Shadow Risk

*What Crisis Simulations Reveal about the Dangers of Deferring U.S. Responses to China’s Gray Zone Campaign against Taiwan*

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**THE ISSUE**

- This brief explores escalation dynamics in China’s gray zone campaign targeting Taiwan based on the results of 20 crisis simulations.
- CSIS finds that U.S. policymakers face shadow risk in gray zone confrontations: the desire to avoid short-term escalation triggers an increased appetite for risk in future disputes. In other words, deferring U.S. responses to Chinese aggression may inadvertently make future confrontations more dangerous and intractable.
- The analysis suggests a need to stress test emerging approaches to great power competition like integrated deterrence through additional wargames, develop new planning and analytical frameworks optimized for gray zone campaigns, and expand crisis communication channels.

**INTRODUCTION**

The risk of a conflict over Taiwan is increasing.¹ Testifying before the Senate Armed Services Committee, Admiral Phil Davidson, the U.S. Indo-Pacific Command (INDOPACOM) Commander, predicted the Chinese could challenge Taiwan within six years.² During the fall and winter of 2021, China increased its air intrusions into Taiwan, sending waves of strike and intelligence aircraft to demonstrate its ability to compel the island with military force and deter foreign intervention.³ This provocation occurred despite the presence of two U.S. military aircraft carrier strike groups and partner forces from the United Kingdom, Netherlands, Canada, Japan, and New Zealand conducting naval drills in the region.⁴ The next crisis could test the limits of the Biden administration’s strategy of cooperate and compete as well as the defense posture of integrated deterrence.⁵ China’s military pressure complements a larger gray zone campaign designed to subvert an independent Taiwan and signal its ability to isolate the island across multiple domains.⁶ China utilizes a mix of coercive measures. For years, China has conducted a systematic cyber and cognitive warfare campaign including espionage, misinformation, and subversive efforts to signal its ability to digitally sabotage Taiwan during a crisis.⁷ In 2020 alone, cyberattacks targeting the Taiwanese Ministry of Foreign Affairs increased by 40 times the level seen in 2018 and averaged over 2,000 intrusions a day.⁸ These activities reinforce long-standing efforts to economically coerce and diplomatically isolate what Beijing perceives as a rogue province.⁹ Tensions in the Taiwan Strait raise a critical national security question: under what conditions do gray zone campaigns escalate? The utility of these subversive efforts—what George Kennan called political warfare and Herman Kahn labeled sub-crisis maneuvering—lies in compelling a target state short of armed conflict.¹⁰ Through the manipulation of risk, gray zone campaigns pressure an adversary while simultaneously avoiding an escalating
series of clashes between great powers. They are designed to prepare the environment for future operations while indirectly demonstrating resolve—what previous studies have referred to as weak and ambiguous signals.\textsuperscript{11}

For this reason, modern great power competition flourishes in the gray zone. From the Chinese concept of war control to Russia’s approach to coercive campaigns combining military threats and psychological warfare, there is a transnational race to develop strategies optimized for a new competition continuum.\textsuperscript{12,13,14} To date, most research into gray zones focuses more on defining tactics to gain an advantage than evaluating escalation dynamics.\textsuperscript{15} Escalation risk is treated as an asymmetric source of coercive leverage rather than a complex interaction potentially prone to miscalculation. In theory, gray zone activities should limit escalation risks. Yet, does that logic hold for what Beijing views as vital national interests like the status of Taiwan?

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This brief examines the potential for escalation in Taiwan as a result of China’s gray zone campaigns. Through 20 crisis simulations conducted in Fall 2021, CSIS mapped how and when gray zone scenarios escalate and the implications for the U.S. strategy. The research complements earlier efforts to war game crises over Taiwan but takes a new approach by applying social science methods and statistical analysis to identify unique decisionmaking pathologies at play in gray zones.\textsuperscript{16} Overall, the simulations hosted by CSIS indicate unique temporal dynamics associated with gray zone escalation with important policy implications.

When responding to a notional China gray zone campaign, teams playing the United States all opted to defer risk into the future. That is, they preferred to take long-term actions like increasing foreign military sales and altering military force posture rather than responding to the immediate crisis at hand. At the same time, these teams were statistically more likely to escalate in subsequent rounds, implying an inversion of the classic commitment trap in international relations.\textsuperscript{17} The adage that Germany started the First World War in 1914 over concerns about the shifting balance of power by 1917 is reversed in gray zone campaigns.\textsuperscript{18} Players seeking to avoid taking risky moves in the short term increase escalation risks in the long term when crises prove intractable. This finding also reinforces earlier literature on great power rivalry, which sees increasing threat spirals in each subsequent crisis between states like China and the United States—especially when they are subject to interest asymmetries, shifting power balances, and territorial concerns.\textsuperscript{19} Crises are not discrete, independent events. They tend to be continuous, leading to unique temporal dynamics as each side gauges what they expect the other to do in the future.\textsuperscript{20}

**GRAY ZONE CAMPAIGNS AND ESCALATION DYNAMICS**

Following previous CSIS research, gray zones are defined as “the contested arena that lies between routine statecraft and open warfare.”\textsuperscript{21} The utility of force resides in threats (i.e., signaling) and manipulating risk to achieve a position of advantage short of risking open war. States seek to “work around [adversary] red lines, taking gains by fait accompli and imposing pressure where it is possible to do so without quite crossing the line of unambiguously using force.”\textsuperscript{22}

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Seen in this light, China’s gray zone campaign targeting Taiwan serves two purposes. First, consistent with the Chinese concept of war control, it ensures China seizes the initiative by setting the conditions for future military action and defining the tempo.\textsuperscript{23} Second, gray zone measures message Taiwanese leaders and citizens, as well as the broader international community and key military powers like the United States, that there are tangible risks to getting involved. Washington should think about how much risk China will assume over time to achieve its policy goal of unification.
These characteristics produce a distinct operational art in gray zone campaigns. In the gray zone, actors apply persistent actions to deter, dissuade, or mitigate a rival’s competitive advantage.\textsuperscript{24} As seen in Russian and Chinese campaigns, these actions range from salami slicing and cabbage strategies that incrementally increase pressure to long-term efforts to undermine an adversary from within through subversion campaigns built around misinformation, diplomatic isolation, and economic coercion.

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Gray zone campaigns are a method of containing the escalation risk that emerges in long-term competition. By using measures short of armed conflict, they allow states to signal, even if weak and ambiguous, key thresholds while shaping the environment. When states like China seek to challenge the status quo, they opt for these subversive measures as a low-cost, low-risk alternative to the costly gamble of war. In other words, gray zones are a choice for revisionist states, and the alternative is war.

Yet, this logic may not apply to China and Taiwan. Crises between Beijing and Taipei could be particularly acute and escalation prone, especially when they draw in third-party actors like the United States. Geography plays a role. Taiwan, including smaller islands like Kinmen, is close to mainland China and the issue of Taiwan’s territorial status is a core interest for the Chinese Communist Party. The past sets a precedent. The status of Taiwan has led to multiple crises over the last 70 years, producing a tendency toward escalation consistent with literature on enduring rivalries.\textsuperscript{25} Last, China’s power is growing, creating a window of vulnerability due to long-term power cycles and power transitions.\textsuperscript{26}

The central question then is whether gray zone campaigns can sufficiently contain the inherent escalation risks in a future crisis over Taiwan. Based on previous studies, three attributes of escalation help answer this question.

**First, escalation is a bargaining process.** Modern discussions about competition, much like their Cold War predecessors, see gray zone campaigns and the crises they generate as bargaining processes.\textsuperscript{27} States seek to alter adversary behavior short of war and use escalation—from shows of force to cyber operations—as a means of determining their rival’s level of resolve.\textsuperscript{28} This interactive process is subject to larger social, psychological, and institutional effects that can create self-reinforcing feedback loops and, in the right combination, a runaway train to war.\textsuperscript{29} As a result, most scholarly treatments on escalation focus on the conditions likely to produce

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**CHINESE GRAY ZONE EFFORTS**

- **Air Incursions**
- **Electronic Warfare**
- **Maritime Coercion**
- **Cyber Operations**
- **Economic Coercion**
- **Diplomatic Isolation**
- **Political Subversion**

**ESCALATION DYNAMICS**

- **Bargaining**
  - two sides compete for advantage
- **Vertical Escalation**
  - increase threats to signal risk
- **Cross-Domain**
  - costs can be in different domains
- **Horizontal Escalation**
  - make threats to shift the competition geographically
- **Inadvertent Escalation**
  - threats can be misinterpreted
- **Accidental Escalation**
  - accidents can trigger escalation

Source: CSIS creation.
dangerous threat spirals, inadvertent escalation, or chain reactions that change the character of a foreign policy crisis and lead states down a dangerous path to war.30

Second, escalation involves threats that help states forecast the costs and risks at stake in a crisis. In early game theory work, escalation was often treated as variants of a threat game.31 Players, whether individuals or great powers, select between a set of finite choices given imperfect information about what the adversary will do and calibrate their actions accordingly. These moves can stabilize interactions putting a cap on escalation.32 That is, rational actors seek an equilibrium balancing threats with the risk of initiating costly conflicts. Actors tend to base their decision on estimates of the other parties’ cost tolerance, how much pain they will endure, or advantages they will lose to achieve a demand. Consistent with literature on issue salience, this cost tolerance is what determines escalation dynamics.33 High escalation cost tolerant states will assume risk and absorb pain to force an adversary to back down during crisis bargaining. The challenge is that cost tolerance is private information, making it difficult to gauge the optimal response during a crisis. States may be bluffing, or they may be willing to assume high costs associated with retaliation.

Third, escalation is driven more by perception than the balance of military power. In studying escalation as part of crisis bargaining, scholars tend to differentiate between structural and decision-theoretic factors that shape how actors respond to perceived threats as well as between accounts that focus on current crisis decisionmaking or prevailing reputations.34 The decision to escalate is either a question of underlying structural conditions like the balance of power or related to iterated decisionmaking under imperfect information linked to reputations and what states assume the other side will do.35

Most literature sees decision-centric processes—how state leaders and their advisers perceive the situation and make decisions—as the dominant attribute shaping how a crisis unfolds and its overall escalation potential.36 In particular, there are also unique cognitive dynamics that can skew how foreign policy decisionmakers calculate escalation risks.37 First, deferring decisions is common when confronted with multiple response options.38 Second, high-stakes decisions, such as whether or not to confront a nuclear-armed state, are prone to deferral.39 These decision deferral dynamics imply that leaders may respond to gray zone campaigns with options that help them push escalation risks into the future. This deferral can cause unchecked adversaries to become more hostile and amplify inadvertent and accidental escalation risks.40

**OUR APPROACH**

**USE CRISIS SIMULATION AND EXPERIMENTS TO EVALUATE RISK ATTITUDES**

To analyze gray zone escalation dynamics around Taiwan, the researchers adapted a tabletop exercise (TTX) format to conduct a conjoint experiment over the course of 20 crisis simulations during the Fall of 2021.41 In 10 treatments, U.S. players had access to long-term crisis options using military power. In 10 treatments, U.S. players only had access to more immediate military response options. The underlying scenario, summarized below, was held constant across the events and involved a standoff over the Kinmen Islands in 2027. The scenario posited that Chinese military, economic, and diplomatic pressure on Taiwan increased after the 2024 Taiwanese presidential election. By 2026, there are weekly major Chinese incursions into the island’s air defense identification zone, including fighters, nuclear-capable bombers, and antisubmarine warfare platforms. In the last three months, these activities have intensified through the operation of naval surface action groups and simulated military operations off the eastern coast of Taiwan. China has increased pressure on the Taiwanese Kinmen (10 km off the coast of mainland China) which Beijing seeks to claim jurisdiction over. Kinmen leaps into international news when in 2027 a gas pipeline explosion damages a nearby Chinese fishing vessel. Chinese media claims that the explosion resulted from an attack by Taiwanese separatists and uses it as an opportunity to expand its East China Sea air identification zone to cover the entirety of Kinmen. Simultaneously, China conducts large military exercises firing missiles into the East China Sea and simulating attack runs to the north and south of Taiwan while entering the Japanese airspace. As Japan deploys naval vessels in response, multiple countries warn the Kinmen crisis could spark a wider military confrontation with China. World stock markets drop 10 percent as funds shift to U.S. bonds and gold prices surge. Taiwan requests assistance, and the U.S. president is under increasing pressure to respond to this economic and military challenge.

As seen in Figure 1, in situations where U.S. players had military response options to check gray zone activity that only factored the short term (i.e., less than 30 days), they tended to select more escalatory options. These options ranged from deploying intelligence assets and conducting a freedom of navigation operation to authorizing a
“blinding strike” consistent with older AirSea Battle and Joint Concept for Access and Maneuver in the Global Commons in which, through a mix of cyber and electronic warfare, the U.S. military blinded the People’s Liberation Army’s command and control to support a limited, conventional strike.  

When players had only short-term response options (red bar in Figure 1), 50 percent recommend announcing the United States would escort air and maritime commercial vessels to Kinmen. The most common response when players had comparable long-term options (blue bar in Figure 1) was to defer a response into the future, with 33 percent opting to announce an increase in INDOPACOM force posture over the long term. Comparing the two treatments shows that when long-term response options were introduced, they were associated with less escalatory responses by U.S. players. Players chose to defer the decision to escalate into the future or simply ignore the near-term threat due to the lack of viable options for confronting gray zone activity without triggering a broader crisis.  

This finding held when looking at player assessments of the underlying escalation risk. Teams were asked to assess how escalatory they thought their recommended crisis option was. When players only had long-term response options (blue line in Figure 2) they tended to assume there was less risk of the crisis escalating compared to treatments with short-term response options (red line in Figure 2).
Gray zone competition appears to reduce escalation risks by delaying decisions about whether to confront the antagonist. China can wear down Taiwan over time and even use repeated crises beneath the threshold of armed conflict to test U.S. resolve without triggering a dangerous threshold response. As long as the United States can defer a decision to respond into the future, it can signal without incurring immediate escalation risks. This bargaining process involves each side trying to gain an advantage without triggering a war. The larger question is whether deferring costly decisions to check aggression into the future may destabilize the U.S.-China relationship. Is the cost of stability in the present instability in the future?

There appears to be shadow risk associated with deferring escalation decisions. When players were confronted with a second round of the Kinmen crisis, escalation dynamics shifted. Whereas long-term crisis response options tended to be associated with lower threshold response options and escalation risks assessments at the start of the crisis as outlined above, the opposite occurred in subsequent rounds. As seen in the chart below, long-term response option treatments (blue bar in Figure 3) were associated with larger degrees of escalation based on comparing U.S. player response options in round one and their response option in round two. Overall, 70 percent of the crisis simulations saw higher magnitude responses. Specifically, where players preferred announcing long-term force posture changes to signal China in round one, they opted to challenge China in round two and deploy naval assets in the vicinity of Kinmen. Inversely, in the treatments where players had only short-term response options (red bar in Figure 3), most opted for a lower-level response in the second round. In these responses, 60 percent opted to deploy air superiority assets and enablers to existing bases in the area (i.e., Alaska, Japan) to provide response options and signal capability as well resolve without a direct confrontation.43

Long-term response treatments were also associated with nonproportional escalation jumps. Because the U.S. player and Chinese player moved simultaneously, they did not know in advance whether or not the other party would escalate. In the second round, this meant the U.S. player could calibrate their response to what the Chinese player did in round one, using previous movement as a predictor of future activity. When comparing the difference between the Chinese player response in round one and the U.S. player response in round two, the U.S. players could opt for a proportional response or even an incremental, instrumental escalatory move in round two. As seen in Figure 4, the difference between the U.S. player response to the crisis and the Chinese player response was consistently higher in the treatments involving long-term options (blue line in Figure 4). That is, deferring escalation did not work when the adversary kept pressing in the gray zone and led to a spike in escalation. Applied to future standoffs with China over Taiwan, this dynamic indicates inadvertent escalation risks associated with the psychology of decisionmaking under uncertainty. Deferring risk in the present could lead to more risk in the future. What may appear prudent in the present may prove dangerous in the future.

**Figure 3: Deferred Escalation**
POLICY IMPLICATIONS
DANGERS OF DEFERRED ESCALATION,
INTEGRATED DETERRENCE, CRISIS
COMMUNICATION, AND SITUATIONAL AWARENESS

China is more likely to continue its gray zone campaign against Taiwan than it is to launch a fait accompli, short-notice invasion. How other countries, especially the United States, respond will shape the character of great power competition in the Indo-Pacific. As shown in the crisis simulations reviewed in this brief, there are unique escalation dynamics associated with gray zone campaigns that challenge conventional wisdom and necessitate new thinking on deterrence, crisis management, and intelligence.

First, the crisis simulations underscored the need for U.S. policymakers to address the danger that avoiding or deferring escalation against China in immediate crises may lead to more dangerous future crises. The analysis suggests that an initial desire to avoid directly responding to gray zone operations could trigger future escalation. In other words, engaging in more limited, immediate U.S. responses to Chinese gray zone coercion could prevent the need to embrace more forceful responses in the future. The United States needs to align ways and means to this end and develop a range of calibrated crisis response options.

Second, there is a need to stress test the Biden administration’s concept of integrated deterrence against Chinese gray zone operations. New defense thinking is emerging around an old idea: deterrence. The secretary of defense recently called for integrated deterrence that is “the right mix of technology, operational concepts and capabilities—all woven together and networked in a way that is so credible, flexible and so formidable that it will give any adversary pause...[and] create[s] advantages for us and dilemmas for them.” Since 2018, the Joint Staff has published new doctrine on the competition continuum. This posture calls for integrated campaigning: the “skillful combination of cooperation, competition below armed conflict, and, when appropriate, armed conflict in conjunction with diplomatic, informational, military, and economic efforts to achieve and sustain strategic objectives.”

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All of these concepts, and integrated deterrence in particular, need further studies and wargames evaluating the feasibility of deterring Chinese gray zone activities as well as the series of events likely to trip a firebreak and trigger a large-scale conventional use of force. CSIS crisis simulations show that unchecked Chinese gray zone
coercion raises the risk of a larger deferred crisis between the United States and China.

Third, the simulations show a need to rethink the architecture of crisis management. While the Department of Defense (DoD) has extensively planned for large-scale Chinese contingencies, there is currently no similar lead agency or office—whether in DoD or elsewhere—that pre-plans potential U.S. responses to gray zone scenarios. This gap emerges because gray zone scenarios tend to fall within the seams of national security equities and bureaucratic focus. Yet in the gray zone, U.S. responses are likely to involve authorities, assets, and capabilities beyond just those of any single agency or department. Nevertheless, given the real risk of U.S.-China conflict over Taiwan—and Taiwan being the top contingency that most U.S. experts fear the United States and China may find themselves at war over—the United States should develop at least a small number of plans to address gray zone moves against Taiwan short of a shooting war and look at different interagency models for managing the crisis. Developing this crisis management framework should also include extensive wargaming not only within the U.S. government but also with Taiwan. U.S. responses against China will only be effective if it is well-coordinated with Taiwan’s reactions, and this involves understanding what Taipei might do and the complex international and domestic political environment Taiwan leaders face. The same logic holds for major allies in the region like Japan and Australia.

In addition to identifying an interagency lead for gray zone planning and further refining plans through crisis simulations and war games, the Biden administration will need to revisit crisis communication channels and the larger diplomatic architecture associated with real-time crisis management. Seeing great power competition as a series of iterated bargaining crises where each side signals the other puts a premium on communication. Washington and Beijing need to expand the number of channels, from formal Track One to informal, multilateral diplomatic tracks, which are open and exercised to ensure they can communicate clearly during a crisis. These channels should be exercised prior to a future crisis and require constant upkeep and even iterated crisis simulation with partners and Beijing to identify red lines and the risk of inadvertent escalation.

Fourth, there is a broader need to rethink the types of intelligence collection and analytical capabilities required to guide decisionmakers through a gray zone crisis. CSIS has led the national security community in outlining the unique intelligence challenge associated with gray zone activity. Unlike traditional intelligence warning, which focuses on sensitive collection assets, gray zone crises require aggregating unclassified data and applying data science techniques to find the signal in the noise. Decisionmakers and the intelligence community need a series of studies, war games, and crisis simulations to further define the warning challenge in gray zone crises and identify key capability and capacity gaps. These activities should be open and involve academics, think tanks, journalists, businesses, and partners to avoid narrow institutional perspectives.

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For an overview of the methodology used in the tabletop exercise, please see here.

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ENDNOTES


17 Robert Powell, “War as a Commitment Problem,” International...


19 Paul F. Diehl and Gary Goertz, War and Peace in International Rivalry (Ann Arbor: University of Michigan, 2000).


21 Hicks et al., By Other Means Part I; Hicks et al., By Other Means Part II. Note the definition is also consistent with major RAND studies, including Michael Mazarr et al., What Deters and Why: Applying a Framework to Assess Deterrence of Gray Zone Aggression (Santa Monica, CA: RAND Corporation, 2021).


24 Morris et al., Gaining Competitive Advantage.


35 Traditionally structural accounts examine the balance of capabilities between actors, using power assessments to determine relative stability in a crisis dyad. Intervening factors can alter how states perceive the balance of capabilities, such as geographic proximity, strategic weapons (i.e., nuclear, ballistic missiles), issue salience, and regime type.


41 The design and statistics from the experiment are detailed in the methods annex accompanying the brief.


44 Secretary Lloyd Austin, quote from the U.S. Indo-Pacific change of command April 30, 2021, as it appears in Lopez "Defense Secretary Says Integrated Deterrence is Cornerstone of U.S. Defense."

45 *Joint Concept for Integrated Campaigning* (Arlington, VA: Chairman of the Joint Chiefs of Staff, 2018); *Joint Doctrine Note 1-19, Competition Continuum* (Arlington, VA: Chairman of the Joint Chiefs of Staff, 2019).

46 *Joint Doctrine Note 1-19, Competition Continuum*, v.
