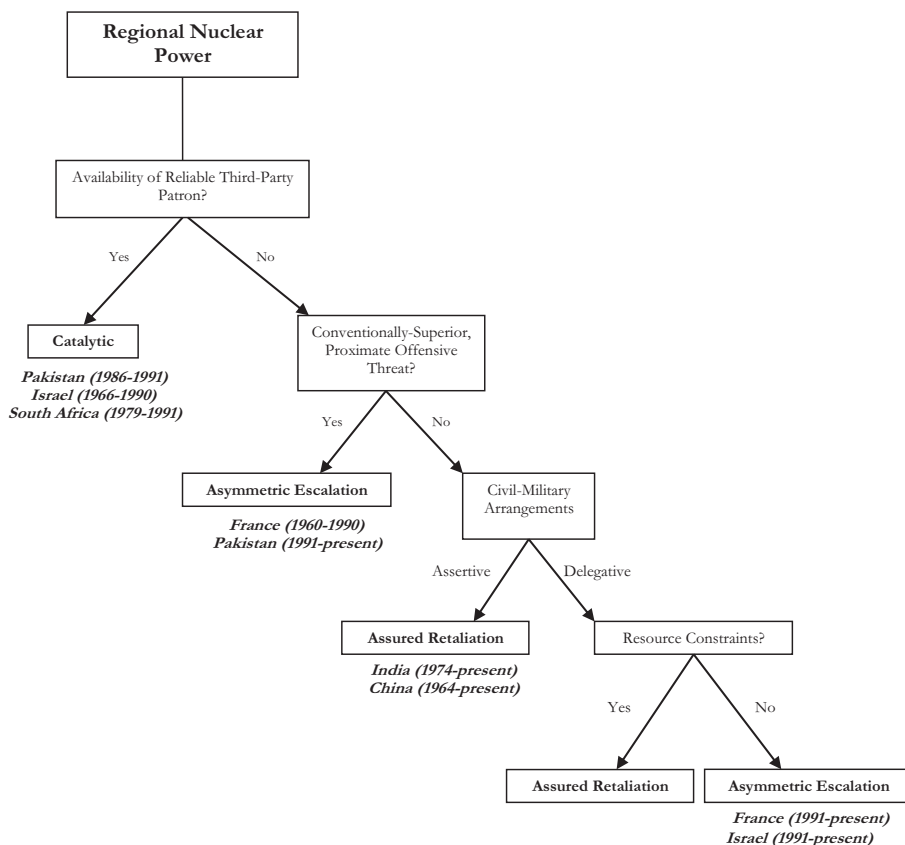
- Availability of a reliable third-party patron (if yes, then a catalytic posture is the optimal choice);
- Whether a state’s security environment requires deterring a conventionally superior bordering adversary (if yes, then the state has no choice but an asymmetric escalation posture);
- A state’s civil-military structures (if assertive, then a state ought to select an assured retaliation strategy); and
- Finally, a state’s resource constraints.

Figure 1 depicts my theory for strategy selection and the empirical codings that it predicts.<sup>7</sup>

Empirically, the theory correctly classifies eight of the nine strategy choices regional powers have made. The only major misprediction is that the theory anticipates that Israel would presently adopt an asymmetric escalation nuclear posture. Instead, all the publicly available evidence suggests that Israel has adopted an assured retaliation strategy, moving to a sea-based platform—Dolphin-class diesel submarines—to enhance survivability. But there is no evidence it has developed tactical nuclear weapons or integrated nuclear weapons into its conventional warfighting doctrines.<sup>8</sup> Nevertheless, the theory is empirically validated by most of the choices that regional nuclear powers have made about their nuclear strategies.



**Figure I. Theory for nuclear strategy choice among regional powers and empirical predictions**



What might the theory predict about North Korea and Iran? The next sections explore the implications of my theory for these two critical emerging nuclear powers. Like all current analysis of North Korean and Iranian nuclear strategies, it is necessarily speculative. I would be the first to admit that I am not an expert on North Korea or Iran. But this theory, which specifies how existing regional nuclear powers have chosen their nuclear strategy, allows scholars and analysts to identify the key variables which might drive North Korea or Iran toward one nuclear strategy or another, identifying the critical sources of their nuclear strategy choices.

## North Korea

A cloud of uncertainty shrouds North Korea’s nuclear capabilities. Although it purportedly tested nuclear devices in 2006, 2009, and 2013, as well as ballistic missiles from its *No Dong* and *Taepo Dong* families, the size, composition, and

reliability of North Korea's nuclear force structure is completely unknown in the public domain, particularly since estimating the size of North Korea's fissile material (both plutonium reprocessed from the Yongbyon reactor and a subsequent uranium enrichment program) is fraught with significant challenges.<sup>9</sup> Nevertheless, there is widespread agreement that although North Korea's warhead and missile capabilities are presently limited, it is growing at an unknown rate. North Korea's nuclear strategy—its operational blueprint for how it might employ nuclear weapons, and not just as a blackmail chip for aid from the West—is an even greater enigma.<sup>10</sup>

On one hand, given the conventional imbalance it faces against U.S. and South Korean forces to its south, North Korea may be incentivized to have an aggressive asymmetric escalation nuclear strategy. On the other hand, there is little evidence to suggest it has chosen to develop the capabilities to implement that strategy, or is even seeking them—particularly battlefield nuclear weapons, and short-range nuclear delivery systems. The state of knowledge of North Korea's capabilities and declaratory policy makes divining a nuclear 'strategy' an entirely speculative exercise.

What does the theory above suggest about North Korea's potential nuclear strategy if it were to follow the same logic as other regional powers, which also sometimes faced adversaries with conventional as well as nuclear superiority? First and foremost, it suggests that the critical variable determining North Korean nuclear strategy is the role of its potential third-party patron: China. In the case of Israel, South Africa, and Pakistan, the third-party patron was always envisioned to be the United States; North Korea would be the first case in which the third-party patron is another major power. One possible North Korean strategy, therefore, is the catalytic posture, whereby it employs the threat of further nuclear breakout to ensure the patronage of Beijing against (particularly) the United States. Just as Pakistan believed that the possession of rudimentary nuclear capabilities was thought to be necessary to 'catalyze' U.S. intercession on its behalf in crises against India in the late 1980s, North Korea could similarly calculate that its current nascent program, postured as a catalytic nuclear strategy, is necessary to ensure Beijing protects it—at least diplomatically—against the United States.

There is some evidence that breakout threats by North Korea have mobilized Beijing to take a more active role protecting Pyongyang and in facilitating multiparty talks. As scholar Jonathan Pollack notes, in 2002 following the North Korean resumption of the plutonium program and discovery of possible secret uranium enrichment facilities: "Fearing an acute regional crisis, China was soon mediating between Washington and Pyongyang...It also expressed open skepticism about U.S. intelligence claims of an enrichment program and urged Washington to renew negotiations with the DPRK."<sup>11</sup> It is certainly the case that China has come down harshly on North Korea at times, but Pollack

further observes that Beijing faces “unpalatable choices between a defiant neighbor from whom it was unable or unwilling to separate and a U.S. administration” determined to possibly effect regime change, and the attendant risk of regional chaos, in that protégé.<sup>12</sup> Consistent with the successful employment of a catalytic posture, persistent threats of further nuclear breakout trigger Beijing to become, according to Pollack, “deeply involved in shuttle diplomacy between Pyongyang and Washington” to protect North Korea from the threat of U.S. military force, and that China can ill afford to “let this situation alone” since “a major crisis on the peninsula posed serious risks to the senior [Chinese] leadership’s developmental priorities and its desire for an unperturbed regional environment.”<sup>13</sup>

Importantly, it is not necessarily that China views North Korea as an ally or an asset, but that a nuclear and irascible North Korea poses significant threats to Chinese interests, which enables North Korea to periodically rattle the nuclear sabre to mobilize Chinese patronage to stanch further breakout. The 2006 and 2009 North Korean tests resulted in a significant crisis for China’s role as North Korea’s patron; it was reportedly furious at the brazen defiance Pyongyang displayed by openly conducting a nuclear test.<sup>14</sup> But Beijing refrained from fully cutting off its neighbor. Pollack goes on to write: “China quietly acknowledged the liabilities in continued support of Pyongyang, whose adversarial politics and international isolation bore distinct echoes of Chinese policies and practices from the 1960s. To most Chinese policymakers, the North was a problematic inheritance which it could not readily separate.”<sup>15</sup> China is still presently North Korea’s “principal guarantor,” and although it seems to be deeply unhappy with the existence of North Korea’s nuclear weapons program, paradoxically, it is the nuclear program and the threat to advance or further breakout the program that seems to bind China closer as a patron state to North Korea.<sup>16</sup>

Thus, at present, it is plausible that North Korea has adopted a catalytic nuclear strategy with China as the envisioned patron state. However surprising it may seem, the role that China plays—concerned and sometimes unhappy patron but not a formal ally—is precisely the one required to adopt a catalytic nuclear strategy. Other regional nuclear powers have adopted the same logic. It is the same role that the United States played with Israel, Pakistan, and South Africa when these states adopted catalytic nuclear strategies. Furthermore, it is a strategy that North Korea can successfully adopt with limited and ambiguous nuclear weapons capabilities, delivery systems, and primitive command-and-control infrastructure. It is also politically optimal for North

**It is plausible that North Korea has adopted a catalytic nuclear strategy with China as the patron.**

Korea—it ensures that Chinese support is forthcoming when Pyongyang deems it necessary (indeed it can use the threat of nuclear advancement to manipulate it), support that may not have been forthcoming if not for North Korean nuclearization in the first place.

**The catalytic posture has the least risk of inadvertent use.**

If this is indeed North Korea's nuclear strategy—using the threat of nuclear advancement to catalyze Chinese support for it materially and diplomatically—there are several key implications. The first is that this is not a particularly unstable nuclear strategy. Rather, it is a potentially sustainable one. There is little pressure for a North Korea with a catalytic nuclear strategy to develop additional nuclear capabilities, delivery systems, or even deploy nuclear weapons. As far as nuclear strategies go, the catalytic posture has the least risk of inadvertent use because its primary aim is political: to catalyze third-party intercession on a state's behalf by threatening advancement. There is often no employment doctrine to formulate or prepare for, since employment would only be considered if the regime faced the threat of extinction (and in which case, the state would have little option but a Hail-Mary nuclear use). If North Korea were satisfied that it could indeed manipulate the threat of its nuclear advancement to ensure Chinese intercession on its behalf, at least economically and diplomatically, the composition of the North Korean nuclear force structure could remain limited and maintained in a highly centralized and recessed fashion.

The second implication is that this strategy turns entirely on North Korea *believing* that China would not abandon it as a patron state, and that it does not view the catalytic posture as a transitory phase until it chooses to break from China. Should it fear abandonment or if relations between China and North Korea deteriorate irrevocably, North Korea would likely believe that it has no option but to develop an asymmetric escalation posture, since it would be facing an extremely severe security environment alone: a conventionally and nuclear superior alliance between the United States and South Korea that could easily pose an existential threat to the state. This is the second node in the theory above. The only nuclear strategy that makes sense in this scenario is an asymmetric escalation posture that threatens to use nuclear weapons first against conventional forces and/or population centers to deter extinction. The composition of forces required for that nuclear strategy—tactical and strategic nuclear weapons, an array of survivable delivery systems—and command-and-control pressures for delegation raise the risks of inadvertent nuclear use and escalation, and would be potentially catastrophic for regional and international security.

Therefore, the aggressiveness and precise risks of North Korea's nuclear strategy depend entirely on how much it believes it can rely on Beijing to protect it materially and diplomatically. If China continues to play the role of a reliable third-party patron (as far as Pyongyang is concerned), then North Korea may be satisfied with a catalytic nuclear strategy. This is likely to result in periodic crises involving threats of nuclear advancement so North Korea can secure aid when it deems it necessary. But the composition of the nuclear arsenal can remain recessed, ambiguous, and small, with lower risks of accidents and nuclear use.

Should Pyongyang fear abandonment—or choose independence—from Beijing, however, the pressure to develop an outright and explicit asymmetric escalation posture would be strong. This would carry extreme risks as it would force North Korea to develop a range of nuclear weapons and delivery systems and, in some cases, predelegate assets to the field to make the threat of first use against a conventional invasion credible. (While the idea of predelegation, given the state of North Korea's party-military relations, might seem far-fetched, if it were to find itself alone facing the ROK/U.S. alliance, which has conventional and nuclear superiority, the powerful logic of its acute security environment may leave it with no choice.) North Korea could become East Asia's Pakistan in this scenario. Given the costs of potential nuclear rollback, it may indeed be in the U.S. interest, all things considered, to encourage China to continue to play the role of reliable third-party patron for North Korea since it is a mechanism to limit the nuclear risks on the Korean Peninsula, keeping North Korean nuclear strategy recessed as a catalytic posture. The alternative, an asymmetric escalation posture, is...scary.

**Should Pyongyang fear abandonment, the pressure for asymmetric escalation would be strong.**

## Iran

While North Korea's nuclear capabilities are ambiguous and uncertain, Iran's are not yet—and may never be—fully developed. But it is nevertheless a useful exercise to think about what nuclear strategy an Iran with nuclear weapons might adopt and the resulting implications for regional security. If Iran were to develop a nuclear arsenal, what would my theory predict about the strategy or strategies Iran might consider, and what are the key variables driving those choices? This exercise assumes that, no matter what one's view of the Iranian regime, the choice of nuclear strategy is a largely rational means-ends output where the leadership would orient its future nuclear forces to achieve specific

political and security objectives. This is not a heroic assumption, since nuclear postures are developed over long periods of time and require careful investment and management decisions.

First, does Iran have a reliable third-party patron upon which it could avail through the threat of nuclear breakout in the event of serious diplomatic or military crisis? That is, could it adopt a catalytic posture which, given the costs Iran would have to bear for explicit and full nuclear breakout, could be an extremely attractive strategic choice if it were possible? The prime candidate for a reliable third-party patron for Iran is probably Russia. But it is unclear that Tehran views Moscow as a reliable enough patron that would intercede on its behalf either militarily or even diplomatically in the event of a serious crisis. Although Russia has protected Iran at times, and was indeed its principal partner in the construction of the Bushehr reactor, it is unknown what appetite Moscow has to seriously protect Iran from the West.

If relations between the West and Russia continue to deteriorate, perhaps Russia may tighten its patronage of Iran. This is a critical variable to watch in determining Iranian nuclear strategy. If Iran calculates that it can rely upon a Russian patron and use the periodic threat of further breakout as leverage to ensure that patronage and protection, it could potentially adopt a catalytic posture at least in the near term. A catalytic posture would be optimal for Iran at this point since it would not have to fully or openly weaponize its nuclear capabilities, thereby avoiding the continuation of crippling economic sanctions or military action. It could maintain its status as a 'standby nuclear state' by possessing dual-use capabilities—further from an actual weapon than, for example, Japan, but with all the pieces in place as a 'hedger-plus' to implement a credible catalytic nuclear posture. The benefit would be the added geopolitical protection of its potential patron-state, Russia, should it face a serious diplomatic or military crisis. Unlike the North Korean case, where Pyongyang has empirical reasons to believe in the reliability of China as a third-party patron, much in the Iranian case would turn on how the Iranian–Russian relationship unfolds, though it is admittedly doubtful that Russia would ever be viewed as, or be willing to play, the role required for a catalytic posture. It is probably ultimately unlikely that Tehran would view Russian patronage as reliable enough to enable the selection of a catalytic posture.

If Iran calculates that Russia is indeed not a reliable third-party patron, what might Iranian nuclear strategy look like? For the decade following the U.S. invasion of Iraq in 2003, from Tehran's viewpoint at least, Iran faced a serious threat of a conventional ground invasion from U.S. forces, which were poised to Iran's east and west in Afghanistan and Iraq. The subsequent U.S. drawdown from both theaters has ameliorated Iran's security situation, in the sense that an

outright ground invasion to affect regime change is no longer a serious threat. Indeed, Iran's primary regional ground threat, Iraq, was so neutered by the invasion that Iran enjoys perhaps its best local security position in decades. Iran has a conventional military advantage at the moment over all of its immediate bordering adversaries, and is buffered from Israeli ground forces by other states. Thus, the security pressure for an asymmetric escalation posture to deter a conventional invasion is not particularly acute for Iran. If an existential threat from U.S. or neighboring ground forces were to emerge, this might pressure Iran to adopt a risky asymmetric escalation posture and delegate tactical and short-range nuclear systems to the Islamic Revolutionary Guard Corps (IRGC). But for now, this acute security condition (the one faced by NATO during the Cold War and Pakistan today) does not present itself to Iran.

**The security pressure for asymmetric escalation is not particularly acute for Iran today.**

The choice of a potential Iranian nuclear strategy given these conditions—the absence of a reliable third-party patron and a slightly more permissive security environment—ought to then turn on the nature of its civil-military relations. Although the organization that would be charged with managing any Iranian nuclear forces, the IRGC, has a more delegative structure than the regular military, it does seem to still operate under highly assertive civilian control from the Supreme Leader.<sup>17</sup> While Saddam Hussein delegated chemical weapons to the Republican Guard in the Iran–Iraq war, Iran seems to have held a tighter grip on the IRGC. As security analyst Javed Ali writes, in December 1986, former Iranian Prime Minister Hussein Musavi “announced that Iran had developed its own chemical warfare technology” but, critically, “Ayatollah Khomeini reportedly decreed that CW could not be employed without his approval.”<sup>18</sup> Despite repeated Iraqi employment of chemical weapons, Iran does not appear to have significantly delegated even retaliatory chemical capabilities to the IRGC (limited secret Iranian use of chemical weapons in 1987, according to Gregory Giles, was approved directly by Ayatollah Khomeini).<sup>19</sup> Though some may disagree, it is unlikely that the Iranian theocracy would countenance devolving and delegating nuclear weapons to even the IRGC, given the consequences of inadvertent nuclear use, without significant impediments to use that required direct approval from the Supreme Leader.<sup>20</sup>

Iran could therefore couple a defense-in-depth conventional strategy with an assured retaliation nuclear posture, given confidence in its conventional force advantage, geographic depth, and likely strong preference for assertive control over any nuclear assets. The primary aim of Iranian nuclear strategy would likely

**Given civil-military relations in Iran, an assured retaliation strategy seems most likely.**

be to deter nuclear use and coercion against it, which demands only an assured retaliation strategy that could be centrally and maximally controlled. This posture is more explicit and open than a catalytic posture, but could still be managed and maintained in a dispersed and recessed state since retaliation need only be certain, not immediate. Peacetime management could be highly assertive, which aligns with the

potential preferences of a civilian-theocratic leadership that would likely aim to maximize control over the nuclear arsenal. Thus, given the civil-IRGC relationship in Iran, an assured retaliation nuclear strategy seems most likely, should it acquire nuclear weapons. It is important to note that even if Iran develops a more delegative structure with the IRGC, the theory would still predict—though for different reasons—an assured retaliation posture due to the resource constraints Iran confronts in developing a larger and more sophisticated asymmetric escalation strategy.

The implication of this prediction is that a nuclear Iran would look more like a China or India, rather than a Pakistan, provided it does not fear an existential conventional invasion from the United States. In fact, the analogy made between a potentially nuclear Iran and Pakistan overlooks a central point: Pakistan's primary threat, India, borders it. Thus, orienting nuclear weapons as an asymmetric escalation strategy to deter a ground invasion across the border has a logic and mission. Iran's primary adversaries for the foreseeable future do not share a land border, and tactical nuclear weapons have little utility in denying conventional air power.

The fact that Pakistan borders India enables it to more aggressively support proxies such as the Lashkar-e-Taiba and then use its asymmetric escalation

**Assured retaliation would carry less risk than asymmetric escalation.**

posture as a shield to credibly deter Indian ground retaliation. In the Iranian case, even if it were to more aggressively support proxies in the region such as Hezbollah, the conventional retaliation it potentially faces would likely not come from the ground but from the air, for which nuclear first-use is a relatively difficult and largely futile mission. Instead, the theory would

predict that Iran would, for civil-military management purposes, prefer an assured retaliation posture as India and China have adopted, rather than the more aggressive and risky asymmetric escalation posture. Certainly, a nuclear Iran might trigger regional proliferation, and there is always an inherent risk of



accidents or inadvertent use in any nuclear state, but the more centrally managed assured retaliation posture would carry less danger than the asymmetric escalation posture in this respect.

### **When are Threats Existential?**

Based on how other regional nuclear powers have selected their nuclear strategies, my theory predicts a catalytic nuclear strategy for North Korea, so long as it continues to believe in the reliability of China as its third-party intervener, and an assured retaliation strategy for Iran, given its more permissive security environment and likely preference for highly assertive civilian control over nuclear assets. Critics might argue that my theory assumes a level of rationality that is inapplicable to North Korea and Iran. However, it is useful to note that analysts and policymakers made the same charges about China in the 1960s and Pakistan today.<sup>21</sup> Yet, their choices of nuclear strategy followed largely rational means-ends logic—and even if North Korea and Iran seek ends that may seem irrational, the means-end logic of choosing a particular nuclear strategy is especially powerful. These predictions may certainly turn out to be incorrect, but this framework nevertheless provides a rigorous and empirically-validated way to think about the key pressures and nodal points driving North Korea and Iran toward specific nuclear strategies.

The implications are important. A North Korea with a catalytic nuclear strategy is preferable to the alternative asymmetric escalation posture. It therefore may be in the U.S. interest to continue to encourage China to play a constructive and protective role with North Korea so that it does not fear abandonment and select a terrifying asymmetric escalation posture. Minimizing regime change threats through the use of force would also reduce the pressure for North Korea to consider shifting to an asymmetric escalation strategy.

Given the mercurial nature of Moscow's relations with other states, it is unlikely Iran would ever consider Russia reliable enough to enable a catalytic posture. If international efforts to halt Iranian proliferation were to fail, the best outcome given the alternatives would likely be an Iran with a recessed assured retaliation posture aiming to deter strictly nuclear use against it. Assuming the Iranian theocracy prefers highly assertive control over its nuclear assets, given the risks of inadvertent use, there may be a natural preference for this posture so long as Tehran does not fear an existential ground conventional threat from the United States or its neighbors. A non-nuclear Iran may be what the world hopes for. But should those efforts fail, it is still worth trying to ensure that Iran adopts a nuclear strategy that looks like India's and China's rather than Pakistan's.

## Notes

1. I exclude the United Kingdom due to its effective subjugation to U.S. nuclear posture after 1958.
2. For a description of the term with respect to South Africa, see Terence McNamee, "The Afrikaner Bomb: Nuclear Proliferation and Rollback in South Africa," in Avner Cohen and Terence McNamee, *Why Do States Want Nuclear Weapons: The Cases of Israel and South Africa* (Oslo: Norwegian Institute for Defence Studies, 2005), p. 14; also see Peter Liberman, "The Rise and Fall of the South African Bomb," *International Security* 26, no. 2 (Autumn 2001), pp. 45–86.
3. For more details see Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton University Press, 2014), Chapter 2.
4. See Narang, *Nuclear Strategy in the Modern Era*, Chapters 4 and 5.
5. It is theoretically possible for a state with an asymmetric escalation posture not to have an assured retaliatory capability, though empirically we observe that states that adopt this posture do attempt to ultimately develop sufficient tactical and potentially survivable second-strike strategic weapons to absorb potential retaliation.
6. For some classic works on French nuclear doctrine, see Wilfred L. Kohl, *French Nuclear Diplomacy* (Princeton: Princeton University Press, 1971); and Wolf Mendl, *Deterrence and Persuasion: French Nuclear Armament in the Context of National Policy, 1945–1969* (New York: Praeger, 1970).
7. Figure reproduced from Narang, *Nuclear Strategy in the Modern Era*, p. 32.
8. *Ibid.*, Chapter 7.
9. See Jonathan Pollack, *No Exit: North Korea, Nuclear Weapons, and International Security* (London: IISS, 2011); John S. Park, "Nuclear Ambition and Tension on the Korean Peninsula," in Ashley Tellis, Abraham Denmark, and Travis Tanner, eds., *Asia in the Second Nuclear Age* (Seattle: National Bureau of Asian Research, 2013), pp. 163–200; Siegfried S. Hecker, "North Korea's Yongbyon Nuclear Complex: A Report by Siegfried S. Hecker," CISAC Policy Brief, Stanford University, November 10, 2010, [http://cisac.fsi.stanford.edu/publications/north\\_koreas\\_yongbyon\\_nuclear\\_complex\\_a\\_report\\_by\\_siegfried\\_s\\_hecker](http://cisac.fsi.stanford.edu/publications/north_koreas_yongbyon_nuclear_complex_a_report_by_siegfried_s_hecker).
10. For one of the best treatments of North Korea's nuclear strategy options, see Terence Roehrig, "North Korea's Nuclear Weapons Program: Motivations, Strategy, and Doctrine," in Toshi Yoshihara and James R. Holmes, eds., *Strategy in the Second Nuclear Age: Power, Ambition, and the Ultimate Weapon* (Washington DC: Georgetown University Press, 2012), pp. 81–98.
11. Pollack, *No Exit*. pp. 132–133.
12. *Ibid.*, p. 143.
13. *Ibid.*, pp. 143–144. Also see Beina Xu and Jayshree Bajoria, "The China-North Korea Relationship," Council on Foreign Relations Backgrounder, August 22, 2014, <http://www.cfr.org/china/china-north-korea-relationship/p11097>.
14. Pollack, *No Exit*, pp. 149–150.
15. Pollack, *No Exit*, p. 169.
16. *Ibid.*, p. 199.
17. See Gregory F. Giles, "The Islamic Republic of Iran and Unconventional Weapons," in Peter R. Lavoy, Scott D. Sagan, and James J. Wirtz, eds., *Planning the Unthinkable* (Ithaca: Cornell University Press, 2000); also see the excellent general treatment on the evolution and penetration of the IRGC in Frederic Wehrey et al., *The Rise of the*

*Pasdaran: Assessing the Domestic Roles of Iran's Islamic Revolutionary Guard Corps* (Santa Monica: RAND Publications, 2009).

18. Javed Ali, "Chemical Weapons in the Iraq-Iran War: A Case Study in Noncompliance," *The Nonproliferation Review* (Spring 2001), p. 51, <http://cns.miiis.edu/npr/pdfs/81ali.pdf>.
19. Giles, "The Islamic Republic of Iran and Unconventional Weapons," p. 83.
20. *Ibid.*, pp. 98–99.
21. For an excellent treatment of this so-called "nuclear alarmism", see Francis J. Gavin, "The Same as it Ever Was: Nuclear Alarmism, Proliferation, and the Cold War," *International Security* 34, no. 3 (Winter 2009/2010), especially pp. 13–17.