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in U.S.-China Economic Relations*

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Matthew P. Goodman

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A Report of the CSIS SIMON CHAIR IN POLITICAL ECONOMY

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*Beyond the Brink* involved two one-day simulations composed of former policymakers and leading experts on the U.S.-China bilateral economic relationship and international trade: Christopher Adams, Eric Altbach, former U.S. Representative Charles Boustany, Amy Celico, Lindsey Ford, Charles W. Freeman III, Ryan Hass, Michael Hirson, Scott Kennedy, former U.S. Senator Mark Kirk, Susan Lawrence, James Loi, Wayne Morrison, Kevin Nealer, Michelle O'Neill, David Rank, Claire Reade, William Reinsch, Elizabeth Rosenberg, Nargiza Salidjanova, Jeremie Waterman, and Sharon Yuan. We are deeply grateful to these experts for their time and creative insights. (The names and affiliations of all simulation participants, as well as CSIS support staff, are listed at the end of the report.)

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# Executive Summary

As the United States and China mark their 40th anniversary of formal diplomatic relations in 2019, the world's most important bilateral relationship is increasingly defined by mistrust, competition, and uncertainty. After four decades of deepening economic integration, the talk in Washington today is about the extent to which the two economies will “decouple” over the years ahead.

On July 6, 2018, the United States imposed tariffs of 25 percent on \$34 billion worth of Chinese imports, launching the largest trade war in the post-war era. A year later, more than three-quarters of the \$660 billion in two-way goods trade—an amount roughly the size of Thailand's economy—was subject to tariffs. During that time, the United States also announced export restrictions for dozens of Chinese companies and designated Beijing a currency manipulator; both of these actions were met with swift retaliation. The potential economic costs of the conflict, and any decoupling it prompts, are enormous, not only to the United States and China but to the entire global economy. Moreover, the trade war has elevated the potential for spillovers into other aspects of the relationship and the risk of great-power conflict.

Despite these risks, the United States entered the trade war relatively unprepared for such a confrontation, with only a vague sense as to how it could unfold. Without an appreciation of where the trade war may lead, the United States may find itself weakened in economic, diplomatic, and security terms, without achieving significant policy changes in China. Most importantly, policymakers risk miscalculating and stumbling into a new Cold War—or worse.

We launched this project to help U.S. policymakers navigate the complexities of a trade war with China. We drew on several different academic disciplines to help us model how an economic conflict between the United States and China could escalate and eventually de-escalate. Although the real U.S.-China trade war quickly escalated over the course of this 18-month project, our theory-based approach provided valuable predictive power, as well as a basis for understanding the strategic logic of the other side.

We began by developing a model for the likely dynamics of how a trade war might escalate, applying game theory, bargaining theory, and the concept of “escalation dominance” from nuclear deterrence theory. Our model simplifies the variables in a negotiation to isolate those affecting escalation. The predictions of our model depend on several factors,

including each country's appetite for risk and perceived knowledge about their adversary's willingness to endure pain.

Second, we inventoried and analyzed the tools of economic statecraft available to policymakers in the United States and China. A more complete understanding of these tools, including associated costs and use cases, will help U.S. policymakers better apply strategic pressure and understand Chinese responses.

Finally, we tested and refined our model and the assumptions underlying it through two one-day simulations of a U.S.-China trade war involving experienced experts and former policymakers. The simulations helped us understand how Washington and Beijing approach economic conflict, which tools had the most strategic value, and possible escalatory pathways of a prolonged trade war.

Despite the challenges inherent in modelling economic conflict, our model was validated to a surprising extent by both our simulations and real-world developments. The project produced several findings that were both unexpected and relevant to policy:

- **Game theory is useful to model the dynamics of escalation in U.S.-China economic conflict.** Generally, our simulations confirmed our model's central causal mechanism: an agent that has a high appetite for risk and underestimates its counterpart's willingness to endure pain will launch an escalatory spiral. This helps explain the current impasse in the trade war. Beijing believes the costs of fundamentally reforming their economy as part of a deal are greater than the costs of the current conflict. Washington is determined to continue the conflict because it believes the costs are higher for China.
- **A successful U.S. negotiating strategy must establish "dual credibility" about resolve and willingness to compromise.** Our model and simulations found that an optimal U.S. strategy of pressure toward China credibly demonstrates both resolve and willingness to compromise. Washington must continually persuade Beijing that the United States is willing to absorb enormous costs for longer than China and that the United States would accept a compromise agreement that both addresses its own major concerns and yields benefits for China.
- **China has an impulse to reach out and seek partners and is sensitive to multilateral pressure.** In both of our simulations, China displayed an impulse to reach out and seek allies. Beijing's tendency to use significant resources to attract partners—successful or not—suggests U.S. efforts to work with allies to isolate China have value. Beijing places a high priority on outreach, but Washington has a natural competitive advantage thanks to its network of alliances. By eschewing multilateralism and threatening tariffs against traditional allies, the United States is denying itself a stronger hand in negotiations with China.
- **Economic statecraft—if well-targeted—can pressure China to make meaningful concessions.** In our simulations, the China team felt most threatened when the United States banned exports to critical Chinese technology companies. Comparatively, they felt less pain from broad-based tariffs. As a result of this pressure, the China team in our simulations was willing to make concessions on what they



perceived as non-core issues, including intellectual property protection and goods purchases. Applying our model, to reach a deal on fundamental structural issues, the United States will have to apply massive pressure to make the costs of conflict unbearable to China, which may be impossible without multilateral support.

- **China prefers to use informal tools of economic statecraft.** In our simulations, China often did not implement equivalent countervailing measures but used “qualitative” tools to retaliate to U.S. actions. These were not used at random but targeted politically salient interests. Use of informal tools allows China to pressure the United States while simultaneously passing laws that notionally liberalize its economy to attract other foreign investors. Still, this “silent” trade retaliation by Beijing is prone to miscalculation.
- **Economic conflict generates pressure for a larger government role in the economy.** Wide-ranging economic conflict pressures governments to more actively intervene in the domestic economy. For one thing, they may seek to prevent certain companies from trading with an adversary. They will face pressure to compensate interest groups harmed by escalation to maintain domestic support for continuing the conflict. And they will face broader incentives to stimulate growth to offset the pain of escalation, since neither side will want the other to perceive it as weak or damaged as a result of escalatory actions.
- **Selective decoupling is an inevitable consequence of economic escalation once a threshold is crossed.** This is arguably the most significant finding of our project. We found that escalation dynamics will push two countries apart once a certain threshold is crossed even if neither side had an initial goal of decoupling. Aggressive use of escalatory tactics erodes mutual trust, limiting the credibility that either side will negotiate in good faith or keep their promises. This is exacerbated when a country crosses certain “red lines” or if there are broader strategic concerns. Even if a deal is reached, memory of the conflict will influence public- and private-sector decisions.

All of this suggests that economic conflict is likely to be an enduring feature of the U.S.-China relationship for many years to come. Until perceptions of relative costs in the two countries shift, Washington and Beijing seem set on a path of continued escalation, no substantial trade deal, and at least partial decoupling of their economies.

Reflecting on the findings of our project in light of the real-world U.S.-China trade war, we derive a few recommendations for U.S. policymakers seeking to engage in successful economic bargaining with China:

1. **Establish “dual credibility.”** Whether it wants to win narrow economic concessions or more fundamentally change Chinese policies, Washington must persuade Beijing that it is willing to both: (a) impose and maintain penalties—and bear the associated costs; and (b) follow through on its own commitments if a mutually beneficial deal is reached.
2. **Set clear goals and assess the cost and benefits of achieving them.** The first step in successful bargaining, with China or any other country, is to set clear objectives and ensure that everyone on the U.S. negotiating team understands them.

Once the negotiating objectives have been set, it is critical to have an accurate assessment of the costs and benefits of achieving them, including the impacts of using different tools and tactics. This should begin with the collection, analysis, and distribution of data on the benefits and costs of U.S.-China commerce, in absolute terms and relative to other policy challenges.

3. **Enhance decision-making processes.** An administration wishing to strengthen its bargaining position with China should work to maximize procedural strengths, including institutional experience and stakeholder input, and remedy challenges of coordination and regulatory-capture risks. Potential solutions include establishing a “China policy czar” in the White House charged by the president with developing and implementing strategy and ensuring coordination across the U.S. government. More transparent and standardized consultations with industry and consumer groups would also be valuable.
4. **Build multilateral coalitions.** No strategy toward China can succeed without extensive coordination with U.S. allies and partners. With the spread of China’s economic relationships around the world, access to the U.S. market alone no longer provides the kind of bargaining leverage for Washington that it once did. However, mobilizing the U.S. network of allies and partners can play on Beijing’s fear of isolation. As a first step, the Trump administration should deepen its trilateral work with the European Union and Japan.
5. **Invest in economic strength at home.** Beyond short-term interventions to improve the U.S. tactical position or offset costs to domestic stakeholders, the United States can and should strengthen its bargaining position vis-à-vis China by investing in the domestic underpinnings of its long-term economic competitiveness. This means upgrading the country’s physical infrastructure, preparing the American workforce with the skills and resilience needed in the twenty-first century economy, and investing more in research and development.





# 1 | Introduction

This project began in the spring of 2018, just before the United States and China entered an escalating trade war. Historically, deepening commercial ties between the two countries served as ballast in a relationship otherwise marked by divergent political and security interests and lack of trust. Today, economic tensions, exacerbated by national security concerns, threaten to permanently reshape the relationship.

The roots of the current conflict lie in China's dramatic rise after the start of "opening and reform" in 1978. Since then, China's economy has grown 90-fold in nominal terms, from the tenth largest in the world to the second largest in 2018.<sup>1</sup> Over this period, the U.S. share of world gross domestic product (GDP) fell slightly from 24.4 percent to 23.5 percent, while China's share rose from 1.7 percent to 15.4 percent.

Washington initially viewed China's rapid growth and integration into the global economy with optimism. The end of communism in Eastern Europe and the successful transition of countries in that region to market democracies suggested an inevitable path forward for China. U.S. policymakers believed that China's integration into the global trade system would bring economic benefits to the United States and help liberalize China's domestic institutions.<sup>2</sup> Despite recurring tensions in the bilateral relationship in the 1980s and 1990s, the United States continued to advocate for China's greater involvement in multilateral institutions. This process culminated with China's accession to the World Trade Organization (WTO) in 2001, which President Bill Clinton heralded as "the most significant opportunity to create positive change in China since the 1970s."<sup>3</sup>

The reality since China's accession to the WTO has fallen short of these expectations. Beginning under the administration of Chinese Communist Party (CCP) General Secretary and President Hu Jintao (2002-12), Beijing began slowing the pace of economic liberalization and backslid on political openness. This trend has intensified under Xi Jinping, who has successfully consolidated power and set himself up as ruler for life. Since Xi took office as general secretary in late 2012, the state has played an increasing role

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1. World Bank, "GDP (current US\$)," World Bank Group, <https://data.worldbank.org/indicator/ny.gdp.mktp.cd>.

2. James Mann, *The China Fantasy: Why Capitalism Will Not Bring Democracy to China* (New York: Penguin Group, 2007), <https://www.penguinrandomhouse.com/books/298527/the-china-fantasy-by-james-mann/9780143112921/>.

3. Bill Clinton, "China Trade Bill" (speech, Washington, D.C., March 8, 2000), *New York Times*, <https://partners.nytimes.com/library/world/asia/030900clinton-china-text.html>.

in economic decision-making and resource allocation at the expense of market-driven actors.<sup>4</sup> Beijing has stepped up mercantilist policies, including by enabling intellectual property (IP) theft and forced technology transfer, channeling massive state subsidies to domestic “champion” companies, and restricting market access in China for foreign competitors.<sup>5</sup> U.S. companies and policymakers in Washington are especially concerned by Beijing’s plans to conquer the commanding heights of the new global economy through initiatives such as “Made in China 2025,” which seeks to win dominant market shares for Chinese companies in a range of industries of the future.<sup>6</sup>

Meanwhile, the promised U.S. domestic economic benefits of greater integration with China have been uneven. While corporations and high-skilled workers benefitted from increasing access to a market of over a billion consumers and a low-wage Chinese workforce, blue-collar U.S. workers disproportionately suffered the downsides. Landmark research by economists Daron Acemoglu, David Autor, David Dorn, Gordon Hanson, and Brendan Price estimated “job losses from rising Chinese import competition over 1999-2011 in the range of 2.0-2.4 million.”<sup>7</sup> Regions of the United States most affected by the “China Shock” suffered declines in employment and wages.<sup>8</sup> These acute impacts politically overshadowed the broad, dispersed benefits to consumers in the form of lower prices and greater product selection.

The dual effects of a more restrictive business environment in China and economic dislocations in the United States generated mounting political pressure on U.S. officials to induce China to change its behavior. More than a decade of bilateral negotiations yielded incremental progress, including on market-based currency management and cyber theft, but did not address the main structural issues in the relationship.<sup>9</sup> Pressure grew for a new strategy toward China. This reached a tipping point with the election of Donald Trump, who pledged to take a much more aggressive approach toward economic relations with Beijing and to slash the bilateral trade deficit.

After months of threats, the Trump administration imposed tariffs in July 2018 on \$34 billion worth of Chinese goods, beginning a trade war that steadily escalated.<sup>10</sup> A year after the first volleys were exchanged, the United States had imposed tariffs on over \$360 billion worth of Chinese products, and China had retaliated with tariffs on nearly \$150 billion worth of U.S. goods. Both sides have used various measures in addition

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4. Nicholas R. Lardy, *The State Strikes Back: The End of Economic Reform in China?* (Washington, DC: Peterson Institute for International Economics, 2019), <https://piie.com/bookstore/state-strikes-back-end-economic-reform-china>.

5. “Findings of the Investigation Into China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation Under Section 301 of the Trade Act of 1974,” U.S. Trade Representative, March 22, 2018, <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>.

6. Jost Wübbeke et al., *Made in China 2025: The making of a high-tech superpower and consequences for industrial countries* (Berlin: Mercator Institute for China Studies, December 2016), <https://www.merics.org/en/merics-analysis/papers-on-china/made-in-china-2025/>.

7. Daron Acemoglu et al., “Import Competition and the Great U.S. Employment Sag of the 2000s,” *Journal of Labor Economics* 34, no. S1 (Part 2, January 2016), <http://economics.mit.edu/files/9811>.

8. David H. Autor, David Dorn, and Gordon H. Hanson, “The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade,” National Bureau of Economic Research, Working Paper 21906, January 2016, <http://www.nber.org/papers/w21906>.

9. In 2015, Presidents Obama and Xi reached an agreement on curbing cybertheft, and over the last five years China has gradually liberalized its exchange rate mechanism.

10. “Statement by USTR Robert Lighthizer on Section 301 Action,” U.S. Trade Representative, July 10, 2018, <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/july/statement-us-trade-representative>.

to tariffs. Washington has restricted exports to certain Chinese companies, including telecommunications giant Huawei, strengthened investment screening and export control regimes to control technology transfer to China, and labeled Beijing a “currency manipulator.” In response, Beijing paused purchases of U.S. agricultural products, threatened to limit exports to U.S. companies, and allowed its currency to moderately depreciate.

As Beijing and Washington mark their 40th anniversary of formal diplomatic relations in 2019, the world’s most important bilateral relationship is increasingly defined by mistrust, competition, and uncertainty. After four decades of deepening economic integration, the talk in Washington today is about the extent to which the two economies will “decouple” over the years ahead.

The U.S.-China trade war is unlike other trade wars in its size, scope, and significance. The two economies are highly interconnected; each was the other’s largest bilateral trading partner in 2018.<sup>11</sup> Over three-quarters of the \$660 billion in two-way goods trade—an amount roughly the size of Thailand’s economy—is now subject to tariffs. Previous trade conflicts were often contained to a specific sector or industry; the current tariffs cover a wide variety of goods, from soybeans to semiconductor components. Thus, the potential economic costs of the conflict—and any decoupling it prompts—are enormous, not only to the United States and China but to the entire global economy. Moreover, the trade war has elevated the potential for spillovers into other aspects of the relationship and the risk of great-power conflict. Policymakers risk miscalculating and stumbling into a new Cold War—or worse.

Despite these risks, the United States entered the trade war relatively unprepared for such a confrontation, with only a vague sense as to how it could unfold. President Trump said that, “Trade wars are good, and easy to win,” and senior administration officials repeatedly assured the public that tariffs will have minimal economic downsides.<sup>12</sup> However, nearly 18 months since the escalation began, the path to resolution is still unclear, and the costs appear to be rising. Without an appreciation of where the trade war may lead, the United States may find itself weakened in economic, diplomatic, and security terms, without achieving significant policy changes in China.

This gap in understanding motivated this project. To help U.S. policymakers navigate the complexities of a trade war with China, we drew on several different academic disciplines to help us model how an economic conflict between the United States and China could escalate and eventually de-escalate. Although the real U.S.-China trade war quickly escalated over the course of this project, theoretical concepts are still valuable. Models and simulations provide predictive power and scenarios for how the conflict can further escalate or de-escalate, as well as a basis for understanding the strategic logic of the other side. These insights can help policymakers optimize forward-looking strategy and avoid self-defeating actions.

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11. “Trade in Goods with China,” U.S. Census Bureau, <https://www.census.gov/foreign-trade/balance/c5700.html#1985>.

12. Thomas Franck, “Trump doubles down: ‘Trade wars are good, and easy to win,’” CNBC, March 2, 2018, <https://www.cnbc.com/2018/03/02/trump-trade-wars-are-good-and-easy-to-win.html>; Lisa Lambert, “U.S. Trade Official Downplays Effects of New Tariffs,” Reuters, July 19, 2018, <https://www.reuters.com/article/us-usa-trade-china-navarro/u-s-trade-official-downplays-effects-of-new-tariffs-cnbc-idUSKBN1K911O>.



The unprecedented nature of the current strategic and economic landscape made modeling a U.S.-China trade war challenging. The conflict is not over a particular industry or specific policy, as is the case with most trade wars, but reflects a deeper disagreement about economic systems. The two countries are both integrated into the global economy to an even greater degree than the great powers of the pre-World War I era, and the disintegration of the subsequent interwar period is not an inadequate historical analogue. The bipolarity of the emerging U.S.-China rivalry suggests the Cold War is a better fit; yet the Soviet Union was never very open to global trade, investment, and financial flows or interconnected with the U.S. economy the way China is today nor did its economic size ever approach that of the United States.

Against this backdrop, we set out to design and test our own model reflecting present-day realities. We began by developing a model for the likely dynamics of how a trade war might escalate, applying game theory, bargaining theory, and the concept of “escalation dominance” from nuclear deterrence theory. Our model simplifies the variables in a negotiation to isolate those affecting escalation. The predictions of our model depend on several factors, including each country’s appetite for risk and perceived knowledge about their adversary’s willingness to endure pain. While the parallels to traditional military models like nuclear deterrence are imperfect, game theory provides a valuable framework for understanding the incentives behind policy decisions and pathways for escalation and de-escalation in economic conflict.

Second, we inventoried and analyzed the tools of economic statecraft available to policymakers in the United States and China, from tariffs to informal means of coercion. As the global economic landscape has changed over the past 40 years, trade-related policy tools have gotten more complex. In this shifting environment, some actions are more effective while others have damaging side effects. Meanwhile, Beijing has become more sophisticated in its use of economic tools to achieve strategic ends, for example, in its tacit retaliation against South Korea over the deployment of the THAAD missile defense system.<sup>13</sup> A more complete understanding of the tools of economic statecraft, including associated costs and use cases, will help U.S. policymakers better apply strategic pressure and understand Chinese responses.

Finally, we tested and refined our model and the assumptions underlying it through two one-day simulations of a U.S.-China trade war involving experts and former policymakers. We divided our participants into U.S. and Chinese negotiating teams and then sought to determine if they could reach an agreement and which tools they used to pressure the other side. These simulations helped us understand how Washington and Beijing approach economic conflict, which tools had the most strategic value, and possible escalatory pathways in a prolonged trade war.

The first 18 months of the actual U.S.-China trade war produced few results other than growing economic uncertainty. The tools of economic statecraft used by Washington, including tariffs and export restrictions, did not force China to make concessions.

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13. Bonnie S. Glaser, Daniel G. Sofio, and David A. Parker, “The Good, the THAAD, and the Ugly: China’s Campaign Against Deployment, and What to Do About It,” *Foreign Affairs*, February 15, 2017, <https://www.foreignaffairs.com/articles/united-states/2017-02-15/good-thaad-and-ugly>.

Instead, they created headwinds for global growth and investment. This report provides a theoretical framework for the strategic dynamics of economic conflict, as well as a deeper understanding of the tools of economic statecraft available to both sides. We hope this can help U.S. policymakers develop and implement an economic strategy toward China that better advances U.S. interests.

## 2 | Modeling Economic Conflict

At the beginning of the Cold War, facing the first-ever great-power rivalry between nuclear-armed states, the U.S. government consulted academics and think tanks, especially the RAND Corporation, to use game theory to model how conflict could unfold. These studies contributed to U.S. strategy toward the Soviet Union, including the doctrine of “mutually assured destruction.” Game theory remains valuable and can provide a framework for strategic interaction between various countries with different payoffs and incentives.

Comparatively fewer attempts have been made to apply game theory to economic conflict, especially wide-ranging trade wars. Modeling economic conflict presents different complexities from modelling kinetic conflict. It is challenging to proxy market reactions to and costs of economic decisions given the many actors and variables involved. Non-governmental actors and countries outside of the conflict act as exogenous forces, complicating the “closed” environment implicit in many game theory models. Still, applying game theory to a trade war has its benefits. Models and simulations provide predictive power for how a conflict can escalate or de-escalate, as well as a foundation for understanding the strategic logic of the other side.

We applied various game theoretical concepts to build a model that helps explain decision-making processes and escalatory pathways in the U.S.-China economic conflict. We primarily relied on two interrelated theories to model escalation in a bilateral trade war: bargaining theory and deterrence and compellence theory. Each of these concepts simplifies complex, strategic interactions between two or more agents into a framework to help inform decision-making. Bargaining theory describes how parties decide to divide a set of goods between themselves, often using leverage or threats. Theories of deterrence and compellence study how agents induce opponents to refrain from or take certain actions, either by threatening force or by denying them a necessary resource. Although these concepts were created to analyze kinetic warfare, they can be applied to economic conflicts by changing some key assumptions.

We created an original model that synthesizes these theories to explain the core decision-making logic of economic conflict, discussed in part two of this chapter. The predictions of our model depend primarily on each country’s appetite for risk and perceived knowledge about their adversary’s resolve to endure pain. *If both countries have a high appetite for risk or underestimate their counterpart’s ability to withstand economic pain, our model predicts escalation.* If both countries have a low appetite for risk or have a clearer sense of their



opponent's resolve, our model predicts agents would be more likely to avoid escalation and seek agreements early on.

These theories can help determine the dynamics of strategic interactions in the U.S.-China trade war, but they have their limits. No model can perfectly reflect or account for the complexity of the real world, and any predictive model will have its caveats. Still, these methods offer a valuable theoretical basis for analyzing complex topics and understanding how conflict develops.

## Theoretical Concepts

### GAME THEORY

Generally, game theory is an overarching term for models that focus on situations where an agent's decisions have ramifications both for their own outcome and the outcomes of other players in the game and where agents must consider the possible actions of other players when making their own decisions.

John von Neumann and Oskar Morgenstern first conceptualized the “mathematical theory of games of strategy” in their 1944 treatise *The Theory of Games and Economic Behavior*.<sup>14</sup> Game theory studies strategic interactions, or “games,” between agents to understand rational decision-making. The games consist of a scenario with at least two “players” or “agents” and several possible outcomes or payoffs, depending on how the game is constructed and unfolds.<sup>15</sup> Agents must follow a few set rules and are given clear opportunities to make decisions that determine the outcome of the game. The results of games vary widely based on how much information agents have about each other's willingness to take risks, agents' knowledge about possible payoffs for themselves and others, and agents' willingness or opportunity for cooperative rather than adversarial play. Game theory is uniquely useful for international relations because it models scenarios that depend on the actions of more than one country and allows for the decisions of one country to influence the strategy and payoffs of others.

Games present a simple series of choices that can help us understand why agents make decisions that benefit themselves but lead to a suboptimal net outcome. The most famous example of game theory is the prisoner's dilemma, initially framed by RAND mathematicians Merrill Flood and Melvin Dresher and formalized by Albert W. Tucker.<sup>16</sup> In this game, two people are arrested and placed in solitary confinement with no means of communicating with the other. They each must decide whether to say nothing about the crime (cooperating with each other) or blame the other (defecting). Figure 1 below illustrates the payoff matrix for a prisoner's dilemma. If both prisoners say nothing, they each receive a light sentence; if they both blame the other, they each receive a medium sentence; and if one stays silent and the other defects, the prisoner who stayed silent gets a harsh sentence and the other walks free. In a simple prisoner's dilemma game,

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14. John von Neumann and Oskar Morgenstern, *The Theory of Games and Economic Behavior* (Princeton: Princeton University Press, 1944), 43.

15. Though both “players” and “agents” are commonly used in game theory literature, for the purposes of this paper the term “agent” will refer to theoretical models, whereas “players” will refer to participants in our simulation detailed in Chapter 4.

16. H.W. Kuhn and A.W. Tucker, eds., *Contributions to the Theory of Games (AM-24)*, Volume I (Princeton: Princeton University Press, 1952).

the dominant strategy is to defect because your sentence will be lower no matter what the other person does.<sup>17</sup> By defecting, you will either receive no jail time or a medium sentence; by cooperating, you receive a light sentence or a harsh sentence.

Figure 1: Prisoner’s Dilemma Payoff Matrix

		PRISONER B	
		COOPERATE	DEFECT
PRISONER A	COOPERATE	A: 1-year sentence B: 1-year sentence	A: 3-year sentence B: no sentence
	DEFECT	A: no sentence B: 3-year sentence	A: 2-year sentence B: 2-year sentence

Agents in a prisoner’s dilemma game often make rational choices that lead to a suboptimal outcome. In other words, when both prisoners act separately in their own self-interest according to their dominant strategy, they produce the worst net outcome. If they coordinate, they produce the best net outcome. The game produces dramatically different results depending on whether agents cooperate or not. In a single game, each prisoner has a dominant strategy of defecting. However, if the agents repeat the game many times or if they have information about the other’s tendencies, they may be more likely to cooperate.<sup>18</sup>

The finding that agents can take rational actions that decrease overall utility helps frame economic conflict. For example, the U.S.-China trade war could be understood similarly to

17. This concept is known as the Nash equilibrium, named after mathematician John F. Nash Jr. A game is in Nash equilibrium when no player can obtain a higher payoff by deviating unilaterally from their decision or strategy. John F. Nash, “Equilibrium Points in N-Person Games,” *Proceedings of the National Academy of Sciences* 36, no. 1 (1950): 48–49. *the Theory of Games (AM-24), Volume I* (Princeton: Princeton University Press, 1952). This concept is known as the Nash equilibrium, named after mathematician John F. Nash Jr. A game is in Nash equilibrium when no player can obtain a higher payoff by deviating unilaterally from their decision or strategy. John F. Nash, “Equilibrium Points in N-Person Games,” *Proceedings of the National Academy of Sciences* 36, no. 1 (1950): 48–49.

18. Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books, Inc., 1984), 20.

a prisoner's dilemma game. Overall economic benefit would be maximized by adhering to global rules and the status quo, but both sides may have incentives to defect. Washington is wary of Beijing's growing economic strength and worries that if it does not act now it will lose dominance in key technologies in the future. Similarly, Beijing is wary of efforts to alter its economic system, or constrain its rise, and is willing to defect to achieve economic progress.

### **DETERRENCE THEORY AND ESCALATION DOMINANCE**

Theories of deterrence and compellence explain how agents can induce others to refrain from or take certain actions that they would not otherwise. Compellence strategies aim to encourage a type of behavior, while deterrent strategies aim to prevent specific behavior. A rich literature exists on deterrence theory, which was first formally explored in the context of preventing nuclear conflict. In the landmark article "Deterrence and Power," Glenn Snyder defined deterrence as "the power to dissuade another party from doing something which one believes to be against one's own interest, achieved by the threat of applying some sanction."<sup>19</sup> Snyder lays out the different methods of deterrence, such as "deterrence by denial" and "deterrence by punishment." Deterrence by denial involves convincing another party that proceeding with a specific action will not help them achieve their end goals, while deterrence by punishment seeks to communicate that going ahead with an action will elicit a response that will make the costs greater than the gains. He also examines factors that affect the risk calculations of involved parties, such as credibility. For deterrence to be effective, a competitor must believe that one is willing to carry out the threatened actions if terms are not met and will keep a promise if an agreement is made.

Compellence was first introduced in *Arms and Influence* by Thomas Schelling as part of an analysis of how bargaining power can and has been used preceding and during military conflict. Schelling defines compellence as "initiating an action (or an irrevocable commitment to action) that can cease, or become harmless, only if the opponent responds."<sup>20</sup> He argues that compellence is difficult to implement because it involves convincing an opponent to take an action (unlike deterrence, which convinces them not to take an action). Like Snyder, Schelling also addresses factors that affect risk analysis and whether coercion is effective. In addition to credibility, Schelling discusses the power of uncertainty and irrationality. He argues, "It does not always help to be, or to be fully believed to be, fully rational, cool-headed, and in control of oneself or of one's country."<sup>21</sup> In one of Schelling's other seminal works, *The Strategy of Conflict*, he studies decision-making calculations and game theory as they apply to international conflict, specifically between actors that share some common interests. Schelling focuses on the common interest and mutual dependence that exist between actors and the "exploitation of potential force" rather than the use of force itself to reach a resolution.<sup>22</sup>

Escalation dominance is an application of deterrence theory that examines how agents can win a game by raising the stakes so high that the other agent backs down. The concept of escalation dominance was central to models of nuclear conflict and arms accumulation

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19. Glenn H. Snyder, "Deterrence and Power," *Journal of Conflict Resolution* 4, no. 2 (1960): 163, [https://www.jstor.org/stable/172650?seq=1#page\\_scan\\_tab\\_contents](https://www.jstor.org/stable/172650?seq=1#page_scan_tab_contents).

20. Thomas C. Schelling, *Arms and Influence* (New York: Yale University Press, 2008), 72.

21. *Ibid.*, 37.

22. Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1960), 5.

during the Cold War. In discussing escalation as a theoretical tool for military strategy, Morgan et al. define escalation dominance as a condition in which one side of a confrontation escalates in such a way that the adversary either cannot retaliate or no longer gains any advantage by retaliating.<sup>23</sup> They note that “[t]rue escalation dominance is rarely attainable in any challenging confrontation . . . [t]herefore, it is more useful to treat escalation dominance as a philosophical aspiration than as a feasible policy objective.”<sup>24</sup> In their assessment, escalation can be either an intentional objective, an unintended side effect, or entirely accidental.<sup>25</sup> Escalation itself can vary along three axes: type or intensity of tools used; scope of conflict; and objectives, demands, or adherence to rules and constraints.<sup>26</sup> Herman Kahn discussed “competition in risk taking” in a conflict and introduced the metaphor of the “escalation ladder” to measure different levels of intensity in a conflict.<sup>27</sup> States could escalate a conflict by “increasing intensity, widening the area, or compounding escalation.” These models of risk-taking and escalation have primarily been applied to nuclear warfare but are transferrable to bilateral economic conflict.

In the figure below, the idea of axes of escalation has been adapted from a kinetic to an economic conflict. The vertical axis represents escalation that increases the types or intensity of tools used (e.g., increasing a tariff rate on certain goods from 10 percent to 25 percent). The horizontal axis represents escalation that expands the scope of the conflict (e.g., expanding tariffs on one sector to include other sectors). The diagonal Z-axis represents escalation that changes objectives, demands, or adherence to rules and constraints, also called political escalation (e.g., adding new demands to a trade negotiation). In reality, the lines between the different axes are blurred, and different escalations can qualify as multiple vectors. It is possible to escalate along all axes at once, making the conflict simultaneously deeper and broader. This is especially true in economic conflicts, where escalation is less finite and defined than in kinetic conflicts, making it difficult to escalate along only one axis at once.

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23. Forrest E. Morgan et al., *Dangerous Thresholds: Managing Escalation in the 21st Century* (Santa Monica, CA: RAND Corporation, 2008), 15.

24. *Ibid.*, 16.

25. *Ibid.*, 8-9, 20-28.

26. *Ibid.*, 20.

27. Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965), 4.

Figure 2: Dimensions of Escalation in Economic Conflict

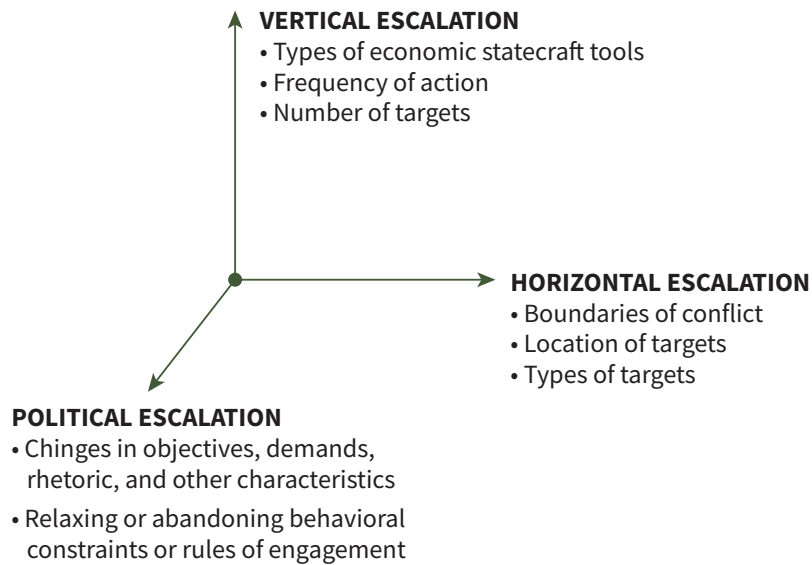


Figure based on Morgan et al., *Dangerous Thresholds*, p. 20. and has been modified to apply to economic conflict.

An agent often escalates for two reasons: as a means to strengthen itself, especially in kinetic conflicts where escalation translates to armament; and as a strategy to deter an adversary from escalating. Escalation drastically increases the stakes of the game and can force an adversary to concede if they cannot afford the increased costs of the conflict. As Morgan et al. note, “averting deliberate escalation by an opponent is a matter of deterrence: that is, convincing the adversary that taking action will leave it worse off than it would be if it did not act.”<sup>28</sup> Escalation can be a form of deterrence—making an opponent’s action more costly than conceding—either by raising the costs of the action, lowering the costs of other more desired actions, or increasing the reward for conceding.<sup>29</sup>

Agents use escalation as a strategy within a conflict to achieve a broader goal. Powell identifies the “natural link between bargaining and [escalation],” where escalation is a means to an end, not an end in itself.<sup>30</sup> As discussed, escalation increases the costs of continued conflict. One party achieves “escalation dominance” when the costs required for an adversary to continue escalating are no longer possible or not worth the potential gain from winning. If an agent achieves escalation dominance, they will have a more advantageous bargaining position. Although true escalation dominance is largely a “philosophical aspiration,” as Morgan et al. describe, escalation itself is a useful tool that can force an adversary to back down, allowing states to bargain for a more favorable outcome.<sup>31</sup>

Since escalatory actions hurt both the agent that uses them and their adversary, agents must believe that the potential outcome of the conflict is worth the cost. Additionally, threats to

28. Ibid., 22.

29. Morgan et al., 22.

30. Robert Powell, “Bargaining Theory and International Conflict,” *Annual Review of Political Science* 5 (2002), 13.

31. Morgan et. al., 16.



use an escalatory tool must be credible, or the adversary will not alter its behavior. Both of these ideas will factor into our model, described in part two of this chapter.

### **BARGAINING THEORY**

Bargaining theory describes how parties decide to divide a set of goods between themselves. These goods can be physical (e.g., territory or resources) or they can be abstract (e.g., market share of an industry). In the case of economic conflict, the goods to be divided are almost entirely abstract. Though bargaining theory is most often used by political scientists to model warfare, it can be used in any situation where two agents need to compromise to divide a finite good, from trade negotiations to cutting a cake.

Bargaining theory assumes there is a current condition—a status quo—for two agents. There are many possible conditions the agents could be in, some of which are better and some of which are worse than under the status quo.<sup>32</sup> Engaging in conflict incurs a fixed cost to each agent, but if the potential gains from winning a conflict are high enough, a confident agent may decide that conflict is worth these costs. As Fearon posits, “[E]ven if the states have private and conflicting estimates of what would happen in a war, if they are rational, they should know that there can be only one true probability that one or the other will prevail . . . thus rational states should know that there must in fact exist a set of agreements all prefer to a fight.”<sup>33</sup> In other words, because conflict is costly and there can be only one winner, agents know that there are bargains preferable to warfare. A confident agent may believe it can compel its adversary to make tough concessions to avoid conflict.

As Figure 3 demonstrates, agents engage in negotiations because there are a range of outcomes short of conflict where the benefits to both agents are greater than the costs of conflict. The outcomes at the extremes of the scale represent all benefits going to one agent. On the far left, Agent 2 receives all the benefits, making it Agent 2’s ideal outcome. On the far right, Agent 1 receives all the benefits, making it Agent 1’s ideal outcome. The shaded green boxes represent the status quo, the current division of the benefits, and the payoff each agent receives from these benefits. The shaded orange boxes are the probable outcome of the conflict for each agent factoring in the costs of the conflict for each agent. When the costs are included, the net outcome is further away from each agent’s ideal outcome than the net outcome of the status quo. However, the costs of conflict are often asymmetrical. In our figure, Agent 2 suffers more from conflict than Agent 1.

From Agent 1’s perspective, when the costs of the conflict are subtracted from the probable outcome, the final payoff for Agent 1 becomes the orange box on the left, which is farther away from Agent 1’s ideal outcome than the status quo is. Because the orange box on the right is farther from the status quo than the orange box on the left is, the conflict is more costly for Agent 2 than for Agent 1. The bargaining range represents the range of outcomes that would be better than conflict for the agents. For example, during a negotiation, Agent 1 might propose point W as a bargain. Point W is closer to Agent 1’s ideal outcome than the status quo but is less costly for Agent 2 than a conflict. Agent 2 might accept point A rather than pay the costs of a conflict. The shaded blue boxes represent the range of bargains that would lead to war. For example, were Agent 1

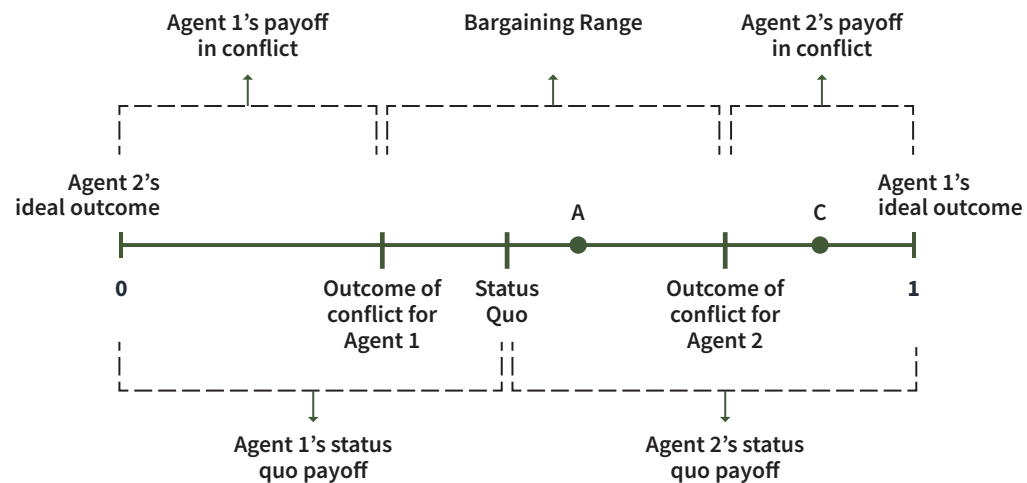
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32. Powell, “Bargaining Theory and International Conflict,” 7-12.

33. James D. Fearon, “Rationalist Explanations for War,” *International Organization* 49, no. 3 (Summer 1995), 388.

to propose a bargain in the range of the blue box on the right, at point C Agent 2 would rather go to war than accept the deal, since the agreement would be more costly for Agent 2 than conflict. The range for the blue box on the left is the opposite: if Agent 2 proposed a bargain in this range, Agent 1 would rather go to war than accept it. Figure 3 indicates that although entering a negotiation is costly and risky, there are many outcomes that are preferable to conflict for both agents.

Figure 3: An Example of The Classic Bargaining Theory of Conflict



*The placement of the status quo, probable outcome, and costs of conflict are not set in stone and should be adjusted depending on the context to which this model is applied. This figure is an amalgamation of figures from Fearon, "Rationalist Explanations for War," p. 387 and Powell, "Bargaining Theory and International Conflict," p. 8.*

A key aspect of the bargaining range is the credibility of threats. If Agent 1 proposes point A as a bargain, Agent 2 must believe that Agent 1 would be willing to initiate a conflict to secure that outcome. If Agent 2 does not believe this, it will not accept point W because the status quo is preferable. Agent 2 may even propose an outcome to the left of the status quo if it believes that Agent 1 is too weak to fight back. Thus, non-credible threats risk backfiring.<sup>34</sup> Determining credibility is difficult because agents do not have perfect information about their opponent's capabilities. However, as Gartzke and Zhang explain, "because information about an opponent's resolve or capabilities is generally incomplete, rational leaders must nevertheless make decisions in an environment of uncertainty."<sup>35</sup> As agents make choices about acceptable bargaining positions, whether to engage in conflict, and the credibility of threats, each agent must estimate the likelihood of winning a conflict by assessing their own capabilities, as well as their opponent's. The amount of information is thus a key aspect of a negotiation and features prominently in our model.

Commonly proposed answers to why agents choose costly conflicts over bargaining include rational miscalculation due to lack of information and rational miscalculation or disagreement about relative power.<sup>36</sup> Fearon proposes three other conditions under

34. H. Peyton Young, *Negotiation Analysis* (Ann Arbor: University of Michigan Press, 1991), 89-91.

35. Erik Gartzke and Jiakun Jack Zhang, "Chapter 22: Trade and War," in Lisa L. Marin ed., *The Oxford Handbook of the Political Economy of International Trade* (Oxford: Oxford University Press, 2015), 420.

36. Fearon, "Rationalist Explanations for War," 381.

which conflict becomes the rational choice. First, private information each party possesses about their own and their opponent's power, as well as misrepresentation leading to an overestimation of either a party's own power or an adversary's power or willingness to engage in conflict, can distort bargaining calculations, making war more likely. Second, commitment problems or trust in commitment may make it impossible for states to reach a bargain. Third, states may be unable to reach a compromise if the goods at the source of the conflict are indivisible.<sup>37</sup> All three of these conditions became apparent during the course of our simulations, which will be discussed in Chapter 4.

#### **APPLYING GAME THEORY TO THE TRADE WAR**

Game theory can help explain how governments deploy specific economic tools to help achieve strategic goals. In his seminal text *Economic Statecraft*, political scientist David A. Baldwin defines economic statecraft as "the use of economic instruments by a government to influence the behavior of another state" and uses bargaining theory as a method to examine the utility of economic instruments in specific situations.<sup>38</sup> Daniel Drezner builds on Baldwin's work by examining strategic interactions underlying economic coercion and outlines game-theoretic models of economic coercion as it relates to the effectiveness of the threat and implementation of sanctions.<sup>39</sup>

Theories of deterrence and bargaining are especially useful for understanding the strategic dynamics of economic conflict and the U.S.-China trade war. Given the interconnected nature of the U.S. and Chinese economies, disruptions to trade relations generate considerable costs that harm both parties. But at the same time, Beijing and Washington disagree over the division of the gains from the bilateral economic relationship and a growing set of security and political issues. Trade negotiations take place against a backdrop of economic interdependence on the one hand and growing great power rivalry and strategic competition on the other. This mutual dependence on trade could create a stability-instability paradox not unlike that created by the advent of thermonuclear weapons.<sup>40</sup> Snyder posits that since massive nuclear retaliation risks mutually assured destruction, it is not a credible threat for conflicts with lower levels of intensity.<sup>41</sup> Extensive trade linkages make the immediate decoupling of interdependent economies prohibitively costly for both sides but should not constrain various escalatory actions where significantly limiting bilateral trade would not be a credible response.

We applied these insights to understand the process of escalation in trade talks between the United States and China. Both countries are bargaining over a different division of the status quo economic relationship. Washington wants Beijing to address the lack of reciprocity in its trade and investment policies, including by eliminating specific policies

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37. Ibid., 381-410.

38. Jean-Marc F. Blanchard, Edward D. Mansfield, and Norrin M. Ripsman, "The Political Economy of National Security: Economic Statecraft, Interdependence and International Conflict," in Jean-Marc F. Blanchard, Edward D. Mansfield, and Norrin M. Ripsman, eds., *Power and the Purse: Economic Statecraft, Interdependence and National Security* (London: Frank Cass, 2000), 3.

39. Daniel W. Drezner, "The Hidden Hand of Economic Coercion," *International Organization* 57, no. 3 (2003): 645, [https://www.jstor.org/stable/3594840?seq=1#page\\_scan\\_tab\\_contents](https://www.jstor.org/stable/3594840?seq=1#page_scan_tab_contents).

40. Jiakun Jack Zhang, *Is China an Exception to the Commercial Peace?* (San Diego, CA: University of California, San Diego, 2018).

41. Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton: Princeton University Press, 1961).

and practices linked to forced technology transfer, ending government subsidies for industries targeted in the Made in China 2025 plan, strengthening intellectual property enforcement, and reducing barriers to foreign investment.<sup>42</sup> U.S. escalatory actions, such as levying tariffs, are a means to impose costs on China to achieve these ends. Beijing, on the other hand, wants economic relations to return to status quo levels without making structural reforms.

The outcome we are modeling is whether or not the two sides can achieve a negotiated settlement and the process of escalatory actions it takes to get there. Bargaining theory predicts that settlement should always be more preferable than paying the sunk cost of fighting under complete information (in this case that would be the persistence of tariffs and the decoupling of the economies). But bargaining failure is driven by several factors, including asymmetric information, creating incentives to misrepresent strength or bluff, as well as future commitment problems.

When bargaining under asymmetric information, agents can misjudge relative resolve or capabilities because competition generates incentives for actors to conceal true information about these variables—bluffing, in other words. Both sides benefit from overstating the level of their resolve, hoping that the opponent will back down. Unintended escalation can result when at least one side underestimates an adversary's commitment, assuming that the adversary is bluffing when in fact they are not.

The bargaining process can also break down because the agents face a future commitment problem. Since relative power shifts over time, agreements made today may become unstable in the future. The rising power could have an incentive to insist on better terms in the future when it becomes more capable, while the declining power has the incentive to prefer escalation in the present rather than conflict in the future. This dynamic is also present in the U.S.-China relationship, as the Chinese economy continues to grow relative to the United States.

## *Our Model*

The overall goal of our model was to simplify the variables in an economic negotiation to isolate those affecting escalation. We were interested to see if there was a dominant strategy for escalating the trade war. Could a country successfully escalate to a point where the other country would be forced to concede? If so, what was the strategy to reach that point? This model seeks to understand escalatory and de-escalatory dynamics and pathways rather than predict an outcome for an economic conflict.<sup>43</sup> With this focus, we hope to apply insights from our model to help U.S. policymakers course-correct and adopt a successful strategy for economic bargaining with China.

The predictions of our model depend on several factors, including each agent's appetite for risk and each agent's perceived knowledge about their counterpart's willingness to

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42. "Findings of the Investigation Into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation Under Section 301 of the Trade Act of 1974," U.S. Trade Representative, March 22, 2018, <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>.

43. Future studies could examine outcomes of economic conflict under different conditions. John Conybeare's 1987 book *Trade Wars: The Theory and Practice of International Commercial Rivalry* describes how trade wars could unfold similar to prisoner's dilemma or chicken games.

endure economic pain. If both agents have a high appetite for risk or underestimate their adversary's willingness to withstand economic pain, this model predicts an escalation spiral. However, if both agents have a low appetite for risk or a clear sense of their opponent's willingness to endure pain, this model predicts agents would be more likely to avoid escalation and seek agreements early on. This idea is similar to bargaining theory: the more information agents have, the more likely they are to reach an agreement early on.

In creating our bargaining model, we have made several core assumptions:

1. Escalation is intentional rather than accidental. Though parties may not accurately know where an opponent's vulnerabilities or escalatory thresholds lie, escalatory actions are only taken deliberately and are only interpreted as intentional. It was necessary to make this assumption to limit the variables in our model. If agents had to determine whether an action was intentionally or accidentally escalatory, it would add an unnecessary layer of complexity to our model. Since deploying tools of economic statecraft often requires institutional approval, it is unlikely that escalation would be accidental.
2. The two agents were not in conflict before the start of the game. This assumption allows both agents to bluff about their own power and gives greater room to miscalculate their opponent's power. As Beckley describes, "[I]n peacetime, countries may be able to exaggerate their power; but in times of conflict, bluffs get called, vulnerabilities get exposed, and stronger nations usually emerge victorious."<sup>44</sup> Over the course of the game, both parties should gain a greater understanding of the other's respective strengths and weaknesses. However, at the game's start much of this will be unknown.
3. The agents had incomplete information. They do not know exactly the vulnerabilities and capabilities of their adversary. They also do not know the exact cost of their actions to both their adversary and themselves or the exact benefits they will receive. Although there are certainly unintended consequences in kinetic war, this assumption is especially critical in an economic context where gauging the precise effects of an action on the economy is near impossible.
4. Both agents are rational. This means that both agents want to maximize their payoffs and have this objective in mind. This assumption is necessary in order to predict outcomes. If agents are acting at random and are not oriented toward a goal, it is impossible to predict their actions. For our model, we assumed that each actor's goal is to maximize net domestic economic payoff. This assumption reflects domestic pressures; were a state to instead maximize pain as a goal, its government would face extreme political pressure and risk being overthrown either through elections or internal party politics. If a state were to prioritize relative gains over absolute gains, then stronger countries would perpetually initiate economic conflicts against weaker ones rather than engage in negotiations.<sup>45</sup>

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44. Michael Beckley, "The Power of Nations: Measuring What Matters," *International Security* 43, no. 2 (Fall 2018), 20.

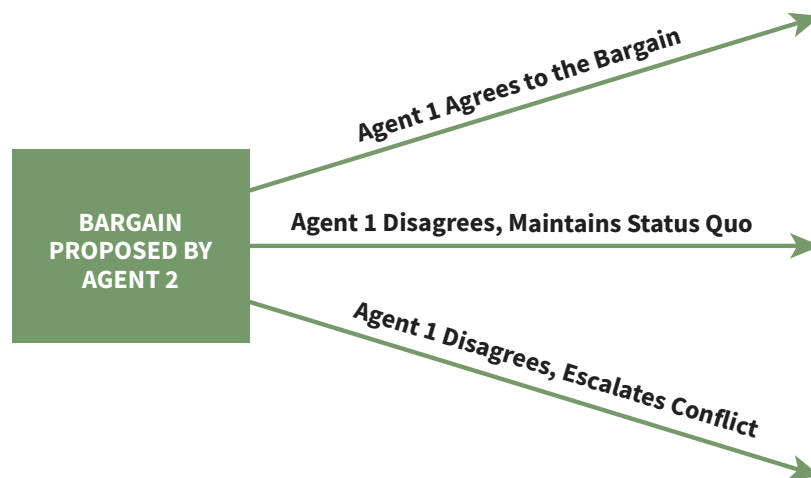
45. Robert Powell addresses whether states prioritize relative or absolute gains. He presents a balanced model where states try to maximize absolute gains but do so in an anarchic world where they are cognizant that the use of force may be an issue. Under this framework, it is possible the United States could prioritize relative gains vis-à-vis China, since it forecasts future strategic competition. To generalize our model, we assumed each actor



5. Economic openness—including open markets, low trade barriers, and engagement in multilateral fora—increases net economic utility for both countries. In our model, these benefits are not only known quantities, such as GDP, but also abstract benefits, such as reputation among allies.

We have modeled a negotiation in which agents have three options at each inflection point, as shown in the figure below. The game begins with two agents in status quo. One agent is unhappy with the status quo and believes it can secure a better deal for itself. This agent, Agent 2, proposes a bargain to Agent 1. Agent 1 has three options when this new bargain is proposed. Option 1 is to agree to the bargain. If both parties agree to the bargain, there is a new status quo and the game ends. Option 2 is to not agree to Agent 2's bargain but to maintain the status quo and continue negotiations. Agent 1 may choose Option 2 if it wants to continue negotiations but wants to communicate its good faith and commitment to the process by not escalating. Option 3 involves rejecting the bargain and escalating the conflict. Agent 1 may choose Option 3 if it wants to represent, or misrepresent, its ability to wage a full conflict, attempt to force change from its counterpart, or retaliate against its adversary. In other words, Agent 1 will choose Option 3 if it believes the threat of conflict is enough to force a better outcome or if it believes the cost of conflict is worth the potential benefit. At every decision point, these are the three options agents must consider.

Figure 4: Single Agent Strategy



The graph in Figure 5, below, represents our model. The diagonal line with Q represents the “Pareto frontier” where the collective net economic outcomes are greatest at the current level of economic openness.<sup>46</sup> Notably, economic interaction is positive-sum, whereas strategic interaction is zero-sum. By cooperating, two economies can produce more than they would in autarchy because of comparative advantage and other positive externalities from openness (e.g., scientific exchange, economies of scale). In a traditional strategic conflict, there is a limited amount of land to divide up. One country’s gain is the other’s

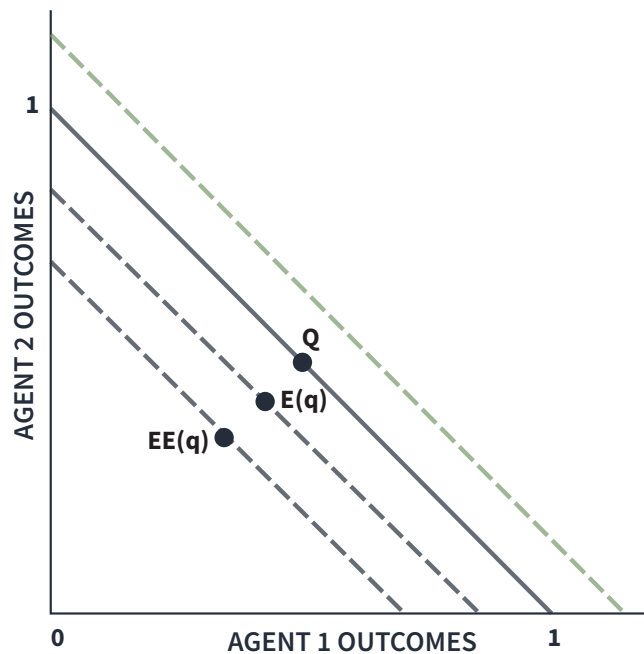
attempts to maximize absolute gains. Future study could explore a model that assumes states prioritize relative gains. Robert Powell, “Absolute and Relative Gains in International Relations Theory,” *American Political Science Review* 85, no. 4 (December 1991): 1303-1320, <https://www.jstor.org/stable/1963947>.

46. Ibid.

loss. The green line in our model represents a theoretical Pareto frontier that could be achieved if the countries' economies opened further.<sup>47</sup> At the status quo level of openness, however, the line with Q is the limit. At point (0,1), Agent 2 theoretically receives all the benefits and Agent 1 has none. At (1,0) the converse is true: Agent 1 has all the benefits and Agent 2 has none. The line with point Q represents all possible divisions of the "pie" of benefits. Q represents the status quo, where each agent receives some benefits.

When the game begins and Agent 2 proposes a new bargain, Agent 1 faces the three options discussed above. If Agent 1 neither agrees to a new bargain nor escalates the conflict, both agents' payoffs will remain at point Q. If Agent 1 chooses to escalate, the Pareto frontier of benefits shrinks to the dotted line with E(q) because escalation is costly for both parties.<sup>48</sup> The line with E(q) now represents all outcomes possible or, in other words, all possible divisions of the pie of benefits. The point E(q) represents the new status quo. Agent 2 is now faced with the three options above: it can either accept the status quo E(q), offer some other point on the line with E(q) as a new division of the pie, or escalate. If Agent 2 chooses to escalate again, the Pareto frontier shrinks to the area under the second dotted line with EE(q). EE(q) represents the new status quo when both agents escalate and there is no negotiated agreement. This pattern continues until the two agents come to a mutually agreed upon division of the pie of benefits.

Figure 5: Bargaining with Inefficient Escalation



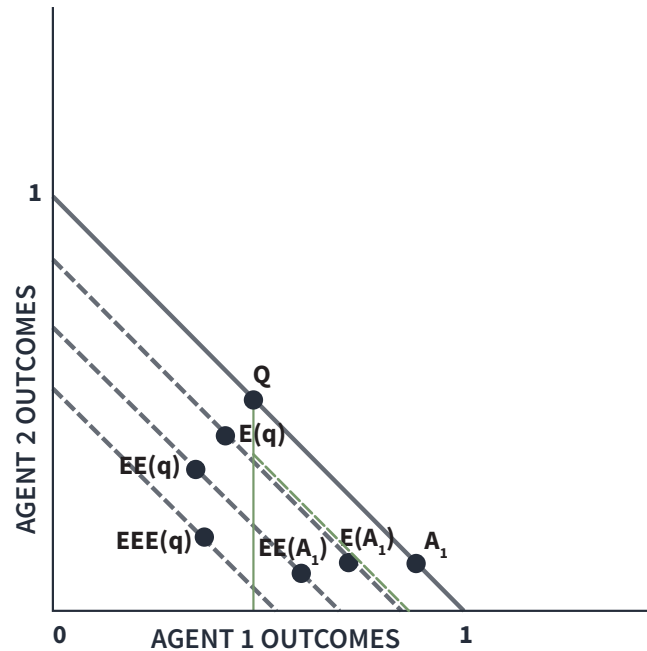
*This model is loosely based on Robert Powell's description of war as an outside option. Powell, "Bargaining Theory and International Conflict," p. 7-9.*

47. In traditional strategic conflict, it would not be possible to move to a larger Pareto frontier, since there is a finite amount of land or resources to be divided. Further study could examine the incentives to reach a larger Pareto frontier and the dynamics of absolute and relative gains.

48. This represents a simple model where escalation is equally costly for both parties. We discuss escalation with asymmetric costs in Figure 9.

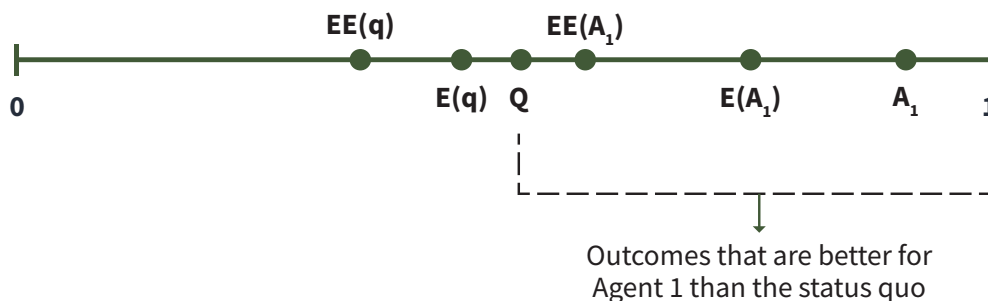
Though escalating the conflict leads to a smaller total of goods overall, agents may choose or threaten to escalate in an effort to get better outcomes for themselves, as demonstrated in Figure 6 below. From Agent 1's perspective, even when the costs of escalation have caused the pie to shrink to the line with  $E(q)$ , there are many outcomes that would result in a better payoff than the status quo at point  $Q$ . The vertical red line in Figure 6 below indicates Agent 1's payoffs at status quo  $Q$ . All points to the right on the line with  $E(q)$ , indicated by the dashed red line, have better payoffs for Agent 1.

Figure 6: The Paradox of Positive Payouts with Inefficient Escalation



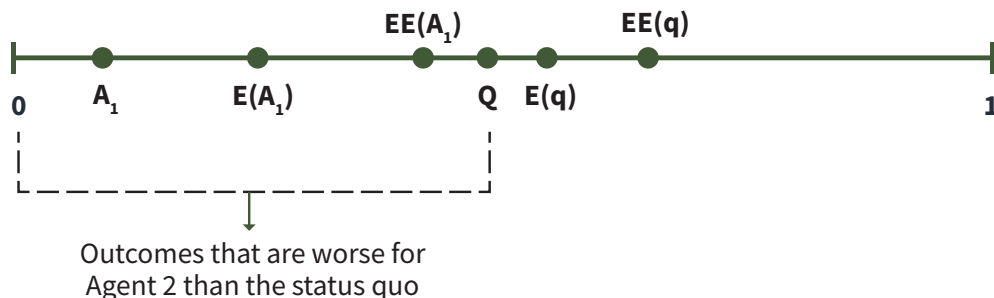
If we isolate the X-axis, as in Figure 7 below, and transpose all points from Figure 6 onto it, we see that there are many points that would give Agent 1 a better outcome than status quo  $Q$ . However, as we see in Figure 6, there is a point at which escalation will make all outcomes worse than status quo  $Q$ , as seen on the line with  $EEE(q)$ . An extremely confident Agent 1 may be willing to risk this if they believe Agent 2 will not be willing to escalate to this point. The risk is that, as escalation continues, Agent 2 has a strong incentive to counter-escalate.

Figure 7: Agent 1 Outcomes (X-axis Isolated)



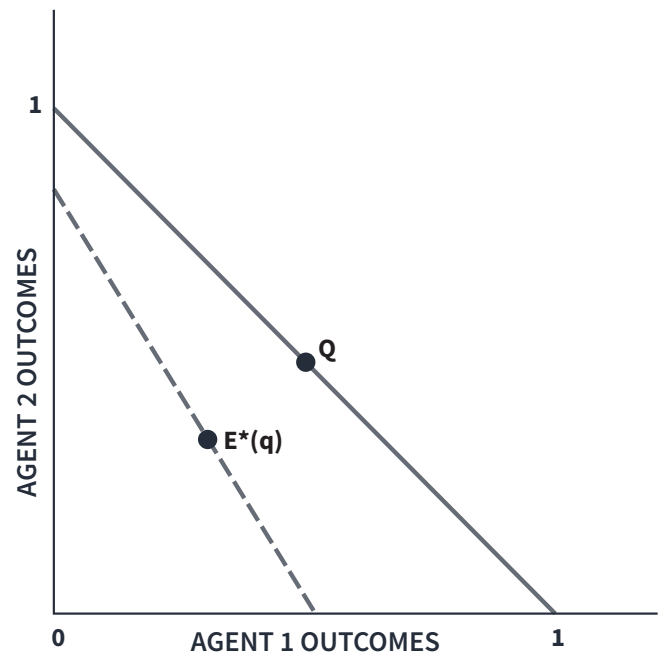
Looking at Figure 8 below, we see that when we isolate the Y-axis and transpose all points from Figure 6 onto it, thus looking at the negotiation from Agent 2's perspective, all points that were better for Agent 1 in Figure 7 are worse for Agent 2 than status quo  $Q$ . In other words, Agent 2 will be incentivized to continue escalating if it believes it can force a better payoff for itself than those offered by Agent 1.

Figure 8: Agent 2 Outcomes (Y-axis Isolated)



The final consideration is the possibility of asymmetric costs. The impact of tools of economic statecraft varies both across tools and across agents. When one agent escalates, it is possible, and indeed likely, that the action will be more costly to one agent than the other. In this case, the frontier of possibilities shrinks asymmetrically, as can be seen below in Figure 9. In this figure, escalation has been more costly for Agent 1, as the largest share of the pie it can get is much smaller than the largest share Agent 2 can.

Figure 9: Bargaining with Asymmetric Costs



In sum, the results of this model depend on two primary factors: each agent's appetite for risk and each agent's perceived knowledge about their counterpart's willingness to endure pain. If both agents have a high appetite for risk or underestimate their counterpart's willingness to withstand pain, this model predicts an escalation spiral. However, if both agents have a low appetite for risk or a clear sense of their counterpart's willingness to endure pain, this model predicts agents would be more likely to avoid escalation and seek agreements early on.

Models like these are used to help orient strategic thinking and predict possible conflict outcomes. Before drawing conclusions, it is important to test these models through simulations or compare them to real-world outcomes, as we do later in this report.



## 3 | Tools of Economic Statecraft

Game theory is helpful to understand the broad strategic logic and escalation dynamics of economic conflict, but it cannot explain the use of specific actions at the tactical level. While our model can predict escalation or de-escalation, it does not anticipate which tools of economic statecraft each side will deploy. Studying these tools is necessary to help explain why some actions are more costly than others and which are more likely to provoke retaliation.

Economic statecraft is broadly understood as the use of economic instruments by a government to influence the behavior of another state.<sup>49</sup> In economic conflict, states use these tools as policy tactics to influence or respond to the actions of another state using economic leverage. These include punishments and incentives, as well as domestic policies that respond to the adversary's actions. Tools of economic statecraft function by shifting the division of economic goods, often by manipulating markets and trade flows, to pressure an adversary to change their behavior. These tools are derived from the size and resiliency of a country's economy, constrained by politics, international relationships, and available resources, and deployed to achieve strategic objectives.

It is challenging to anticipate the exact costs of different tools of economic statecraft for both the combatants and the global economy. Unlike military conflict, national governments do not have monopolistic control over economic actions or decision-making. In economic conflict, the reactions of exogenous actors, including the private sector and noncombatant countries, can limit or amplify the effects of government decisions. Crucial factors, including the effects of tools on market confidence, are difficult to forecast. Nonetheless, analyzing the policy tools available to the United States and China helps define the relative costs of taking certain actions over others and how these choices impact escalatory dynamics.

We group tools of economic statecraft into three broad categories: (1) **outbound economic actions**, which are further divided into three sub-groups, including actions compliant with international law, actions compliant with national law, and informal, extralegal actions; (2) **multilateral coalition building**; and (3) **domestic interventions**.<sup>50</sup> These categories

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49. Blanchard, Mansfield, and Ripsman, "The Political Economy of National Security," 3

50. Tools of economic statecraft do not include military force or actions that leverage military capability. Although security considerations impact economic statecraft, this nexus was outside the scope of this study.

each have different associated impacts and use cases, which are outlined in this chapter. Although it is impossible to rank tools *ex ante* in terms of impact—for example, a tariff could be applied to \$1 billion of goods or \$100 billion—each category of tools has distinct economic costs. Countries may simultaneously deploy tools from different categories, which may or may not be part of a coordinated strategy of escalation or de-escalation.

Outbound economic actions encompass most tools typically used in trade disputes. These actions have immediate bilateral economic impacts, can function as carrots or sticks, and can be used unilaterally. Coalition-building actions, such as negotiating new economic agreements, are inherently multilateral tools—they would not be possible without international coordination. Domestic intervention tools build strength or resilience in response to pressure from an adversary's actions and do not immediately impact both economies in a dispute.

The United States and China have access to the same broad categories of tools of economic statecraft. However, the two countries' different economic and political structures create comparative advantages for certain tools over others. For example, the United States' alliance system allows it to more effectively marshal international coalitions, while the large role of the state in China's economy allows Beijing to more quickly intervene in domestic markets. The asymmetries inherent in the U.S. and Chinese decision-making apparatuses also impact how tools are selected, which tools are selected under what circumstances, and whom does the selecting.

## *Outbound Economic Actions*

Outbound economic actions are those that directly influence bilateral current and capital account balances (i.e., trade and investment flows). Tools in this category have several common characteristics. First, the use of an outbound economic action immediately affects both the user and the target. These tools reshape existing trade and investment relationships, causing immediate and long-term economic impacts as markets adapt to new policies. Second, the same outbound economic action can function as either a punishment or a reward, depending on the use case. Countries can leverage these tools to apply direct economic pressure to an adversary or to provide incentives for compliance with demands. Threats or promises of actions can have a similar effect. Third, these tools can be used unilaterally. This allows countries to employ trade-related actions without the consensus of partners, if desired. While this may diminish the effectiveness of the tool, as actions coordinated with allies apply more pressure to a target, it expedites and simplifies tool selection. Acting alone, countries can quickly deploy these tools to target an adversary, potentially offloading costs or externalities on a third party.

We break down outbound economic actions into three subcategories based on the degree of perceived legitimacy of their use in economic conflicts. Tools compliant with international law are the most legitimate, since they are governed by multilateral, consensus-based rules. These actions were deliberately created to mediate trade disputes within the context of a stable, rules-based international system. Tools compliant with national law but outside the scope of international rules have less legitimacy. While these are legitimate at the national level, they can either explicitly or implicitly violate the spirit of international rules. Informal, extralegal tools, such as arresting foreign business

executives, are outside the scope of both international and national laws and thus have the least legitimacy.

These distinctions provide a framework for understanding the costs of different outbound economic actions. As discussed earlier, it is challenging to project the exact economic impact of using a specific tool, since each tool can vary in magnitude and scope. However, actions in each subcategory have different relative legitimacy costs. For example, a WTO-compliant tool has a lower legitimacy cost than an informal tool of the same magnitude. All else equal, a tool with greater legitimacy costs has a higher chance of disrupting international markets and harming investor sentiment, since it is not in compliance with national or international regulations and therefore is less predictable than more legitimate actions. The private sector generally prefers lower volatility and will react less negatively to tools that adhere to legal frameworks.

### **INTERNATIONALLY COMPLIANT OUTBOUND ECONOMIC ACTIONS**

Outbound economic actions that comply with international laws are the most narrowly defined category of tools. These actions are either explicitly sanctioned by existing international governance regimes and or can be considered to reasonably comply with international law (those that are envisaged under international agreements). Since the WTO is the primary body governing trade, most actions in this subcategory are subject to WTO regulations. These actions are often limited to narrow industry-specific disputes rather than macroeconomic conflicts. They are subject to clearly defined legal processes and thus are contained in size and scope.

These tools have the lowest legitimacy costs of all outbound economic actions. Since they are subject to strict international legal procedures, they are highly predictable and have very limited potential for contagion by design. For example, WTO-sanctioned trade remedies have defined upper limits to the value of countermeasures that can be imposed. They are often litigated over months or even years, further reducing volatility and the possibility of sudden escalation. These international rules are often also codified in national law, increasing the amount of restrictions on the use of these tools.

Both the United States and China have relatively equal access to these actions: between 2002 and 2018, the United States filed 23 WTO cases against China, and China filed 15 complaints against the United States.<sup>51</sup> However, the United States won or settled favorably in 19 of the cases it filed, while China only won or settled in 5. More broadly, Washington has filed more cases with the WTO than any other member, in part because of its sizeable delegation to the WTO and domestic legal resources.<sup>52</sup>

Tools in this category include but are not limited to:

- **WTO complaints:** When countries violate their WTO obligations, members can seek redress through the WTO dispute-settlement process. This process cannot order a country to take a specific action, but it can determine whether a country has violated

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51. Jeffrey J. Schott and Euijin Jung, "In U.S.-China Trade Disputes, the WTO Usually Sides with the United States," Peterson Institute for International Economics, March 12, 2019, <https://www.piie.com/blogs/trade-and-investment-policy-watch/us-china-trade-disputes-wto-usually-sides-united-states>.

52. "Disputes by Member," World Trade Organization, [https://www.wto.org/english/tratop\\_e/dispu\\_e/dispu\\_by\\_country\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/dispu_by_country_e.htm).

its obligations. If a country has violated its obligation, it can comply with the decision and address the offending practice, maintain the practice and compensate the victims, or face formal retaliation.

- **WTO-sanctioned trade remedies:** WTO rules permit actions to remedy material injury to domestic companies caused by certain situations. If the WTO determines a country is in violation of its obligations through the dispute settlement process, it may authorize retaliatory trade remedies. These include antidumping duties for imports sold below market value, countervailing duties for imports subsidized by foreign governments, and safeguard measures for temporary import surges.
- **Most Favored Nation (MFN) tariffs:** Under WTO rules, each member cannot levy tariffs on another member above set “most favored nation” rates, except in certain cases.<sup>53</sup> However, members can raise existing tariff rates to MFN levels if they are below this level.
- **Threatening or withdrawing any of the above actions:** Threats often can apply pressure short of acting and withdrawing the use of a tool can act as an incentive or reward to induce behavior change.

#### **NATIONALLY COMPLIANT OUTBOUND ECONOMIC ACTIONS**

This subcategory includes economic actions that are sanctioned under national law but are outside the scope of international agreements. Tools in this subcategory are often justified as a remedy to unfair trading practices or as based on national security, which international rules provide significant exceptions for to avoid explicitly violating international agreements.<sup>54</sup> The Trump administration has often used national security as a basis for actions that would otherwise violate WTO rules, including tariffs on imported steel and aluminum and export restrictions on certain Chinese companies.<sup>55</sup> Most outbound economic actions fall in this subcategory, which allows for a wide range of applications, from sectoral disputes to macroeconomic conflicts. Since there are often no international legal limits on the scale of these actions (or they are taken in conflict with those limits), they have the potential to be massively disruptive for the user, the target country, and the global economy.

Within this subcategory there is a gradation of legitimacy costs for actions of the same magnitude. Tools that follow the letter of international law but eschew formal processes are comparatively more legitimate than those taken outside or in direct conflict with international rules. Since national law condones many more actions than international

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53. WTO members can raise tariffs above MFN levels against products from certain countries that are traded unfairly, as determined by the WTO dispute settlement process.

54. The United States has used Section 301 of the 1974 Trade Act, which allows the president to address “unfair” foreign barriers to U.S. exports, as the primary justification for broad tariffs on Chinese imports. Wayne M. Morrison, “Enforcing U.S. Trade Laws: Section 310 and China,” Congressional Research Service, June 29, 2019, <https://fas.org/sgp/crs/row/IF10708.pdf>.

55. Section 232 of the 1962 Trade Expansion Act allows the president to impose restrictions on foreign products that are “being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security.” The Trump administration has used Section 232 of the 1962 Trade Expansion Act to justify tariffs on steel and aluminum imports. There were 14 Section 232 investigations between 1981 and 2001, but there have only been four since 2001, all initiated by the Trump administration. Bureau of Industry and Security, “Section 232 Investigations: The Effects of Imports on the National Security,” United States Department of Commerce, 2019, <https://www.bis.doc.gov/index.php/other-areas/office-of-technology-evaluation-ote/section-232-investigations>.

law, these tools are less predictable than those listed in the previous subcategory. This carries a higher risk of escalation, mission creep, and retaliation. However, tools in this subcategory are still constrained by legal procedures to some extent. This ensures some degree of process, even within authoritarian political systems.

In the United States, these tools are typically subject to transparent rulemaking procedures; in China, these processes are opaquer. Much of U.S. regulation and legal procedures aim to prevent misuse of these tools, since they can cause both anticipated and unknown externalities that make them volatile and risky in economic conflict. However, many of these procedures can be expedited or circumvented when there is a national security threat. For example, under the International Emergency Economic Powers Act, the U.S. president can use extraordinary authorities to deal with a national economic emergency.<sup>56</sup> Although the Chinese political system grants more authority to the executive, many tools in this category are still subject to national laws. For example, Beijing uses formal public “negative lists” to restrict foreign investment and passed a new Foreign Investment Law in March, ostensibly to prevent discrimination against foreign companies.<sup>57</sup> Nonetheless, legal procedures in China are subservient to the state and the CCP and can be abused accordingly, as discussed in the informal, extralegal action subcategory.

Tools in this category include but are not limited to:

- **Launching a trade investigation:** Launching a domestic trade investigation, such as the U.S. Section 301 investigation into China’s technology transfer and IP policies, can pressure an adversary by shaming their practices and signaling future punitive actions.
- **Non-WTO-sanctioned tariffs:** A tariff is a tax added to an imported product, usually expressed as a percentage of the product’s price. Its effect is to increase the price of the import and make it less competitive. Tariffs are strictly governed by WTO rules and, in many cases, national law. Tariffs used outside the process of the WTO are considered part of this subcategory.
- **Import quotas:** A quota is a quantitative limit on imports. It serves the same purpose as a tariff: to assist a domestic industry by raising the price of imported goods. A tariff does that directly by increasing the price of imports; a quota does it indirectly by constraining supply.
- **Sanctions:** Sanctions are prohibitions on domestic or foreign (in the case of secondary sanctions) companies from doing business with a target entity, which could include countries, governments, businesses, or individuals.
- **Investment restrictions:** Restricting inbound investment allows a government to control foreign access to its economy and technology. Traditionally, this tool is used to restrict investment in sectors critical to national security. Since there is no multilateral agreement on investment, the WTO generally does not govern investment screening regimes.

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56. Scott R. Anderson and Kathleen Claussen, “The Legal Authority Behind Trump’s New Tariffs on Mexico,” *Lawfare*, June 3, 2019, <https://www.lawfareblog.com/legal-authority-behind-trumps-new-tariffs-mexico>.

57. Zhou Xin, “China approves new foreign investment law designed to level domestic playing field for overseas investors,” *South China Morning Post*, March 15, 2019, <https://www.scmp.com/economy/china-economy/article/3001780/china-approves-new-foreign-investment-law-designed-level>.



- **Export controls:** States use export controls, in addition to inbound investment restriction, to prevent the export of sensitive technologies and other materials. There are four multilateral regimes that help members coordinate export controls of conventional arms and dual-use technologies, but export controls are also often used unilaterally.<sup>58</sup>
- **Non-tariff barriers (NTBs):** NTBs are domestic legal or bureaucratic processes that restrict trade. These can include regulatory and technical standards or inspections, rules of origin requirements, public procurement discrimination, and intellectual property protections. While NTBs can seem benign, in practice they can unfairly discriminate against foreign products.
- **Delisting foreign companies from domestic stock exchanges:** Foreign companies that do not meet listing requirements can be removed from domestic stock exchanges. This limits access to capital for impacted companies, especially from institutional investors that may only trade on certain exchanges.
- **Threatening or withdrawing any of the above actions.**

#### EXTRALEGAL OUTBOUND ECONOMIC ACTIONS

The final subcategory includes tools used outside international or national laws. These actions are often informal, opaque, and not subject to legal processes. As a result, they have fewer checks and can often be implemented quickly and decisively. A simple form of extralegal outbound economic action is government-led discouragement of tourism to a target country. In June 2019, the Chinese government issued several statements discouraging travel to the United States ostensibly based on frequent theft, gun crime, and discrimination against foreign exchange students.<sup>59</sup> The warnings were then reiterated by China's domestic and international state media, which claimed public security in the United States was deteriorating and U.S. politicians were actively spreading "Sinophobia."<sup>60</sup> While there is no law restricting Chinese tourists from visiting the United States, these extralegal measures could discourage tourism, harming the U.S. economy.

These actions are often more targeted in nature than nationally compliant tools since they are not implemented through country-wide laws or regulations. They often pressure specific companies or individuals, for example, by delaying import inspections or requiring a strict audit—tools that are harder to use at a national scale. Since these tools are taken outside of the law, they have the highest legitimacy costs. Indiscriminate, arbitrary, and unpredictable actions can scare away foreign investors and businesses by contributing to an unwelcoming or even threatening economic environment. However, since they are more targeted and harder to identify than nationally compliant actions, they carry lower potential for formal retaliation.

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58. These are the Wassenaar Arrangement (conventional arms and dual-use technology), the Nuclear Suppliers Group, the Australia Group (chemical and biological weapons technology), and the Missile Technology Control Regime.

59. Hiroshi Murayama, "China returns to familiar playbook in discouraging travel to US," *Nikkei Asian Review*, July 7, 2019, [https://asia.nikkei.com/Economy/Trade-war/China-returns-to-familiar-playbook-in-discouraging-travel-to-US?utm\\_campaign=RN%20Free%20newsletter&utm\\_medium=daily%20newsletter%20free&utm\\_source=NAR%20Newsletter&utm\\_content=article%20link](https://asia.nikkei.com/Economy/Trade-war/China-returns-to-familiar-playbook-in-discouraging-travel-to-US?utm_campaign=RN%20Free%20newsletter&utm_medium=daily%20newsletter%20free&utm_source=NAR%20Newsletter&utm_content=article%20link).

60. Zhang Jianfeng, "Only a safe and friendly environment can attract Chinese travelers," CCTV, June 5, 2019, <http://english.cctv.com/2019/06/05/ARTIbSd7Krga1DvLpwwx7yMz190605.shtml>.

China has a comparative advantage over the United States in deploying these tools. As discussed earlier, the line between formal and informal activities is blurred in China. Since rule of law is subservient to CCP interests, there is greater ability to skirt formal regulations to pressure foreign actors. Additionally, the Chinese government can pressure companies, especially state-owned enterprises (SOEs), to make certain purchasing decisions. Still, the United States can also use informal tools to harm adversaries. For example, the Wall Street Journal has reported that the United States has sharply slowed approvals for domestic semiconductor companies seeking to hire Chinese citizens for advanced engineering jobs.<sup>61</sup>

Tools in this category include but are not limited to:

- **Currency manipulation:** States can devalue their currencies by selling their national currency and buying other currencies, including by selling foreign government bonds, making domestic products more competitive in global markets. Most countries have informally agreed not to competitively devalue their currencies.
- **Purchases and procurement:** Governments can purchase or cease to purchase goods and services from foreign companies through SOEs and federal procurement processes. Signatories to the WTO plurilateral Government Procurement Agreement, including the United States, are obligated to provide non-discriminatory procurement opportunities to other signatory countries. China has not acceded to the agreement.
- **Commercial espionage:** Governments can choose to overlook or even tacitly encourage corporate espionage, including cyber theft, to steal intellectual property from competitors.
- **Regulatory process abuse:** Governments can informally instruct agencies to manipulate regulatory processes to pressure foreign entities. This could include slowing routine procedures, including delaying visa approvals, export or import licenses, and visa approvals, or discriminately toughening oversight of certain foreign companies under existing legislation.
- **Intimidating foreign entities:** Beyond manipulating regulatory processes, states can intimidate foreign entities, often through legal investigation. These investigations can be arbitrary or linked to a charge that would otherwise not get prosecuted.
- **Propaganda and online censorship:** Countries can weaponize propaganda to influence consumer and business behavior. In extreme cases, this can diminish bilateral economic activity with a target country, including through goods boycotts or decreased tourism.
- **Threatening or withdrawing any of the above actions.**

## Coalition Building

Coalition-building tools leverage economic partnerships to pressure or incentivize a target to change their behavior. These actions are inherently multilateral and rely on the decisions of third-party countries. While certain outbound economic actions can be taken

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61. Asa Fitch, "U.S. Slows Hiring of Chinese National by Chip Makers," *Wall Street Journal*, May 21, 2019, <https://www.wsj.com/articles/u-s-slows-hiring-of-chinese-nationals-by-chip-makers-11558431000>.

multilaterally—for example, joining a WTO dispute as a third country—coalition-building tools are only available when coordinating with partners and allies. This approach often requires a patient, forward-thinking strategic mindset. Trade negotiations with third parties and public diplomacy to build international support are powerful tools of economic statecraft. Japan, for example, has played an important role throughout the ongoing U.S.-China trade war through the pursuit of trade agreements and regional agenda setting.<sup>62</sup>

Coalition building has lower spillover costs and chance of economic contagion than most outbound economic tools. As more countries get involved in the process, the group is less likely to use disruptive tools that would harm the global economy and, therefore, the countries in the coalition. Coalition building requires significant diplomatic resources and takes time to pressure a target. This pressure is often manifested by denying economic benefits to a target country rather than directly harming its economy. For example, the Trans-Pacific Partnership (TPP) would have brought together economies representing around 40 percent of global GDP in a bloc with high-standard trading rules. Countries within the TPP would enjoy preferential trading benefits, gaining a comparative advantage over those outside the agreement. A successful TPP may have encouraged Beijing to move toward a more open and rules-based economic policy as a prerequisite to joining TPP and reaping its benefits.<sup>63</sup>

The use of coalition-building actions can either encourage or discourage escalation. On the one hand, a country that finds itself encircled may lash out, either to break apart the opposing coalition or because it has few other options. Alternately, a country suddenly facing an adversary supported by other large economies may back down. These dynamics are influenced by the issue at hand, whether it is a core economic issue or something less important, and how well the coalition can stick together.

The United States enjoys a comparative advantage over China in using coalition-building tools thanks to its large network of alliances and experience with economic diplomacy. The United States is party to mutual defense treaties with more than 60 countries, encompassing about a quarter of the world's population and nearly 75 percent of its economic output.<sup>64</sup> China has no formal military allies. Although China is the largest economic partner of many countries, the United States remains the security ally of choice. While this does not translate directly to economic conflict as it would in kinetic conflict, the U.S. formal alliance structure nonetheless gives Washington greater access to foreign governments and trust among nations.

Coalition-building tools include but are not limited to:

- Bilateral or plurilateral economic agreements, including trade or investment agreements.
- Highly-visible diplomacy, including convening partners at a conference and issuing joint statements or condemnations.
- Coordinating with other countries to use outbound economic tools in concert.

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62. Matthew P. Goodman, "An Uneasy Japan Steps Up," CSIS, *Global Economics Monthly* 7, no. 4 (April 2018), <https://www.csis.org/analysis/uneasy-japan-steps>.

63. John J. Hamre et al., "The Strategic Case for TPP," CSIS, *Commentary*, April 20, 2016, <https://www.csis.org/analysis/strategic-case-tpp>.

64. Michael Beckley, "The Myth of Entangling Alliances," *International Security* 39, no. 4 (Spring 2015), 7, [https://www.belfercenter.org/sites/default/files/legacy/files/IS3904\\_pp007-048.pdf](https://www.belfercenter.org/sites/default/files/legacy/files/IS3904_pp007-048.pdf).

## Domestic Interventions

Building domestic strength requires a different kind of tool that involves domestic policy and development. These actions are prompted by economic conflict, and they help the user position *itself* to be in a stronger position to either compete or negotiate with an adversary. This category includes industrial policy to support indigenous innovation, aid for sectors impacted by trade tensions, and fiscal or monetary policy used to cushion macro effects of trade wars. The recent U.S. farm aid or aspects of Beijing's Made in China 2025 plan to achieve technology self-sufficiency qualify as domestic intervention tools.

Similar to coalition-building actions, domestic intervention tools have lower risk of spillover or contagion costs to the global economy than outbound economic actions. Since tools in this category primarily build domestic strength and independence, they do not directly harm an adversary, at least in the short term.<sup>65</sup> Instead, these tools are used to maintain domestic popular support for continuing the conflict by offsetting economic disruption. Domestic intervention actions are more about projecting strength and resolve than harming the other side. By doing so, an adversary may choose to de-escalate, wary that they are facing a stronger opponent than initially anticipated. On the other hand, domestic intervention tools may embolden the user to escalate because they have less perceived economic risk.

Beijing can deploy large domestic intervention tools more quickly than Washington can, thanks to its centralized decision-making authority and the large role of the state in the economy. Comparable measures in the United States often require Congressional approval, which is complicated by partisan divides. U.S. measures are also constrained by budgeting and appropriations processes and politics, which are more salient than in China. However, the United States can deploy smaller-scale tools relatively quickly, such as assistance to farmers impacted by the U.S.-China trade war.

While this category is very broad, some relevant examples of domestic intervention tools include:

- Support for sectors disrupted by economic conflict.
- Government initiatives to reduce reliance on the adversary's economy.
- Federally-supported supply chain diversification.
- Fiscal spending to offset the macroeconomic pain caused by trade tensions.

The tools used in economic conflict impact the nature of escalation and the degree of economic damage. Outbound economic actions have the highest likelihood of retaliation and the greatest potential to cause economic harm but can quickly apply pressure. Coalition building and domestic intervention tools have much lower costs and risks of contagion but take longer to deploy. A successful strategy will balance the use of tools from each category to minimize collateral damage while maintaining pressure.

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65. They might, however, have WTO consequences, as with WTO-illegal subsidies to favored industries.

## 4 | Testing the Model

Having designed our model and inventoried the tools of economic statecraft, we used simulations to test our model and study which tools would be used in an escalating trade conflict. We designed the simulations to observe how trade tensions between the United States and China could escalate and which tools of economic statecraft were most effective at pressuring the other side. Our simulations were informed by traditional wargaming models, which are often used by defense analysts to understand military engagement but are less often used to study the dynamics of economic conflict. We ran two separate one-day simulations in the spring of 2019 involving different groups of American experts on the U.S.-China relationship and trade policy. Understanding how a theoretical tit-for-tat economic exchange might unfold, as well as which tools were used, enabled us to refine our model, outline the likely paths for escalation, and develop recommendations to sharpen U.S. strategy.

### *Simulation Design*

#### **SCENARIOS**

Both simulations were set in a hypothetical near-future world and assumed a baseline U.S.-China trade agreement in 2019. We decided to separate each scenario from current events to test our model independent of the idiosyncrasies of the Trump-Xi negotiations and personalities. While each scenario was informed by the recent dynamics of the U.S.-China relationship, we wanted to avoid findings that were only relevant to one point in time. In both scenarios, we started with the assumption that the 2019 agreement had made some progress but had not solved the fundamental issues of industrial subsidies, IP theft, and technology transfer.

Each of the scenarios was different across four key parameters: conflict start date; U.S. and Chinese leaders; policy issue in dispute; and whether there was a trigger.<sup>66</sup>

- **Start date:** The first scenario began in 2025 and the second began in 2021. We wanted to explore how the different start dates would impact each team's strategy and decisions. In the first scenario, China had made more progress toward technological

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66. Shifting multiple variables in simulations complicates the assignment of causality. Recognizing this, we designed our simulations to be exploratory, rather than capable of producing definitive evidence of causal relationships.

self-reliance, and in the second, the situation was similar to the competitive landscape in 2019. We felt each of these dates was far enough removed from current events while not forcing participants to speculate about conditions in the distant future.

- **Leaders:** In the first scenario, the United States was led by a second-term Democratic President Kamala Harris, and China was led by Hu Chunhua, a current vice premier and a potential successor to Xi Jinping. In the second, the United States was led by a first-term Republican President Nikki Haley, while Xi remained in power in China. We wanted to study whether the underlying dynamics of the relationships changed with different leaders, or if they largely remained the same. We also wanted to examine whether there are more enduring or foundational elements of economic statecraft that are constant across different leaders.

We chose these U.S. leaders to explore how different administrations, varying by political party and term, would react to similar Chinese politics. We chose these individuals for their relatively consistent U.S. foreign policy objectives. While their economic goals vis-à-vis China might be aligned with the Trump administration, their tactics and strategy could be different. We chose a different Chinese leader in the first scenario to study whether Beijing's behavior was unique to Xi Jinping.

- **Issues:** Each scenario focused on one of the fundamental issues in the relationship: IP theft/technology transfer in the first and industrial subsidies in the second. We wanted to study whether China would be more willing to make concessions in one area than others, whether participants would stick to the issue at hand or expand the negotiating space, and how this would impact gameplay.
- **Trigger:** The gameplay in the first scenario began with the “Control” group postulating a proactive action by the United States, while the second scenario did not include any specific triggering action taken by either side. We wanted to examine how initial actions impacted escalation dynamics and whether they created path dependency.

In addition to the basic scenario, which was shared with all participants orally and in writing at the beginning of the simulation, each team received private information that the other side did not have access to. This included one strength and one vulnerability about their domestic economy. For example, the China team learned that China's real domestic economic growth was much lower than the headline figures. Information asymmetries feature prominently in game theory and in our model, and we wanted to test how this shaped each side's willingness to face risks. Aside from this, there was no further asymmetric information given to participants over the course of the simulation.

We did not give each team specific goals in the first simulation. We considered creating a set time at the beginning for each team to set goals and discuss strategy but decided against it in favor of a more open and flexible format. However, we received feedback that it was hard for each team to decide on clear objectives, especially for the United States, and that it would be helpful to have some guiding direction. In the second simulation, therefore, we gave each side goals that the other did not have access to. These were broad enough to give participants flexibility but also outlined general objectives related to industrial subsidies, the issue of focus in the second scenario.



## TEAM COMPOSITION

Our simulation had two teams: the United States and China. We considered adding other teams, such as other countries or economic blocs, but decided against it. Our primary goal was to understand bilateral economic escalation between the United States and China, and we felt that adding other teams would overly complicate the simulation. By isolating the bilateral relationship, we could examine the conflict without the noise of other interactions. However, each team was able to engage with other countries via a “Control” group, composed of CSIS experts and staff, which oversaw the simulation and acted on behalf of other countries when necessary.

Each team roughly represented cabinet-level decision-makers for each country. We chose not to include a leadership figure because this would vest too much power in a single participant. That player’s outside personality, biases, and experiences would have had an outsized impact on the simulation results. We did not proscribe a decision-making mechanism to each team, but they operated in a majoritarian or consensus-based fashion. This helped us capture more robust decisions that were agreed upon by a group of experts rather than individual preferences. In limited circumstances, Control would issue statements from each president to their respective teams. We will discuss the parameters for these interventions later in the chapter.

We did not assign personal portfolios or objectives to each participant. Again, we wanted to keep our simulation as simple as possible while allowing for maximum creative freedom and flexibility. We did not want to effectively sideline any participants because of their portfolio or shape outcomes based on the government agencies represented. Assigning specific roles could also result in internal bureaucratic turf wars or procedural debates about implementing authority. While these discussions are instructive in certain contexts, given our time constraints we wanted to maintain focus on the broader dynamics of the economic conflict.

To capture a comprehensive range of opinions, we selected a diverse group of participants representing a mix of perspectives. Each team was comprised of six American experts in U.S.-China relations.<sup>67</sup> Participants ranged from a former U.S. senator and a former U.S. representative to former U.S. Treasury and U.S. Trade Representative (USTR) officials to members of the defense and business communities. We asked participants to consider the full range of stakeholders when making decisions in the simulation, as government officials would. We also assumed they would draw on their personal and professional experiences to inform their decisions. While each team had more economic-oriented voices, based on the nature of the conflict, the defense and non-governmental sectors were also represented. We felt this division effectively assigned roles to the participants without constraining their creativity. With only one exception, each simulation had a different set of experts playing each country’s negotiating team.<sup>68</sup>

In the first simulation, we designated participants as either doves or hawks. Both teams had three of each personality. We thought that this would encourage robust internal debate

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67. The list of simulation participants is available in the report annex.

68. CSIS Senior Adviser and Scholl Chair in International Business William Alan Reinsch participated in both simulations.

over whether to escalate and which tools of economic statecraft to use. We assumed that the doves would generally have a lower risk tolerance and that the hawks would have a higher risk tolerance. Our model predicts that if dovish voices prevailed, the two sides would tend to negotiate, and if hawkish voices dominated, the two countries would escalate. However, after feedback from the first round, we did not include this distinction in the second simulation. Participants felt that these labels were either confusing or constraining and that their personal backgrounds already captured these perspectives.

### **GAMEPLAY**

Throughout the simulation, teams had four broad actions they could take: (1) ask a question to the other team or a third country using diplomatic channels; (2) request an informal consultation with the other side; (3) issue a public statement; or (4) take a policy action that would be visible to the other team. A list and description of 18 tools of economic statecraft outlined in Chapter 3 were provided to participants as a guide, but teams were encouraged to think creatively and not to feel constrained by this illustrative list. After discussing among themselves, participants submitted their decisions electronically to Control, facilitated by a CSIS staffer in each room. Control then vetted all actions to confirm they were realistic and viable and responded on behalf of third countries to diplomatic communications. All participants received information at the same time from Control. For example, if China decided to implement tariffs on U.S. agricultural imports, both teams would see the announcement of tariffs at the same time.

At the beginning of the simulation, Control told participants that they could only take diplomatic and economic actions and that military options were not available. While an escalation to military action would be an interesting finding, it was outside the scope of this project. We wanted to ensure the simulation focused on economic conflict and adding military options would complicate this goal. Future studies could examine when, how, and why economic conflicts escalate into military ones.

The simulation itself was divided into two “moves,” one before lunch and one after, each of which contained an action phase and a negotiation phase. In the action phase, each team was housed in its own room to send communications, implement policy, and react to the opposing side’s decisions. Before the first move began, both sides gathered in the same room, and Control read the scenario. During the first move, the first phase lasted for an hour and a half, and during the second move, it lasted an hour. We allocated extra time for the action phase in the beginning to give each side time to discuss overall strategy and approach. Each team was also able to request informal meetings with a member of the other side during this phase.

In the second phase of each move, teams met for formal, face-to-face negotiations for 30 minutes. We debated whether to make the negotiations optional to give the teams greater flexibility and remove the constraint of set formal negotiations. We decided to force the teams to negotiate in order to test how it would impact their overall approach and how they used different tools of economic statecraft. Our model suggests that an agent’s decision to escalate is based on perceived knowledge about the counterpart’s willingness to endure pain. Formal negotiations allowed each side to get a better sense of the other’s position. Thus, by forcing formal discussions, we could test our model’s predictive capacity. After a meeting where one side demonstrated weakness, or was perceived to be weak, we

would expect escalation, and vice versa. We capped the negotiation at 30 minutes to add a sense of urgency and reflect real-world summits, which have real time constraints.

We had an hour-long break between the two moves to give participants a break for lunch. When the simulation resumed, we told participants that six months had passed and introduced new information. Some of the information was prewritten and advanced the initial scenario. The rest of the information we provided reflected the political and economic consequences of each team's decisions in move one. For example, if either side had used tools of economic statecraft with high contagion risk, we would report that the global economic outlook had worsened and that political pressure for a deal had increased.

In our second simulation, we incorporated an additional phase for a press briefing. After the first round of formal negotiations and before the break between the two moves, a media outlet would interview a member of each team on the progress of the negotiations. The New York Times would interview the U.S. representative, and the Global Times, a newspaper closely affiliated with the CCP, would interview the Chinese representative. We incorporated this phase after feedback from the first simulation that there should be a press element to better reflect real-world negotiations. We thought this would encourage each team to clearly articulate their goals and motivations behind their actions so far. In the U.S. case, this would also help hold officials accountable for the harmful side effects or costs of their actions.

#### **ROLE OF CONTROL**

As discussed earlier, a "Control" group, composed of CSIS experts and staff, managed the simulation. The first simulation had a limited Control team, while the second had an extended group that included CSIS regional and economic experts. Control staff had three main roles beyond managing logistics: to clarify scenario details at the beginning; to speak on behalf of third countries; and to introduce new information, termed "prods," during the action phases. Participants occasionally had questions about the specifics of the scenario at the beginning of each simulation. Control had preset answers to questions about economic data and updates to issues outside of the scenario. Generally, these answers were structured to influence as little of the simulation as possible. For example, if a participant asked about GDP growth or inflation, Control would respond that figures were in line with expectations, unless otherwise stated in the scenario introduction.

Since we only had two teams, Control represented all other countries. If the United States or China wanted to contact other countries or take multilateral action, they had to ask Control. For example, if the United States wanted to enter free trade agreement discussions with the European Union, they would submit a request to Control. In the first simulation, the limited Control group mostly rubberstamped each team's requests to third parties. While this helped us move quickly, it led to some implausible agreements, such as China and the European Union discussing whether Beijing would join the General Data Protection Regulation. In the second simulation, we used CSIS regional experts, as part of an "extended Control," to decide whether the third party would accept or reject the request. They would also adjudicate on conflicting actions from the two sides. For example, if both the United States and China asked a third country to sanction the other side, Control would decide what action, if any, the third country would take. This created a more realistic global environment and constraints for each team.

Lastly, Control could introduce new information, or “prods,” to the simulation at its discretion. After consultation with former U.S. trade negotiators, we determined that a realistic negotiating environment is often disrupted by new information that changes the bargaining calculations of both sides. To reflect this, we developed two types of prods: global reactions to actions taken by each side and independent events that were relevant to the simulation.

The first type of prod would force each team to reckon with the economic and political consequences and costs of using certain tools of economic statecraft. For example, if the United States decided to suddenly delist Chinese companies from U.S. exchanges, Control could announce that global stock prices had plummeted and that investors were moving capital to safer assets. The limited Control group in the first simulation could not keep up with the rapid pace of decision-making. This encouraged the teams to be more reckless because there was less punishment for extreme actions. To solve this in the second simulation, CSIS experts on macroeconomics and trade, acting as “extended Control,” determined the impact of each team’s actions. This additional expertise and capacity helped create a more realistic game with faster reactions. While Control could not capture all the economic side effects of using specific tools, it could hold each team accountable by approximating an economic or political reaction.

Control used the second type of prod to spur action if the simulation stagnated. For example, if either side did not act for a significant period, Control would introduce political pressure to use tools of economic statecraft. We felt this made the simulation more realistic and would help maximize our limited time. In a real negotiation, external stakeholders would react to news and pressure policymakers to act. Since we were modelling escalation dynamics of economic negotiations, we wanted to keep teams focused on the scenario issue and minimize time spent discussing other policies.

### **DESIGN LIMITATIONS**

Although we based our simulation on wargaming exercises, economic conflicts have different complexities than kinetic ones. First, it is difficult to approximate the exact consequences of economic actions. Military actions can have clear and measurable outcomes, whereas economic outcomes are driven by complex market dynamics and variable business and consumer sentiment. Broader macroeconomic conditions play a large role in determining market responses, and there is no standard reaction function. Second, military engagements are relatively contained, often to a battlefield or regional theater. Economic conflicts have complicated, immediate contagion implications for global markets. Third, there are fewer actors in military conflicts. Central governments essentially have a monopoly on the use of force in kinetic situations. While governments are often major actors in the economic sphere, they do not have a monopoly over economic actions. There are millions of business and other economic actors who could impact outcomes. Lastly, the terms of victory are different, especially in the multifaceted U.S.-China economic relationship.

Although we tried to control for these differences, our simulation design had several notable structural limitations:

1. We were unable to perfectly account for economic and political reactions to the decisions made in the simulation. As discussed above, it is extremely difficult to

accurately forecast the economic effects of certain tools, especially during a live simulation. CSIS experts on the Control group had discretion when and how to respond to each team's actions. While these were informed decisions, they could not capture all the effects of using certain tools. Relatedly, players generally knew the economic, political, or security ramifications of their actions may be limited or delayed. We asked the participants to account for these constraints, but they may have been implicitly biased to take more unrealistic actions. We were more successful and responsive in communicating the costs of economic statecraft tools in the second simulation when we used an extended Control team, but we still faced the challenges outlined above.

2. We had strict time constraints. Each simulation took place over a span of only six to seven hours, forcing participants to quickly absorb information and act. This severely compressed timeframe limited the time for internal deliberation and negotiations with the other team. Unlike real-world negotiations, our simulation had a set end-time. This shifted the strategic calculus for actions taken toward the end of the game, since added urgency produced a different calculus than actions taken in the middle or as part of a multi-round game.
3. Players had to account for a scenario based on a hypothetical future timeline. While this allowed us to extrapolate our results beyond the 2019 U.S.-China environment and isolate enduring elements of economic statecraft, it forced players to make assumptions about the world in either 2021 or 2025. Control provided basic information and economic data, but participants had to fill in the details we did not provide. Generally, we encouraged players to focus on the bilateral conflict and avoid extraneous information.
4. Our participants had a limited set of perspectives. We leveraged a diverse set of U.S. experts and former policymakers but did not involve any Chinese experts or former officials. Although players on the China team had substantial knowledge of how the Chinese would act, they did not have direct experience making decisions in Beijing. They likely had a bias toward U.S. institutional decision-making processes and policy considerations. If we invited Chinese policymakers to participate, we may have reached different results and insights about Beijing's perceptions of both countries' strengths and weaknesses.

Despite these limitations, the simulations generated very useful—and some surprising—results and broadly achieved their objective of testing our model and producing valuable insights about the dynamics of U.S.-China economic conflict.

## Simulation Results

The bottom-line result of both simulations was that the U.S. and Chinese negotiating teams failed to reach an agreement. In the first, China threatened to walk out of final negotiations after a complete breakdown in trust. In the second, the two sides reached a limited consensus on some issues but could not agree on specific policy decisions. In each case, the United States acted as the aggressor, steadily escalating pressure on China to make concessions. The Chinese side adopted a defensive posture, trying to support domestic growth and development while reducing reliance on the U.S. economy.

### **SIMULATION 1 (MARCH 5, 2019)**

#### *Background Context*

The first scenario was set in May 2025, six years after a U.S.-China trade agreement was signed by Presidents Trump and Xi. That deal produced some improvements in Chinese trade practices, but flagrant Chinese IP violations and technology theft still occur. While a Chinese court ruled in favor of Nike in a major copyright violation case with Chinese clothing retail company Metersbonwe, Tesla was found in violation of China's antimonopoly laws in 2021 and forced to share cutting-edge battery-storage technology.

In China, President Hu Chunhua is two years into his first term. Hu has slowly decentralized power, but Xi retains substantial influence behind the scenes, including with the armed forces. China's real GDP was reported to have grown 4 percent in 2024, but in a closed-door meeting, Chinese economists estimated economic growth was much lower. China's debt-to-GDP ratio remains high at 285 percent, and SOEs received 70 percent of all new loans in 2024. China reached its Made in China 2025 goals in the electric vehicle and renewable energy technology sectors and is expected to soon release a new "Made in China 2040" industrial plan. Unknown to the United States, Huawei is on the cusp of developing a new silicone chip that would reduce the company's reliance on imports.

In the United States, President Kamala Harris was re-elected to a second term in 2024 on a platform of getting tougher on China for continued IP violations and other unfair trade practices. The election was closest in traditional manufacturing regions. Several domestic automobile manufacturers revealed privately to the president that they are at risk of bankruptcy if global markets do not improve in the next year, citing competition from subsidized Chinese companies. Just before the simulation began, the United States announced exclusion orders on imports from 15 Chinese automobile and automobile parts manufacturers and that the government would self-initiate Section 337 investigations into Chinese IP theft.<sup>69</sup>

### **RESULTS**

After each team's internal strategy discussions to set goals, the simulation unfolded in three phases: U.S. escalation with a measured Chinese response; a brief détente

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69. Section 337 investigations, also known as unfair import investigations, are conducted by the U.S. Department of Commerce and most often involve claims regarding intellectual property rights, including allegations of patent infringement and trademark infringement by imported goods. The primary remedy available in Section 337 investigations is an exclusion order to stop infringing imports from entering the United States. Commerce may also issue cease and desist orders against named importers engaged in unfair acts that violate Section 337. "About Section 337," U.S. International Trade Commission, [https://www.usitc.gov/intellectual\\_property/about\\_section\\_337.htm](https://www.usitc.gov/intellectual_property/about_section_337.htm).



following formal bilateral negotiations; and a second round of U.S. escalation that led to a complete breakdown in the talks. The United States took a more aggressive approach than China throughout the simulation, applying escalating pressure with only a brief pause to give Beijing a chance to respond to U.S. demands. The United States was determined to either change China's behavior or decouple in strategic technology sectors, leaving little room for compromise. For the most part, China played defense, responding to U.S. actions and supporting the status quo global order. Beijing focused on domestic growth, rather than engaging in a tit-for-tat escalation with Washington. Despite two rounds of formal face-to-face negotiations, the teams were unable to reach a deal. Bilateral relations deteriorated as the simulation progressed, and by the end, Beijing threatened to walk out of formal negotiations.

### *Goals and Approach*

Neither team was given formal objectives in the first simulation, so they began by discussing the scenario background and how it would inform their goals and approach.

The United States sought to change China's behavior or, if unsuccessful, partially decouple from China's economy in high-tech sectors. The U.S. team feared that Beijing would use a new "Made in China" industrial plan to supplant U.S. dominance in high-tech industries, using massive government subsidies, aided by forced technology transfer and IP theft. These "unfair" trading practices would put U.S. companies at a structural disadvantage to Chinese competitors. This could lead to diminished market share for U.S. businesses or sector-wide bankruptcies, as crystallized by the domestic auto sector's experience. If Washington could not convince Beijing to reform its policies and compete on a level playing field, they would force disengagement. This nuclear option would cut Chinese high-tech companies off from vital product components, ensuring U.S. firms maintained their market share.

The U.S. side was eager and willing to use a wide range of tactics to achieve these goals. Overall, the U.S. team preferred to use more surgical tools of economic statecraft. For example, rather than imposing economy- or sector-wide tariffs, they considered sanctioning Chinese high-tech companies using the entity list and denying visas to individuals associated with the People's Liberation Army. After a brief debate about the merits of multilateralism, they agreed to leverage allies where possible and use unilateral tools when necessary. They considered an "economic Article 5" under NATO as an organizing principle among allies to oppose Chinese IP violations, centered around "collective economic self-defense." Ultimately, they decided they would "play the multilateral card but not make it a focus." While they recognized that alignment among large economies would pressure Beijing, they worried a primarily multilateral approach would take too long to materialize. Other countries were likely more economically reliant on China than the United States and thus hesitant to take quick, decisive actions.

In contrast, China adopted a defensive posture, focusing on protecting domestic economic growth and maintaining technological development. They calculated that there was little the United States could do unilaterally that would really hurt their economy, since they could respond with domestic stimulus and diversify trading partners. However, they were wary about scaring off foreign, non-U.S. investors with aggressive responses that could escalate the trade war to a broader theater and lead to unavoidable economic damage.

Thus, the China team aimed to contain the conflict as a bilateral dispute and minimize contagion. When some participants proposed retaliatory actions to the U.S. Section 337 tariffs, others talked them down by warning of negative economic consequences. They reached consensus around a “legitimate response” strategy that employed legal retaliatory channels, such as the WTO, to respond to U.S. aggression and “competitive globalization” to reduce domestic reliance on U.S. financing, technology imports, and export market access. In any negotiations with the United States, China would try to limit the negotiating space to intellectual property rights and avoid industrial subsidies, which were non-negotiable. Industrial subsidies were integral to their development model and goal of achieving self-reliance.

On a parallel track, China would pursue trade agreements with other countries, occasionally using increased market access as a sweetener to accelerate negotiations. They wanted to reduce their dependence on the U.S. market and prevent Washington from building exclusive trading blocs. In all these actions, Beijing positioned itself as the responsible steward of the rules-based economic order and criticized the United States for its protectionist policies that threatened global economic stability.

#### *Phase 1: Chinese measured response to U.S. escalation*

Consistent with their defensive strategy, China responded to the initial U.S. exclusion orders by filing a complaint with the WTO and launching trade agreement negotiations with the European Union and the other BRICS countries—Brazil, Russia, India, and South Africa. The China team wanted to avoid “taking the bait” of U.S. provocations and responding in kind. They were fearful that harsh retaliation could cause economic and social disruption, as well as scare off foreign investors. Instead, they emphasized U.S. violations of trade rules and relied on international law to determine retaliation. Beijing believed its positioning as “the defender of the current global order” would pay dividends and limit Washington’s ability to effectively leverage its traditional allies and partners. To this end, the China team began trade talks with the European Union and announced a deal with Airbus to increase purchases and collaborate to develop next generation aircraft, both to boost domestic manufacturing and shore up support in Europe.

While the Chinese side considered several retaliatory tools at the beginning of the simulation, including cutting power to U.S. companies in China, pausing purchases of U.S. goods, and eliminating joint ventures with U.S. partners, they decided to defer tit-for-tat measures until absolutely necessary. For example, hawkish ministers on the China team suggested devaluing the RMB by five to ten percent to demonstrate resolve and threaten U.S. exporters in key constituencies. They eventually settled on letting the exchange rate fall by 1.5 percent, a relatively reasonable reaction but not enough to scare financial markets. Preserving domestic economic stability and foreign investment, especially given weak underlying data, outweighed the need to hurt the United States.

At this point, Control announced that China’s Made in China 2040 industrial plan had been leaked and that the text directed China to dominate global semiconductor markets “by any means possible.” In reaction to this initiative, Control announced that the U.S. House of Representatives passed legislation to ban the export of certain silicone chips to China and urged the president to take a more active role in maintaining U.S. technological supremacy.

The U.S. team responded to China's new industrial plan with unilateral escalation and multilateral coalition building. After initially considering placing sanctions on Chinese firms, the United States instead implemented stricter export controls on dual-use technology, especially for large Chinese companies. These steps went beyond the 2018 export control regime reforms by broadening the categories of technology subject to controls. As part of this action, the United States engaged Airbus over their technical cooperation with China, invoking a notion of "collective economic self-defense" to pressure Airbus to limit collaboration with Chinese companies. Hawkish ministers on the U.S. team wanted to take further action by restricting visas to Chinese nationals, expelling diplomats on charges of economic espionage, and limiting Chinese access to U.S. capital markets. They backed down after more dovish members argued China should have an opportunity to respond to demands before further escalation.

To multilateralize these actions, the United States deepened "Five Eyes" intelligence cooperation to respond to cyber and IP threats and launched an artificial intelligence (AI) governance working group with several developed countries, including key states in the Indo-Pacific region.<sup>70</sup> This was less a means to promote technology development than a coalition-building exercise and a balance to China's efforts to sign trade agreements. While not as comprehensive as trade deals, this working group would facilitate policy coordination and brush back Chinese efforts to achieve technological dominance. By establishing AI governance standards incompatible with China's state-dominant system, the working group would either encourage Beijing to liberalize and improve privacy protections or cut Chinese companies out of global markets.

#### *Phase 2: Détente after first negotiating summit*

After the flurry of initial U.S. actions, the Chinese side offered several concessions at the start of formal face-to-face negotiations. They tabled several proposals, including joining the U.S.-led AI working group, strengthening domestic patent law to protect IP, and liberalizing joint venture requirements. They believed these efforts would not just placate Washington but also demonstrate Beijing's commitment to liberalization. The Chinese negotiators emphasized the declining importance of the United States for the Chinese economy, their efforts to diversify trade toward other countries, and the success of domestic technology development. If Washington wanted a deal, Beijing was willing to compromise, but the United States was not as important to the Chinese economy as it used to be.

This caught the U.S. negotiating team off guard. Expecting to face a resolute China, the U.S. opening statement emphasized Chinese mercantilist trade policies and listed a wide range of demands but did not address the offers on the table. When China once again presented their proposals, the U.S. side asked China to prove their commitments by taking concrete actions, declaring "the climate is not right for U.S.-China cooperation." However, toward the end of the discussion, U.S. negotiators took a more conciliatory approach. They agreed to give China an opportunity to demonstrate progress, paving the way for a brief détente.

Following the summit, the United States issued a statement that they appreciated the negotiations but were disappointed by the lack of actions to improve IP protections and

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70. The Five Eyes is an intelligence alliance comprising Australia, Canada, New Zealand, the United Kingdom, and the United States.

address industrial subsidies. In response, China formally announced revisions to its patent law, although the statement was vague and did not include a timeline or specifics for implementation. The United States welcomed this action but worried it would limit the negotiating space to only IP issues, excluding the broader challenge of industrial subsidies as the Chinese team had intended. Still, the U.S. team discussed setting a date for future presidential-level negotiations and agreed to not escalate further, citing efforts by the Chinese to reach an agreement.

During this *détente*, the United States focused on supporting its economy, while China continued to engage with third countries. The United States announced federal support for domestic automobile manufacturers in hopes of avoiding industry-wide bankruptcies, citing “unfair competition from foreign, subsidized competitors.” While the United States was preoccupied, China continued to build support among potential allies, following their initial strategy of reducing dependency on the United States. Beijing announced final discussions to join the Comprehensive and Progressive Agreement on Trans-Pacific Trade (CPTPP) and on common policy with Belt and Road countries on the importance of data localization for the purposes of national security.

### *Phase 3: Complete breakdown of trust and return to escalation*

The simulation resumed after lunch (six months later in the scenario) with economic conditions deteriorating.<sup>71</sup> Global growth projections were revised down due to trade tensions, and stock market volatility increased. Both sides faced resulting domestic political pressures to reach a deal, including explicit demands from their presidents. However, reports also emerged that a former Apple employee now working for Xiaomi stole technology under development that was critical to future products.

At first, it seemed that the softening global economic outlook could provide a basis for cooperation. One U.S. official drew parallels to China’s efforts in 2008 to stabilize global markets and suggested economic policy coordination could be “an opportunity for common ground.” However, the latent erosion of mutual trust and deep suspicion of Chinese motives that had built up over the last decade proved too large a barrier to overcome. More hawkish voices won out, and the United States issued a statement underscoring its resolve in sustaining economic hardship to address “underlying structural problems with China.” Rather than calibrating potential stimulus with Beijing, the U.S. team convened a meeting of Group of Seven (G7) finance ministers and announced a domestic infrastructure package. Similarly, the Chinese side did not consider working with the United States for many of the same reasons. They instead marshaled 18 other Group of 20 (G20) countries to issue a joint statement condemning protectionist actions and calling for an end to trade tensions.

With immediate economic conditions addressed, the United States used reports of IP theft as an opportunity to further isolate China’s technology sector. In two consecutive actions, the United States added 20 Chinese companies to the entity list and sued Xiaomi and its subsidiaries on behalf of Apple, shattering the uneasy *détente*. The United States had laid the groundwork for these actions earlier in the simulation and just needed a trigger to authorize them. By this point, the majority of U.S. officials felt that unless China took verifiable steps

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71. As discussed in the “Simulation Design” section, we included a six-month break between the two moves of the simulation.

to improve its IP regime, the situation was past dialogue. They worried that Beijing was just trying to buy time as it developed technology self-sufficiency and that without aggressive action to harm China's technological development, they would lose leverage.

The Chinese side recognized the U.S. motivation to “unplug and disconnect China from the global economy” but did not immediately retaliate. They felt that they could survive U.S. actions and should not use self-defeating tools that could harm domestic industry. The only U.S. action that scared the Chinese side was the entity list designations. Still, the Chinese team agreed to wait out the United States while expanding economic cooperation with other countries. They successfully arranged a sidebar meeting with a U.S. representative to try to diffuse tensions, but it did not produce any results.

In an eleventh-hour twist before the second formal negotiating summit, the United States announced the start of free-trade agreement talks with Taiwan. The U.S. team saw this as an opportunity to gain a negotiating chip and a way to provoke China into bellicose actions that would damage its status as defender of the multilateral order. Predictably, it elicited a strong reaction. The tone in the China room immediately changed, with several members arguing for actions that would harm the U.S. economy. They quickly announced limits on students enrolling in U.S. universities and launched a wide-ranging investigation of Foxconn for “accounting irregularities.”<sup>72</sup>

Both sides entered the formal meeting suspicious of the other and entrenched in their positions. Chinese negotiators opened talks by saying they “deeply regret” U.S. protectionist measures and actions that undermined Chinese sovereignty. They threatened to walk out of the room unless the United States backed down from free trade agreement talks with Taiwan and reaffirmed the One China policy. For about a minute, both sides sat in silence. They resumed the discussion after the explicit urging of their two presidents, relayed through Control, to reach a deal. Still, the two sides talked past each other. China noted their “disappointment” with the United States for derailing the global economy and violating trade rules, and the United States accused China of failing to meet its WTO accession protocol commitments. When China tried to turn the discussion toward stabilizing the global economy, the U.S. side demanded China improve various structural problems, including subsidies and IP protection. To do this, they asked for verifiable commitments and a roadmap for implementation. Frustrations boiled over, with one Chinese delegate declaring, “We will not be lectured by the United States anymore.”

At the end of the negotiation, both sides offered to continue talks but could not agree on the topics or timetable for future discussions. China wanted the dialogue to focus exclusively on IP protection, while the United States wanted to also discuss SOE regulation and industrial subsidies. The failure of the two sides to agree on the scope of future negotiations highlighted a broader impasse and the inability of the United States to force China into concessions on the sensitive topic of industrial policy. The United States and China both declared victory at the end of the simulation. U.S. negotiators believed they had begun decoupling from China's technology sector, while China argued they stalled serious U.S. retaliation and were closer to a self-reliant high-tech base.

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72. After the simulation concluded, the Chinese team said that had there been more time before the negotiation, they would have further escalated to pressure the United States to renege on its Taiwan decision.

# SIMULATION 1





## **SIMULATION 2 (MAY 6, 2019)**

### *Background Context*

The second scenario was set in May 2021, two years after Presidents Trump and Xi agreed to a list of reforms with a bilateral enforcement mechanism, a similar deal to one in the first simulation. Under this agreement, China would reduce subsidies and market distortions, with benchmark goals in late 2019, 2020, and 2021. If these were not met, the deal authorized the United States to implement retaliatory measures. This agreement helped boost global growth, and both the United States and China exceeded their IMF forecasts in 2020. It also narrowed the U.S. trade deficit with China in 2019, although it widened in 2020.

In December 2019, President Xi announced a new “Medium- and Long-Term Plan for Science and Technology, 2020-2035.” Described as a successor to Made in China 2025, the highly ambitious program included plans to make China a global leader in a broad range of key sectors, including electric vehicles, biotechnology and GMO development, and semiconductors. In addition to other subsidies, Chinese banks and state-managed investment funds made credit highly accessible to these industries. In response, major U.S. companies in the tech, pharmaceutical, and logistics industries issued guidance about threats to their ability to stay in business while competing against heavily subsidized rivals.

Despite optimism when the agreement was signed, China failed to reach its benchmark goals for 2019 and 2020, which became a major campaign issue in the run up to the 2020 U.S. elections. After former President Donald Trump surprised the world by not accepting the Republican Party nomination, Nikki Haley won a tight election by promising to continue President Trump’s tough stance on China and to enforce the 2019 agreement. To ensure continuity, she retained several key members of his negotiating team, including U.S. Trade Representative Robert Lighthizer. In 2020, multiple U.S. government agencies investigated Chinese violations of international trade law, laying the groundwork for aggressive policy measures. Prior to the beginning of the simulation the United States had not taken any further actions to address China’s failure to meet its goals, unlike the first simulation where the United States had implemented trade remedies.

## **RESULTS**

After initial strategy discussions, the second simulation had three distinct phases: a race to build multilateral coalitions; an accelerating tit-for-tat escalation, first through a proxy trade conflict with Japan and then through a bilateral trade war; and strategic de-escalation ahead of the final formal summit. Even before negotiations began, the two teams did not have much faith that they could reach an agreement. Instead, both sides rushed to build multilateral coalitions and outflank the other. The United States also focused on improving domestic technological development capacity, while China tried to delay U.S. escalatory actions as long as possible by offering future talks and moderate concessions.

Unlike the first simulation, the two countries were able to have relatively productive talks. Each side made various demands and removed some of the escalatory measures previously put in place. They concluded negotiations with a notional agreement that China would take several steps as a precondition to a comprehensive deal. Still, the two sides did not reach a formal accord and left several trade barriers in place. The simulation ended in stalemate. Although the two countries were still talking, each had implemented escalatory measures that would harm the other, and there was no path to removing them.

### *Goals and Approach*

Unlike the first simulation, each team received from Control a primary and secondary goal for the second simulation. The primary U.S. objective was to limit China's industrial policy and use of subsidies, and its secondary objective was to help increase market share of U.S. companies in China. China's primary goal was to maintain economic growth and social stability while working toward technological self-reliance. Its secondary goal was to become dominant in key industries outlined in the Medium- and Long-Term Plan for Science and Technology.

To achieve these objectives, the United States adopted three interrelated strategies: isolate China in the global economy; limit Chinese companies' access to critical technologies; and implement "industrial policy lite" to help the domestic technology sector compete against Chinese "national champions." The U.S. team assumed that it could not change Chinese behavior and that Beijing would not comply with any promises it made on subsidy reform. In their calculus, China's failure to comply with the Trump-Xi accord proved the futility of negotiations.

The U.S. team considered using a variety of economic statecraft tools, including sanctioning Chinese companies and weaponizing the dollar. However, unlike the first simulation, the U.S. side demonstrated a serious commitment to multilateralism. From the start, they signaled that working with allies was a fundamental part of their strategy to pressure Beijing. By prioritizing multilateralism, rather than unilateral tariffs or sanctions, they would "maximize leverage and minimize economic harm." The U.S. team also focused on supporting its domestic technology sector. Using defensive tools against Chinese companies was part of a broader strategy to maintain technological dominance rather than an end in itself.

The China team adopted a similar initial strategy to the first simulation: play defense. They wanted to maintain the status quo through indefinite dialogues with the United States while they implemented domestic reforms at their own pace. Like the first simulation, their central goal was to ensure stable domestic economic growth. They agreed on the importance of "self-reliance and promoting our industries for global markets" in the face of U.S. actions and characterized Chinese industrial policy as "an existential issue" that was a non-negotiable. They foresaw U.S. punitive sanctions or tariffs and tried to "forestall their implementation" by using agricultural and energy product purchases as leverage.

Similar to the United States, China focused on marshalling partners. They recognized that the United States would try to "cut them off" from the global economy and that they needed to move quickly to avoid being encircled. To do so, they engaged in a broad diplomatic effort to sign agreements affirming the existing international order and status quo. They would take a leadership role in expanding global trade by leveraging Belt and Road Initiative (BRI) channels to lock in support. They hoped that this would prevent the United States from forming a united front against China and win them allies in the trade war to come. Additionally, China tried to weaken the U.S. domestic political consensus on tough trade action. They planned to engage subnational actors, including the business community and governors of export-heavy states, with similar purchase offers.

### *Phase 1: Race to build coalitions*

China began the simulation by sending a diplomatic communication to the United States inviting both presidents to a summit in fall 2021. The China team considered threatening that Chinese purchases of U.S. goods would be at risk if more tariffs were imposed. Instead, they tried to position China as upholding the status quo. The final communication “urged both sides to hold off on any steps that might aggravate trade relations.” In sending the letter, Beijing tried to begin the process of formal and informal consultations to prepare for the summit, believing this would provide a respite from U.S. escalatory measures. Washington responded, “We are studying your request” but did not send any further communication. Before agreeing to a meeting, the United States wanted to forge common grounds with allies to pressure China to make concessions.

With bilateral engagement stalled, both sides engaged in competitive coalition building. The United States moved first, announcing a “Conference of Market Economies” to “discuss how best to address challenges presented by non-market economies.” They invited 154 nations, excluding China, to participate in the event and planned to meet with Chinese negotiators after the conference with a stronger position. With the conference scheduled, the U.S. team began debating whether to take aggressive economic action toward China. Some of the members argued for stronger export controls and sanctions of Chinese technology companies. However, the team could not reach consensus and decided instead to focus first on multilateral coordination.

Not to be outdone, Beijing announced a Belt and Road Forum that would host more leaders than the 2019 meeting. The event would still focus on promoting BRI programs, but implicitly it would showcase China’s leadership role and the United States’ isolation. The statement explicitly mentioned Latin American countries, a clear challenge to U.S. influence. The China team considered further initiatives in the region, including launching a China-Latin America-Caribbean Cooperation Fund with a leaders’ summit, but were wary of too much encroachment on the U.S. sphere of influence.

Concurrently, China reopened technical discussions with the European Union on a bilateral investment treaty, with the goal of “addressing EU concerns and concluding an agreement.” The Chinese team assumed the European Union had a higher tolerance for lengthy discussions than the United States and used incremental concessions and talks with Brussels to drive a wedge between European countries and the United States. To supplement their international engagement, the China team announced a subnational dialogue and import fair for U.S. governors and mayors, to be held in Shanghai. As part of this effort, Beijing would invite governors from export-heavy states on a “buying tour” where Chinese companies could negotiate contracts with companies from those states. By returning to the traditional playbook, they tried to weaken the U.S. political consensus for tougher action against China.

Wary of Chinese attempts to outflank them with allies, the United States recognized the need to meet Chinese diplomatic efforts with a show of strength. First, the U.S. team announced that they were submitting a joint proposal on industrial subsidies with Japan and the European Union to the WTO and that the three partners are committed to exploring a joint investment-screening regime. Second, they applied to join CPTPP. Third, they invited Central and South American countries to discuss expanding the U.S.-Mexico-Canada Agreement to

a hemisphere-wide free trade pact. Finally, they announced broader U.S. market access for qualifying sub-Saharan African countries under the Africa Growth and Opportunity Act.

To complement this multilateral outreach, the United States announced a \$1 trillion initiative “to invest in the strength and resilience of domestic critical technology companies.” While this proposal was vague, improving the domestic foundations for U.S. competitiveness was a key plank of U.S. strategy throughout this scenario. The U.S. team committed to use both offensive and defensive tools to ensure they maintained technological supremacy. If they could not force Chinese companies to play on a level playing field, they could at least support U.S. firms.

After this initial posturing, the Chinese team again reached out to the United States to propose a meeting, this time at the vice-presidential level. They offered to talk about “regaining momentum on the broad range of issues in the bilateral relationship, including trade.” The United States initially considered responding with a request to broaden the discussion to include other sensitive issues, including human rights. In a show of goodwill, the United States accepted the invitation without preconditions.

Up to this point, both sides engaged in competitive coalition building without directly targeting the other. They were maintaining open communication channels but also building alliances to exert pressure later in the simulation. While the United States rushed into trade agreements, China limited its exposure. For example, China briefly considered applying to join CPTPP but backed off, recognizing they could not meet the high standards of the agreement. Both sides had also discussed using various tools of economic statecraft to harm the other but did not take escalatory actions.

#### *Phase 2a: Accelerating tit-for-tat escalation – proxy trade conflict*

An announcement from Control that Japan had suspended all Chinese investment in Japanese “critical technologies” shattered the relative calm at the beginning of the simulation. The United States quickly issued a statement applauding Tokyo for “its courageous measure to safeguard national security.” Washington moved to consolidate the nascent trilateral investment screening initiative, announcing a process with the European Union and Japan to mutually define critical technologies. The U.S. team tried to form a “multilateral quarantine system against Chinese investment.” They emphasized this did not target China ex ante: “We are creating a multilateral coalition around high standards, and it is China’s choice if it wants to join or not.”

Initially, China ignored the Japanese decision, but it turned to coercive measures once the investment screening coalition was announced. Beijing felt increasingly encircled and tried to pressure Japan into submission. State security organs announced they would “stop censoring anti-Japanese internet postings and facilitate protesters’ orderly boycotts of Japanese goods.” When Tokyo responded by blocking imported fruits and vegetables from China, Beijing announced increased scrutiny of Japanese imports and Japanese-owned factories in China. The Chinese team considered further measures, including blocking the export of rare earth metals and increasing cyberattacks on Japanese companies, but decided they were too harsh. China also explored multilateral responses, such as convening a “Northeastern Summit” with Russia and South Korea, but decided they would take too long to be effective.

China's aggressive reaction to Japanese investment controls gave the United States an opening to seize the global leadership mantle. The United States criticized China, issuing a statement declaring, "Chinese actions against Japan underscore the urgency of talks between like-minded economies to strengthen global trade rules." China tried to backtrack, and in a speech, President Xi reiterated China's "support for the rules-based economic order." Still, the momentum had shifted from earlier, when China was the champion for the status quo.

Ahead of the first formal negotiation, the United States and China had refrained from directly targeting the other's economy. Instead, they were locked in a proxy trade war in Japan that threatened to escalate. While China and Japan implemented tit-for-tat measures, the United States stood behind their ally. Washington's efforts to court partners paid dividends when the European Union joined the joint investment-screening working group, and the China team felt increasingly encircled.

The first formal negotiations evolved on U.S. terms. The U.S. lead negotiator began the discussion by criticizing China for failing to live up to its promises on industrial subsidies and SOE reform, arguing this had cost U.S. companies \$2.1 trillion dollars. Although the United States had "no intention to impose disadvantages on the Chinese economy," unless Beijing lived up to its commitments, the United States would not collaborate. As a first step, the United States demanded China provide reparations for the \$2.1 trillion in damages to the U.S. economy. The Chinese negotiating team responded defensively. They claimed both sides had failed to abide by previous agreements, implicitly recognizing that they had failed to follow through on their promises. The Chinese team highlighted their efforts to comply, citing billions of dollars in purchases of U.S. agricultural products, but had to consistently deflect U.S. allegations. The United States concluded the talks by telling China to change their behavior or face tariffs and sanctions.

Following the negotiations, U.S. officials told the press they were "very disappointed" by the lack of concrete action from China to address U.S. concerns. Additionally, the United States threatened to impose tariffs of 10 percent on all Chinese critical technology exports. The Global Times, a newspaper closely affiliated with the CCP, reported that China maintains a commitment to multilateralism and the institutions that promote a rules-based order. The report quoted a high-level official as stating, "China will not let its national security be placed in the hands of others and does not accept unilateral pressure or attempts to encircle China." Still, China was willing to pursue an "enhanced dialogue" with the United States to address trade tensions.

#### *Phase 2b: Accelerating tit-for-tat escalation – bilateral trade war*

When the scenario resumed six months later, China had yet to address U.S. concerns.<sup>73</sup> Reports emerged that the heads of major Chinese companies had visited Beijing to petition for increased state support to bolster China's technological independence. Additionally, the Semiconductor Industry Association released a statement warning that U.S. employment in their industry could fall due to heavily subsidized competition from China. Still, Presidents Haley and Xi met on the sidelines of the G20 summit and announced they intended to reach a deal by the end of February 2022.

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73. As discussed in the "Simulation Design" section, we included a six-month break between the two moves of the simulation.



China responded to these reports by once again emphasizing their support for global trade rules. They announced an internal working group to study joining the CPTPP, although Japan stated publicly that it would be premature to begin negotiations. After vigorous internal debate, China announced it would transparently notify subsidies as required under WTO rules. Some on the China team argued against this action, since it would amount to an admission of wrongdoing. Others argued it would help improve relations with the European Union, as well as foreign investors, and would not include any binding or enforceable obligations.

The U.S. team interpreted China's announcement on subsidies as a sign of weakness and felt they could pressure Beijing into further concessions. To do so, they implemented a series of actions: blocking imports from 48 Chinese technology companies; self-initiating 30 new Section 337 complaints over IP violations; and sanctioning the heads of three major Chinese manufacturing companies with ties to the military. Furthermore, the United States announced a second Conference of Market Economies to multilateralize these actions. Global stock markets plummeted as a result, but the United States was determined to weather the storm. To cushion economic damage, the United States announced increased public investment in critical technology companies, auctions of more spectrum to the private sector, and broader trade adjustment programs.

Chinese officials quickly decided they needed to fracture the U.S. coalition and retaliate. Similar to their approach to Japan, Beijing responded with informal actions. They held up U.S. agricultural imports at ports and stopped products from 47 U.S. companies for administrative review. China stopped censoring anti-U.S. internet content and facilitated orderly boycotts of U.S. products, as they had done with Japan. They also considered arresting U.S. business executives in China and warning Chinese students against studying in the United States. However, they did not take further action because they were extremely wary of capital flight and aggravating other trading partners, especially the European Union. They felt these informal measures had a low contagion threat: they would send a message to the United States without disrupting China's simultaneous effort to attract foreign, non-U.S. investors. To reassure investors, China approached the WTO with a "substantially revised offer" on subsidy reporting that included local governments and SOEs.

Both sides continued to reach out to allies throughout this escalation. China announced willingness to start free trade agreements with Canada and considered expanding BRI projects into the Caribbean. China also maintained efforts to divide the U.S. public by signing a clean energy partnership with the state of California. The United States achieved more concrete results, announcing intelligence collaboration with security partners of information and communications technology threats and a joint WTO case with Japan against Chinese informal retaliation.

### *Phase 3: Strategic de-escalation before formal negotiations*

As the final negotiating summit approached, the United States announced it was suspending the threatened 10 percent tariffs "as a gesture of goodwill." The United States was encouraged by China's subsidy proposals to the WTO and hoped progress could be made. They thought that by suspending the tariffs, they could give Beijing political cover to make greater concessions, even though the more punitive sanctions remained in place. The China team welcomed this decision and announced they would remove their hold on U.S. agricultural products.



This mutual de-escalation paved the way for a relatively civil summit. Chinese negotiators began by stating they were “ready to reach a deal” on a bilateral investment treaty or a broader agreement. They highlighted the progress they had made, including a revised offer on subsidy notification to the WTO, improved market opening, and climate collaboration with California. The U.S. side “took note” of these offers but underscored the “substantial issues and concerns with regard to China’s broader subsidies, not related just to transparency.” They identified “market-distorting subsidies that disadvantage foreign competitors” as a crucial issue and said that current proposals were inadequate to address these concerns.

Despite bickering over who had violated their commitments for much of the negotiation, by the end, the two sides discussed a timeline for China to implement improved subsidy notifications. Beijing said it would “move forward on these issues in the run-up to the 20th Party Congress” in 2022. This was a small, yet positive, step toward reaching a broader deal. Still, the simulation ended in stalemate. Although the United States had tabled the threat of tariffs and China had eased holds on U.S. agricultural imports, both sides maintained more restrictive measures with no path for further de-escalation.

## SIMULATION 2



## *Simulation Observations and Discussion*

Through our two simulations, we obtained valuable insights about U.S.-China economic conflict and the nature of escalation. The observations highlighted below were common across both simulations despite the differences in scenarios, timelines, and participants.

- **Both simulations ended in a stalemate with partial decoupling.** The two sides could not reach a deal in either simulation. In the first, both teams defined their goals in such a way that they both felt confident declaring victory despite not reaching an agreement. In our second simulation, the teams told us they had given up on finding a resolution long before the simulation was over. The United States was willing to accept partial decoupling in place of a deal, and China similarly focused on diversifying trading partners. Though the spirit and sentiment were different, the results of both sessions suggest speedy resolution of major power economic conflict will be, at best, highly challenging.
- **Both sides prioritized forming multilateral coalitions to encircle the other.** Apart from reaching a bilateral deal, the highest priority for each team in both simulations was to form partnerships with other countries. U.S. participants felt this was the most effective way to pressure China, and Chinese participants worried about being encircled by a U.S.-led coalition. U.S. players reported they tried to “quarantine” China with the help of other market economies. In our second simulation, the China team said they felt most threatened when it appeared the United States had formed alliances to isolate China in the global economy. They responded defensively by attempting to prevent others from choosing sides and portraying themselves as the champion of the global economic order. CPTPP, especially, was critical to this effort. China attempted to join the agreement in both simulations, and the United States tried to join in the second session.
- **China was comfortable playing defense.** Rather than retaliating directly to most U.S. provocations, the China team responded by pursuing other trade agreements and diversifying their economic partners. Chinese participants wanted to avoid “self-defeating measures” that could scare away foreign investors, cause third countries to use trade remedies, or threaten domestic economic stability or technological development. The China team used delay tactics when negotiating with the U.S. team, offering vague promises and cosmetic agreements to stall U.S. actions as long as possible. Although Chinese players were not happy about the U.S. use of economic statecraft tools, they believed they could endure the short-term economic pain.
- **It was difficult for the United States to provoke change in China on structural reforms.** Since the China team was comfortable to act in a defensive position, the two sides were only able to negotiate on reforms that Chinese participants felt were in their best interests. In both simulations, the China team was willing to make compromises on IP protections but guarded their rights to intervene in the economy with industrial subsidies and support for national champions. Issues involving the role of the state in the economy were politically non-negotiable for Chinese leadership. Broad U.S. demands compounded this impasse, and the Chinese team expressed frustration that the U.S. team was not satisfied with the limited reforms they offered to make.

- **The latent breakdown of trust impeded discussions.** Both sides doubted the other was negotiating in good faith or would honor their promises, even when concrete proposals were offered. Participants told us this reflected the declining bilateral relationship over the 2010s. The history of unfulfilled commitments and sudden changes in policy contributed to a latent breakdown of trust over time. During the simulation most proposals were met with skepticism. Each side fundamentally doubted the other's motivations, even if they were made in good faith. Since the topics discussed were so massive, there were no minor, incremental steps either side could take to rebuild trust. The negotiations would have looked a lot different had they occurred in 2005, or even 2015, when there was still some trust in the other party to fulfil their promises.
- **Bureaucratic intransigence limited prospects for a deal.** Despite insistence from both presidents to reach an agreement, negotiators stuck to their positions. Players dismissed these requests as politically motivated and subordinate to the importance of solving bilateral economic problems. They resolved to focus on the key issues rather than obtain a cosmetic deal for the sake of de-escalating.
- **Both sides focused on domestic policy.** In each simulation, both teams implemented domestic policies to offset the costs of escalation and address competitiveness issues. The U.S. team concluded that bilateral negotiations would not solve competitiveness problems with China and took unilateral action accordingly. They announced major initiatives to support domestic technology development and insulate vulnerable industries from retaliation. These would supplement punitive trade tools designed to harm China. China responded to U.S. escalation by defending and retrenching policies that they felt were central to their further economic development, especially subsidies.
- **The Chinese team preferred to use informal tools of economic statecraft.** In both simulations, China mostly deployed informal tools, such as import inspections or online censorship, to pressure the United States and other adversaries. The Chinese players worried about capital flight and maintaining an image of supporting the global order, which limited their appetite for using formal tools. They feared that passing new laws or using legislative measures would scare off foreign investors. Informal tools allowed them to pressure specific countries while denying that they were protectionists, since they did not explicitly violate any rules.
- **The U.S. team primarily used targeted export bans, not overbroad tariffs, to pressure China.** U.S. participants were primarily concerned with China surpassing them in technological development. To avoid this, they used targeted measures to ban exports to certain Chinese companies. They believed this more effectively pressured China than using tariffs, since it cut off vital supplies. Validating U.S. methods, the only time the Chinese team felt threatened in the first simulation was when the United States added companies to the entity list.

## LIMITATIONS

Simulating economic conflict poses different challenges than simulating traditional military conflict. Kinetic warfare depends on decisions made by a few key actors with clearer costs and terms of victory, thus lending itself to modeling and wargaming. By

contrast, economic simulations must attempt to reflect the cumulative reactions of diverse market actors with unclear net costs. The terms of victory are different, especially in the multifaceted U.S.-China economic relationship. Through the course of our simulations, we realized several additional design limitations to those discussed earlier in this chapter.

First, it was difficult to fully convey to participants the costs of their decisions. We did a better job responding to the use of tools of economic statecraft than we anticipated, especially in the second simulation with the extended Control group. While we could not capture the precise impacts, we were directionally accurate. The more extreme actions players took had direct costs, which were communicated to both teams. However, both sides largely ignored this information in pursuit of their objectives. In part, this reflected each team's willingness to bear costs to achieve their goals. Both sides repeatedly emphasized the resilience of their economies and their resolve to stay the course. This could have also reflected the lack of direct, personalized pressure on participants. Control communicated information but did not simulate protests or visible signs of political pressure for either side. The press conference in the second simulation helped convey a sense of urgency to some extent but functioned more as an opportunity for each team to spin the negotiations. Future exercises could include mock unrest or demonstrations to underscore the high costs of certain tools.

Second, we only had two countries that could make decisions. The rest of the world was only reactive to U.S. and Chinese actions. Control only provided responses from other countries to our two teams but not proactive policy. Though this was an intentional choice on our part to simplify the exercise, our discussions with former trade officials reinforced that real negotiators would have to juggle multiple treaties and react to actions taken from other countries. More active third countries could have also served as another check on escalation, since they would be wary of global economic uncertainty. Future projects could expand the simulation to include more teams and allow for multilateral negotiations.

Third, several key stakeholders had limited representation in the negotiations, especially in the China team. Although we encouraged participants to consider the broad range of interest groups in their countries, this did not fully capture the various domestic constituencies each side would have to respond to. There was also limited representation for differing viewpoints among governments. Neither Chinese nor U.S. policymakers are ideological monoliths, but "group-think" patterns emerged on both sides, even when participants were assigned dovish or hawkish views. For example, none of the China team players in either simulation represented reform-minded officials. It was unclear whether this was an accurate reflection of CCP centralization under President Xi or a bias among U.S. experts to assume reformist views are sidelined in Chinese policy debates. The U.S. team faced less groupthink, but hawks dominated discussions. Future simulations could consider assigning more nuanced individual roles and priorities to ensure decisions reflect all relevant perspectives.

Lastly, time constraints added further limitations than we initially predicted. Since each simulation was a finite event, the players behaved differently than they would in a years-long negotiation. Most importantly, neither team had to face the long-term costs of their actions. While participants considered long-term economic costs, they were less attuned to long-term political costs. For example, the United States did not have to face

the significant consequences of entering free trade talks with Taiwan since they did so at the end of the simulation. The simulation design also impacted each team's negotiating strategy. The U.S. team wanted quick changes and deprioritized enforcement strategies or results beyond the final round of negotiation. Chinese participants may have been willing to make more concessions, knowing they could make promises without the intention of keeping them. Future projects could consider multi-day simulations or stagger sessions over several weeks if funding permits.

#### **RELATING THE SIMULATION TO OUR MODEL**

The simulations validated several aspects of our model while helping us refine others. They confirmed the importance of perception and dominance of short-term incentives in decision-making. They also demonstrated that our model undervalued the prevalence of defensive actions, signaling pathways, and the role of third countries.

Each side's decision-making calculus relied on a perception of the other's strength and willingness to endure pain. Both teams tried to marshal a united front with third countries to appear stronger and were wary of being encircled by the other. In the first simulation, both sides emphasized their economic resilience and declining dependence on the other to gain the upper hand, leading to a stalemate. In the second simulation, China was fearful of a materializing U.S. coalition, which brought it to the negotiating table with serious proposals. The U.S. team interpreted China's concessions as weakness and pushed for more rather than just accepting what Beijing had offered. Since they felt China had a low pain threshold, they continued to escalate, as predicted by our model.

In both the model and simulation, the short-term incentives to escalate outweighed the long-term costs. Each team, but the United States in particular, did not seem to consider or care about the extent their actions shrank the overall pie of benefits. Instead, they focused on using tools to extract more benefits in the short term. Players viewed the world as zero-sum, as our model describes, and prioritized relative gains over absolute gains. One factor that may have influenced this was the bilateral nature of the conflict. It could have been easier to justify a positive-sum worldview if there were various parties and direct competition was less salient. Another factor could be the lack of reciprocity in negotiations. The U.S. team made many demands but offered few concessions, eliminating the possibility for Beijing's preferred "win-win" solutions.

#### *Improving the Model*

As discussed earlier, the simulation helped us refine our model in several ways. First, players in the simulation adopted a defensive posture, while our model suggested agents would have greater offensive motivations. Our model assumes both parties are rational actors and would equally value improving and maintaining their position. In our simulation, this was not the case. Both teams perceived their domestic technology development as under threat and acted defensively. Though this was a departure from bargaining theory, it illustrates the endowment effect, a behavioral science theory that suggests people place higher value on keeping current possessions than gaining equivalent future possessions.<sup>74</sup> This is especially applicable given the abstract nature of what our

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74. Daniel Kahneman, Jack L. Knetsch, and Richard H. Thaler, "Experimental Tests of the Endowment Effect and the Coase Theorem," *Journal of Political Economy* 98, no. 6 (December 1990): 1325-348.



teams were bargaining over and how they characterized what was at stake. Each team believed an existential part of their economy was under threat and that there was little to gain from reaching a deal.

Second, our model assumed that actors were trying to maximize payoffs to reach a defined goal. However, in our simulations both sides had difficulty defining what would constitute success, especially in the first exercise, where both teams claimed victory at the end. Traditional strategic game theory literature assumes the payoffs of negotiation are known to both sides, which allows them to set strategies. In kinetic conflict, these are clear (e.g., withdraw from a contested territory, abandon nuclear weapons). In economic statecraft, victory is harder to define. Broad objectives like “leveling the playing field” or “structural reform” are subjective and can mean different things to different actors. This would be difficult to correct in our model and raises a broader question about what the ultimate ends of using economic statecraft tools are. These could be clear in focused disputes, such as protecting a domestic sector unable to compete with imports, but are harder to define in the broad context of U.S.-China economic tensions.

Third, our model did not incorporate signaling pathways as escalatory actions, which our simulation players tended to favor. Both teams often used public statements to criticize or threaten the other side. These steps indicate some degree of escalation, which our model only defines as the use of discrete tools. Although these announcements impact the tenor of the relationship and could dampen future economic integration, they do not shrink the Pareto frontier in our model. Thus, it is unclear whether they are necessary to include in the model or are mostly rhetoric that is reversible.

Fourth, our model by design exclusively looks at bilateral negotiations between two players, but third parties impact bargaining. Since the object being divided is global, bilateral actions have multilateral implications. Unlike a territorial dispute, which is largely contained as a bilateral conflict, economic decisions impact many other countries. Realistically, other actors would be taking actions to try to influence the choices of players. Our model was unable to account for these interventions. By comparison, our simulation went farther to address multilateral dynamics but still evaluated them on an ad-hoc basis rather than using a theoretical framework. Adding more than one party would overcomplicate the model, but incorporating a “rest of world” agent could proxy some of the multilateral dimension.

Lastly, our model anticipated a process of offer and counteroffer, but in our simulation, no binding deals were made. Our model functions in terms of bargains that parties can accept or reject. Though we saw plenty of rejections, we saw relatively few concrete bargains offered. In both our simulations, our teams would often ask the other for further details on which they could negotiate, but follow-through on those requests was rare. Our model did not incorporate the nature of specific versus unspecific language in the creation of bargains. Further study could explore existing literature on the use of vague language in legal documents and international negotiations and how this impacts escalation dominance.

Relatedly, we did not assign a cost to bargaining failure in our model since we assumed that only escalatory actions had a cost. Yet failing to reach a deal carries reputational and economic consequences. Although we alluded to the political costs of not reaching a deal

in our scenario, we could have underscored the economic consequences, such as stock market volatility or depressed foreign investment. Had we included clearer costs of a no-deal scenario, participants may have been more willing to offer proposals.

## 5 | Project Findings and Recommendations

When we were approached in the fall of 2017 about doing a theoretical study of how U.S.-China economic conflict might unfold, we were skeptical for at least two reasons. First, the two countries were already on the brink of an actual trade war. The USTR had launched a Section 301 investigation of Chinese technology transfer and IP practices in August 2017, and President Trump’s rhetoric on China’s large bilateral trade surplus with the United States had reached a crescendo.<sup>75</sup> The risk seemed high that an 18-month study would quickly be overtaken by events.

Second, there were deeper shifts underway in both countries that raised questions about the value of theory or precedent in understanding how a trade war might play out. Under CCP leader Xi Jinping, China had moved away from reform and opening, tightened political controls at home, and asserted its new economic clout abroad, often in coercive ways. This in turn was creating antibodies in Washington, feeding an emerging consensus in the economic policy community—one long-present in the national security community—that China had become a strategic competitor of the United States. Moreover, a populist shift in U.S. politics, combined with Donald Trump’s idiosyncratic style of governing, added a large new element of uncertainty to U.S. policymaking. Against this backdrop, neither the traditional dynamics of the U.S.-China relationship nor theory seemed likely to offer much predictive value for how a trade war might unfold over the next several years.

Despite these reservations, we were attracted by the opportunity to better understand the motivations, tactics, and tools available to both sides, knowing full well that our theoretical model might be tested in practice in the very near term. In the end, our 18-month project proved valuable on several levels. It showed that game theory, and its specific application in nuclear escalation dominance, can be meaningfully applied to economic conflict, albeit with important caveats. The model we created proved robust,

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75. “USTR Announces Initiation of Section 301 Investigation of China,” U.S. Trade Representative, Washington, DC, August 8, 2017, <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2017/august/ustr-announces-initiation-section>; On November 9, 2017, President Trump tweeted about the “incompetence of past Admins for allowing China to take advantage of the U.S. on trade leading up to a point where the U.S. is losing \$100’s of billions.” Donald Trump, Twitter post, November 9, 2017, <https://twitter.com/realDonaldTrump/status/928769154345324544>.

and the simulations we ran validated the model and produced several findings that were both unexpected and relevant to the real world. And all of this proved useful in better understanding and predicting the course of the actual U.S.-China trade war, as well as its potential consequences.

## Findings

A number of key findings emerged from the project:

### **GAME THEORY IS USEFUL TO MODEL THE DYNAMICS OF ESCALATION IN U.S.-CHINA ECONOMIC CONFLICT, BUT THERE ARE NOTABLE DIFFERENCES FROM TRADITIONAL STRATEGIC APPLICATIONS.**

Our model applied several concepts from game theory to build a basic framework for understanding how a trade war can escalate. Generally, the simulations confirmed our model's central causal mechanism: an agent that has a high appetite for risk or underestimates its counterpart's willingness to endure pain will launch an escalatory spiral. The model also helps explain the current impasse in the U.S.-China trade war. It suggests that Beijing believes the costs of a deal that would require them to fundamentally reorient their economy are greater than the costs of the current conflict. It also suggests that Washington is determined to continue the conflict because it believes China will not be able to endure sustained economic pain. Since the stakes are high—essentially establishing the rules of engagement between the world's two largest economies for decades to come, as well as the global rules of the road—both sides have a high appetite for risk and willingness to endure pain. Our model predicts this would lead to an escalatory spiral with no path to a settlement, and this was validated by both simulations.

These conclusions have been validated by the Trump administration's approach over the course of the current trade war with China. As escalation mounted in the summer of 2019, President Trump asserted, "I think the longer the trade war goes on, the weaker China gets and the stronger we get."<sup>76</sup> Armed with this confidence, the Trump administration has made clear that it is willing to take large risks to change Beijing's behavior.

For its part, the Chinese team in each of our simulations accepted the costs of escalation over a compromise because they were unwilling to reform aspects of their economy—notably subsidies and SOEs—that they viewed as existentially important. This confirmed the widely held understanding that the CCP has staked its legitimacy on advancing China's economic development and achieving a "moderately prosperous society" through their state-directed economy.<sup>77</sup> The Chinese side also seemed to believe the costs were higher and the pain tolerance lower for the other side. Again, this calculation has clearly featured in the real world. Responding to Trump's assertion above, the editor of China's Global Times tweeted, "The U.S. economy doesn't appear as strong as Trump said. Chinese society has full confidence to fight a prolonged battle with the [United States]. Chinese society is more united politically and can afford a long-term fight."<sup>78</sup>

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76. Megan Cassella, "China leaves no doubt: Retaliation is coming," *Politico*, August 16, 2019, <https://www.politico.com/newsletters/morning-trade/2019/08/16/china-leaves-no-doubt-retaliation-is-coming-719121>.

77. Xi Jinping, "Full text of Xi Jinping's report at 19th CPC National Congress," *China Daily*, October 18, 2017, [http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content\\_34115212.htm](http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm).

78. Cassella, "China leaves no doubt."

All that said, there are several notable differences between our model and traditional strategic applications of game theory, such as a nuclear arms race. First, it is difficult to model the costs of economic escalation *ex ante*. Traditional conflict is relatively simple to model because governments have a monopoly on the use of military force, and conflict is generally confined to a defined theater with known actors. By contrast, market reactions are hard to determine and depend on a myriad of other factors and players. This difference makes it harder to predict specific outcomes in economic conflict.

Second, economic engagement and even conflict can be positive-sum, whereas traditional conflict is typically zero-sum. There is no finite limit to economic output or “win-win” outcomes in trade, but there is a limit to territory that is divided. Finally, third countries arguably play a greater role in economic disputes than in security conflicts. Markets have no borders, and decisions made by countries not party to the bilateral negotiations have a significant impact on the economic combatants and vice versa. These differences between modeling security and economic conflict became apparent in some of the other findings of the study that follow.

**A SUCCESSFUL U.S. NEGOTIATING STRATEGY MUST ESTABLISH “DUAL CREDIBILITY” ABOUT RESOLVE AND WILLINGNESS TO COMPROMISE.**

Our model and simulations found that an optimal U.S. strategy of pressure toward China must be credible at demonstrating both resolve and willingness to compromise. Washington must continually persuade Beijing that it is willing to endure enormous costs longer and that it would accept a compromise agreement that both addresses its own major concerns and yields benefits for China.

Our model identifies a country’s perceived knowledge about their adversary’s willingness to endure pain as a crucial determinant of the ultimate outcome, and the simulations corroborated this finding. If one side underestimates its opponent’s tolerance for absorbing economic costs, it will be less willing to negotiate, since it believes it has the upper hand. Conversely, if one side has a clear sense of their opponent’s resolve, it will be more willing to seek an agreement.

To this end, the United States must clearly indicate its capacity to endure economic pain in search of an agreement. If Beijing believes it can endure more pain than the United States, it will have little incentive to reach an agreement. Washington should consider the possibility that China, as a rising power, may be more willing to hold out longer for an agreement, since it believes that its leverage will increase with its economic size.

A successful strategy also includes willingness to compromise. Bargaining theory shows that there are negotiated outcomes preferable to conflict, but these must be made in good faith. Bargaining theory also indicates that there are agreements less preferable to conflict. If China feels the United States is unwilling to meet its demands for a more balanced deal, it will opt for conflict over negotiation. Each side must believe the other will abide by any agreement it signs and that abiding by agreed commitments will stabilize the relationship.

These findings appear to explain the failure to reach agreement in the real world. As of this writing, both the Trump and Xi administrations have made clear in their words and

actions that they believe the other side will pay a higher cost for the trade war and will eventually buckle. And neither side believes the other side is negotiating in good faith or will honor any agreement that may be reached. This lack of dual credibility suggests a protracted conflict with no clear path to resolution, at least until the economic and political costs begin to bite.

**CHINA HAS AN IMPULSE TO REACH OUT AND SEEK PARTNERS—AND IS SENSITIVE TO MULTILATERAL PRESSURE.**

In both of our simulations, China displayed an impulse to reach out and seek partners by positioning itself as the defender of globalization and the status quo. Beijing wanted to avoid being encircled and demonstrate that it had other economic partners it could rely on if it decoupled from the U.S. market. Beijing's outreach to third countries was less about gaining allies—at which it was rarely successful—than preventing them from choosing a side in the trade war and maintaining a status quo beneficial to China. The Chinese team used carrots to build economic interdependence with third countries, thus increasing the costs to the latter of limiting economic ties and partnering exclusively with the United States. While this did not yield the hard dividend of formal alliances, it weakened third countries' willingness to act disruptively against China.

This corroborated our model's predictions that each side would attempt to overestimate its own strength and resolve. The Chinese teams in our simulations wanted to demonstrate to the United States that they had other trading partners so that they could signal that decoupling would cause less harm. In bilateral talks, they frequently highlighted the declining importance of the U.S. market. Unlike the real world, where President Trump has been famously critical of multilateral institutions and U.S. allies, the U.S. team in our simulations sought to build coalitions to encircle China and force them to concede with threats of isolation. Throughout the simulations, multilateral threats worried the Chinese team much more than unilateral actions.

China's instinct to seek multilateral support has been evident in the real world. In its public diplomacy, Beijing has consistently sought to portray itself—not Washington—as the true champion of globalization and free trade. It has also worked to win friends around the world through generous funding for infrastructure under its Belt and Road Initiative (BRI). At the same time, Beijing has been responsive to international criticism about the debt sustainability of BRI projects, and the concessions it has made on foreign investment and technology transfer policies over the past two years suggest that it is trying in part to assuage multilateral, not just U.S., pressure.

This in turn suggests that the Trump administration should put more emphasis on initiatives, such as its trilateral work with the European Union and Japan. By eschewing multilateralism and threatening tariffs against traditional allies, the United States is denying itself a stronger hand in negotiations with China.

**ECONOMIC STATECRAFT—IF WELL-TARGETED—CAN PRESSURE CHINA TO MAKE MEANINGFUL CONCESSIONS.**

In our simulations, the China team felt most threatened when the United States banned exports to certain Chinese technology companies viewed as critical to China's economic



progress. Comparatively, they felt less pain from broad-based tariffs. This comports with the real world, where Beijing has aggressively responded to U.S. sanctions on Chinese telecommunications giants ZTE and Huawei.<sup>79</sup>

As a result of this pressure, the China team in our simulations was willing to make concessions on what they perceived as non-core issues, including IP protection and goods purchases. However, they held firm on central aspects of the Chinese economic model, such as government subsidies for favored SOEs, which are critical to CCP legitimacy and control. Applying our bargaining model, Beijing perceived the costs of concessions on these areas as higher than the costs of conflict.

This suggests that to reach a deal on structural issues, the United States will have to apply massive pressure to make the costs of conflict unbearable for China. Harking back to the previous finding, it may be impossible to reach this threshold without multilateral support, since the United States can only take so many unilateral actions before the domestic cost is politically unbearable.

#### **CHINA PREFERS TO USE INFORMAL TOOLS OF ECONOMIC STATECRAFT.**

Our simulations found that China preferred to use informal tools to retaliate against formal U.S. actions. Often China did not implement equivalent countervailing measures but used “qualitative” tools to pressure the United States. These were not used at random but targeted at politically salient interests. For example, in response to a U.S. policy announcement blocking exports to certain Chinese companies, the China team in one simulation began rigorous “administrative reviews” of U.S. agricultural imports at ports. Again, this mirrors the real world, where Beijing has targeted sensitive U.S. agricultural exports, as well as prominent companies, such as FedEx, through quasi-legal action.<sup>80</sup>

There are several potential reasons for Beijing’s preference for informal actions. First, Chinese policymaking is not as constrained by the rule of law or requirements of procedural transparency as in the United States. Second, China wants to maintain the impression that it is open to foreign trade and investment; highly-visible retaliatory actions would damage this image. Less-visible actions allow Beijing to portray Washington as the aggressor.

Still, this “silent” retaliation approach is prone to miscalculation. China endured international criticism for its tacit retaliation against South Korea over the deployment of the THAAD missile defense system, as well as restrictions of banana imports from the Philippines related to South China Sea tensions and Norwegian salmon imports tied to Chinese dissident Liu Xiaobo’s Nobel Peace Prize award.<sup>81</sup> More recently, Beijing’s arrest of two Canadians in clear retaliation for the arrest of Huawei Chief Financial Officer Meng Wanzhou in Canada likely did more harm to foreign investors’ perception of China than formal retaliation would have.<sup>82</sup>

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79. Alexandra Stevenson and Paul Mozur, “China Steps Up Trade War and Plans Blacklist of U.S. Firms,” *New York Times*, May 31, 2019, <https://www.nytimes.com/2019/05/31/business/china-list-us-huawei-retaliate.html>.

80. Brenda Goh, “U.S. firms fret as China’s FedEx probe, planned hit-list heightens trade frictions,” Reuters, June 4, 2019, <https://www.reuters.com/article/us-usa-trade-china-companies/u-s-firms-fret-as-chinas-fedex-probe-planned-hit-list-heightens-trade-frictions-idUSKCN1T516V>.

81. Glaser, Sofio, and Parker, “The Good, the THAAD, and the Ugly.”

82. Steven Lee Myers and Dan Bilefsky, “Second Canadian Arrested in China, Escalating Diplomatic Feud,” *New York Times*, December 12, 2019, <https://www.nytimes.com/2018/12/12/world/asia/michael-spavor-canadian-de->

## **ECONOMIC CONFLICT GENERATES PRESSURE FOR A LARGER GOVERNMENT ROLE IN THE ECONOMY.**

Wide-ranging economic conflict causes governments to more actively intervene in the domestic economy. For one thing, they may seek to prevent certain companies from trading with the opponent. They will also face pressure to compensate interest groups harmed by escalation to maintain domestic support for continuing the conflict. And they will face broader incentives to stimulate growth to offset the pain of escalation. Neither side will want the other to perceive it as weak or damaged as a result of escalatory actions; our model projects that this would lead to a weaker negotiating position. Each side instead focuses on projecting strength, despite the long-term structural costs of escalation. In each of our simulations, the teams prioritized short-term stimulus through government intervention to offset the economic damage of escalation.

Again, these dynamics have played out in the real world. Over the course of the U.S.-China trade conflict, Beijing has backed away from a debt-deleveraging campaign and enabled more bank lending to mitigate damage from the trade war.<sup>83</sup> For its part, despite a stated policy of deregulation and non-interference in the market, the Trump administration has directly pressured U.S. businesses to reduce economic ties with China.<sup>84</sup> The trade war has also prompted other significant domestic policies, such as aid payments for U.S. farmers impacted by Chinese tariffs and an executive order prioritizing artificial intelligence research and development.<sup>85</sup> And, as discussed below, it has sparked a new debate about “industrial policy” to bolster long-term U.S. competitiveness.

## **SELECTIVE DECOUPLING IS AN INEVITABLE CONSEQUENCE OF ECONOMIC ESCALATION ONCE A THRESHOLD IS CROSSED.**

This is arguably the most significant finding of our project. We found that escalation dynamics pushed the two economies apart once a certain threshold was crossed, even if neither side had the initial goal of decoupling. Aggressive use of escalatory tactics erodes mutual trust, limiting the credibility that either side will negotiate in good faith or keep their promises. This is exacerbated when a country expands the scope of the conflict and crosses certain “red lines” or if there are broader strategic concerns.

Even if a trade deal is reached, a return to the pre-conflict status quo is untenable. The memory of the conflict will influence both public- and private-sector decisions. Both countries will seek to reduce their dependence on the other in order to have a stronger negotiating position if the conflict reignites. They will seek new trading partners that are less threatening.

Even more significant is the reaction of the private sector. Businesses will seek to diversify risk and limit their exposure in the other economy in case the truce breaks down. Those

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tained-china.html.

83. Issaku Harada, “China’s debt mountain scales new heights on trade war stimulus,” *Nikkei Asian Review*, June 19, 2019, <https://asia.nikkei.com/Economy/China-s-debt-mountain-scales-new-heights-on-trade-war-stimulus>.

84. Ian King, Mark Bergen, and Ben Brody, “Top U.S. Tech Companies Begin to Cut Off Vital Huawei Supplies,” *Bloomberg*, May 19, 2019, <https://www.bloomberg.com/news/articles/2019-05-19/google-to-end-some-huawei-business-ties-after-trump-crackdown>.

85. “Executive Order on Maintaining American Leadership in Artificial Intelligence,” The White House, February 11, 2019, <https://www.whitehouse.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/>.

directly impacted by escalatory actions will shift supply chains away from the opposing country in the conflict and seek to build resiliency in their supply chains. Exporters will struggle to re-establish market share lost to third-party competitors during the conflict and will seek new markets.

This dynamic is especially evident in the U.S.-China trade war. Both sides now view interdependence as a vulnerability and are seeking to limit reliance on the other. Although Beijing was wary of overdependence on the United States even before the conflict began, it has since accelerated efforts to increase indigenous innovation.<sup>86</sup> Meanwhile, many U.S. companies are shifting or considering shifting some production out of China to other Asian markets, such as Vietnam and India.<sup>87</sup> U.S. farmers risk permanently losing market share in China that took decades to cultivate.<sup>88</sup>

The decoupling finding differentiates economic conflict from escalation in a security context, such as a nuclear arms race. Since central governments have a monopoly on the use of force, they can ensure compliance with an agreement covering security issues. Relatedly, there are fewer contagion impacts or unintended consequences, since governments are the dominant actors. In an economic conflict, governments do not enjoy this position. The private sector plays a large role in determining outcomes and is more sensitive to policy-related uncertainty. For example, markets could lose faith that the two countries will reach a trade deal, even if neither side withdraws from negotiations. Business decisions will be made based on companies' assessments of the possibility of future conflict. Although potentially suboptimal from an economic efficiency perspective, some decoupling of two economies whose governments are engaged in prolonged trade escalation is the likely result.

## Recommendations

Reflecting on the findings of our project in light of the real-world U.S.-China trade war, we derive a few recommendations for U.S. policymakers seeking to engage in successful economic bargaining with China:

### 1. Establish “dual credibility.”

Whether it wants to win narrow economic concessions or more fundamentally change Chinese policies, Washington must persuade Beijing that it is willing both to (a) impose and maintain penalties—and bear the associated costs; and (b) follow through on its own commitments if a mutually beneficial deal is reached. The escalation seen in the current

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86. Zhang Erchi and Jason Tan, “Huawei Working to End Reliance on U.S. in Two Years, Founder Says,” *Caixin*, July 1, 2019, <https://www.caixinglobal.com/2019-07-01/huawei-working-to-end-reliance-on-us-in-two-years-founder-says-101433741.html>; Sarah Dai, “China completes second round of US\$29 billion Big Fund aimed at investing in domestic chip industry,” *South China Morning Post*, July 26, 2019, <https://www.scmp.com/tech/science-research/article/3020172/china-said-complete-second-round-us29-billion-fund-will>.

87. Keith Bradsher, “One Trump Victory: Companies Rethink China,” *New York Times*, April 5, 2019, <https://www.nytimes.com/2019/04/05/business/china-trade-trump-jobs-decoupling.html>; Masamichi Hoshi, Rei Nakafuji, and Yusho Cho, “China scrambles to stem manufacturing exodus as 50 companies leave,” *Nikkei Asian Review*, July 18, 2019, <https://asia.nikkei.com/Economy/Trade-war/China-scrambles-to-stem-manufacturing-exodus-as-50-companies-leave>.

88. Jesse Newman, “Farmers Built a Soybean Export Empire Around China. Now They’re Fighting to Save It,” *Wall Street Journal*, July 4, 2019, <https://www.wsj.com/articles/farmers-built-a-soybean-export-empire-around-china-now-theyre-fighting-to-save-it-11562260248>.

trade war, and lack of a deal to date, reflects that both the Trump and Xi administrations believe the other side will pay a higher cost and eventually buckle, while neither side believes the other is negotiating in good faith or will honor any ultimate deal.

Factors that affect the ability of the United States to achieve dual credibility include having clear priorities, internal policy cohesion, and sufficient support from key domestic stakeholders, primarily industry, political elites, and voters. These variables evolve over the course of negotiations and are difficult to manage, suggesting it will be harder to reach a deal the longer the conflict drags on.

## ***2. Set clear goals and assess the costs and benefits of achieving them.***

As made clear in our model and simulations, and validated in the real world, the first step in successful bargaining—with China or any other country—is to set clear objectives and ensure that U.S. negotiating strategy and tactics are aligned with those objectives. Is the administration's goal a minimalist deal enabling it to declare victory and move on to other priorities, or is the goal a comprehensive structural deal? Or perhaps the objective is no deal and deliberate decoupling of the two economies—as some believe to be the Trump administration's end-game.

Once the negotiating objectives have been set, it is critical to have an accurate assessment of the costs and benefits of achieving them. This should begin with collection, analysis, and distribution of data on the benefits and costs of U.S.-China commerce, in absolute terms and relative to other policy challenges. Part of the reason for lack of consensus on U.S. policy toward China is insufficient knowledge on a range of issues, including the costs and benefits of China's WTO accession—and of globalization more generally—on U.S. employment, technology, and wealth. There is no good estimate of the cost of Chinese IP theft.<sup>89</sup> There is also little comparison of the costs and benefits of U.S.-China economic engagement relative to other challenges for U.S. policy, such as automation, climate change, and U.S. military expenditures.

Next comes a detailed cost-benefit analysis of the tools and tactics of a prospective trade conflict. This should include a comprehensive and realistic assessment of the costs of specific tools, such as tariffs imposed by both sides. There is little evidence that this was done before the current trade war was launched by the Trump administration. The growing complaints from U.S. farm and retail groups about the cost of tariffs, and the broader anxiety about the trade war's potential impact on U.S. growth, appear likely to act as growing constraints on the administration's execution of the trade war.

The U.S. administration also needs to do a realistic assessment of Chinese strengths and vulnerabilities and Beijing's likely responses to escalation, including in non-economic realms. In this regard, the administration should recognize that the two countries' actions

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89. The Commission on the Theft of American Intellectual Property, an independent and bipartisan initiative co-chaired by Dennis C. Blair and Jon M. Huntsman Jr., estimates the annual cost to the U.S. economy of IP theft between \$225-\$600 billion, with the majority attributable to China. However, the wide range of this estimate indicates the difficulty of reaching a more precise number. Jon M. Huntsman Jr. and Dennis C. Blair, "The Theft of American Intellectual Property: Reassessments of the Challenge and United States Policy," Commission on the Theft of American Intellectual Property, National Bureau of Asian Research, February 2017, [http://ipcommission.org/report/IP\\_Commission\\_Report\\_Update\\_2017.pdf](http://ipcommission.org/report/IP_Commission_Report_Update_2017.pdf).

are likely to be asymmetric. As discussed, China often prefers to use informal tools of economic statecraft, which could add hidden costs to a strategy of escalation.

### **3. Enhance decisionmaking processes.**

The U.S. government's decision-making processes have both strengths and weaknesses when it comes to positioning the United States in bargaining with China. The strengths include: substantial expertise and experience within government; an ability to supplement those capabilities through input from relevant stakeholders, including businesses, think tanks, and non-profit organizations; and the legitimacy of U.S. policy that flows from democratic engagement between the government and governed.

The weaknesses of U.S. government decision-making processes are legendary and include difficulty setting clear priorities, challenges of coordination across agencies, bureaucratic intransigence, and regulatory capture.<sup>90</sup> In the current economic conflict with China, while USTR and the Department of Treasury have led the high-level negotiating process, national security agencies—especially the Department of Defense—have tended to set the agenda on key issues, such as technology control. The White House has played a light and episodic hand in interagency coordination.

An administration wishing to strengthen its bargaining position with China should work to maximize U.S. decision-making strengths and remedy the weaknesses. Potential solutions include ensuring coordination across the U.S. government and establishing a “China policy czar” in the White House, charged by the president with developing and implementing strategy across economic, political, and security issues. At a minimum, the White House needs to re-establish processes of interagency coordination that have been left to atrophy or deliberately bypassed in recent years. Policy formulation and implementation are stronger if all relevant agencies are informed about White House priorities and have a chance to offer input into the process. This is also true of industry, consumer groups, and other relevant stakeholders, with which more transparent and standardized consultations would be valuable.

### **4. Build multilateral coalitions.**

No strategy toward China—whether involving pressure or cooperation, whether for purposes of protecting industry or achieving other goals (e.g., protecting U.S. labor or the environment)—can succeed without extensive coordination with U.S. allies and partners. With the spread of China's economic relationships around the world, access to the U.S. market alone no longer provides the kind of bargaining leverage for Washington vis-à-vis Beijing that it once did. However, mobilizing the U.S. network of allies and partners can play on Beijing's fear of isolation.

Washington has a natural competitive advantage in multilateral outreach thanks to its robust network of alliances. To fully exploit this advantage, Washington needs to exert

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90. Regulatory capture occurs when regulators (or policymakers) act in the interest of the industry they are regulating, rather than the public good. This has long been a trend in U.S. politics and is especially prevalent in the Trump administration. “In Trump's Government, The ‘Regulated Have Become the Regulators,’” National Public Radio, August 16, 2017, <https://www.npr.org/2017/08/16/543876454/in-trumps-government-the-regulated-have-become-the-regulators>.

leadership in winning allied agreement on goals and tactics toward China, reduce tensions with and between allies, and strengthen the rules-based order in ways consistent with U.S. goals. In this regard, the Trump administration's pursuit of trilateral cooperation with the European Union and Japan to address problematic Chinese trade practices is constructive. By contrast, its real and threatened tariffs against allies are counterproductive.

### **5. *Invest in economic strength at home.***

Beyond short-term interventions to improve the U.S. tactical position or offset costs to domestic stakeholders, the United States can and should strengthen its bargaining position vis-à-vis China by investing in the domestic underpinnings of its long-term economic competitiveness. This means upgrading the country's physical infrastructure, preparing the American workforce with the skills and resilience needed to succeed in the twenty-first century economy, and investing more in basic research and development.

It is noteworthy in this regard that politicians on both sides of the aisle—including prominent Republicans, such as Senator Marco Rubio (R-FL) and former U.S. ambassador to the United Nations Nikki Haley—are setting aside traditional reservations about “industrial policy” and calling for targeted government interventions in the marketplace to meet the China challenge.<sup>91</sup> In a recent article, Haley issued this clarion call to action: “We must act now, before it's too late. The stakes are high. They could be life or death.”<sup>92</sup>

## ***Concluding Thoughts***

This project helps explain the dynamics of the current trade war between the United States and China, how the conflict may unfold, and what the consequences—intended and unintended—are likely to be. Until perceptions or the realities of relative costs in the two countries shift, Washington and Beijing seem set on a path of continued escalation, no substantial trade deal, and at least partial decoupling of their economies.

This leaves one important question unanswered: why now? The United States and China have experienced serious bilateral tensions before, for example, over textiles, IP, and currency in the 1990s; over noncompliance with WTO obligations in the 2000s; and over theft of trade secrets earlier this decade. Those disputes produced the threat, and occasionally even imposition, of sanctions.<sup>93</sup> Yet the current period is the first since normalization of U.S.-China relations in 1979 that an actual trade war featuring repeated escalation has broken out. What is different now?

A number of factors may be at play. China's absolute strength, and its power relative to the United States, has grown substantially. Thus Washington may be more insecure,

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91. Marco Rubio, “Made in China 2025 and the Future of American Industry,” U.S. Senate Committee on Small Business & Entrepreneurship, February 2019, [https://www.rubio.senate.gov/public/\\_cache/files/0acec42a-d4a8-43bd-8608-a3482371f494/262B39A37119D9DCFE023B907F54BF03.02.12.19-final-sbc-project-mic-2025-report.pdf](https://www.rubio.senate.gov/public/_cache/files/0acec42a-d4a8-43bd-8608-a3482371f494/262B39A37119D9DCFE023B907F54BF03.02.12.19-final-sbc-project-mic-2025-report.pdf).

92. Nikki Haley, “How to Confront an Advancing Threat from China,” *Foreign Affairs*, July 18, 2019, <https://www.foreignaffairs.com/articles/china/2019-07-18/how-confront-advancing-threat-china>.

93. U.S. Department of the Treasury, *Interim Report to Congress on International Economic and Exchange Rate Policy* (Washington, DC: July 1994), <https://www.treasury.gov/resource-center/international/exchange-rate-policies/Documents/Report%20to%20the%20Congress%20on%20International%20Economic%20and%20Exchange%20Rate%20Policies%20-%20July%201994.pdf>; Staff Reporter, “Chinese Furniture Faces U.S. Tariffs,” *Wall Street Journal*, June 17, 2004, <https://www.wsj.com/articles/SB108741306783238979>.



while Beijing may be willing to assume more risk. Moreover, the stakes for both sides in succeeding in industries of the future, such as artificial intelligence, robotics, and advanced biotechnology, are also far greater than when the disputes between the two sides were over traditional goods and services sectors. The intensity of this battle is exacerbated by perceptions on both sides that it is a zero-sum competition for technological preeminence. Therefore, the cost-benefit analysis of conflict may have shifted in favor of escalation.

Finally, political changes in both countries have also played a role. Rising inequality and other economic disruptions in the United States, stemming in part from the “China shock,” have fueled anti-China sentiment and more assertive trade policies under the Trump administration and the traditionally pro-trade Republican party.<sup>94</sup> Meanwhile, Xi Jinping’s centralization of decision-making authority and sharp move away from earlier policies of reform and opening have contributed to a hardening of positions vis-à-vis the United States.

The question is whether these changes are permanent or will be fully or partially reversed with a change in leadership in the two countries. Donald Trump and Xi Jinping and some of their key advisers share an ideology of economic nationalism that has clearly fueled the current conflict. Their successors may or may not view U.S.-China economic competition in the same way, particularly if the current approach imposes significant economic and political costs at home.

To be sure, some forces unleashed by the current conflict are likely irreversible. But it is worth recalling how recently it was that Chinese leaders like Deng Xiaoping and Zhu Rongji were committed to a very different path of economic development and foreign policy than the one Xi Jinping is on today. Similarly, before Donald Trump, eight presidents, going back to Richard Nixon, pursued engagement with China aimed at encouraging reform and opening and China’s deeper integration into the rules-based order. Before assuming permanent economic conflict between the two countries, it is worth considering the possibility that there could be some reversion to the mean after Donald Trump and Xi Jinping pass from the scene—although given the damage done from the current trade war, it will require considerable efforts to reestablish trust on both sides.

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94. David H. Autor, David Dorn, and Gordon H. Hanson, “The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade,” National Bureau of Economic Research, Working Paper 21906, January 2016, <http://www.nber.org/papers/w21906>.

# About the Project Director and Staff

## *About the Project Director*

**Matthew P. Goodman** is senior vice president, senior adviser for Asian economics, and holds the Simon Chair in Political Economy at the Center for Strategic and International Studies (CSIS). The Simon Chair explores current issues in international economic policy, with a focus on the Asia-Pacific region. Before joining CSIS in early 2012, Goodman served as director for international economics on the National Security Council staff, helping the president prepare for G20 and G8 summits. He was also White House coordinator for Asia-Pacific Economic Cooperation (APEC) and the East Asia Summit. Prior to the White House, Goodman was senior adviser to the under secretary for economic, energy, and agricultural affairs at the U.S. Department of State. Goodman holds an MA in international relations from the Johns Hopkins School of Advanced International Studies (SAIS) and a BS in economics from the London School of Economics and Political Science (LSE).

## *About the Editors*

**Dylan Gerstel** is a research assistant with the Simon Chair in Political Economy at CSIS, where he focuses on U.S. global economic leadership. Prior to joining CSIS, he worked as an associate at Hamilton Place Strategies and as an economic policy intern for Vice President Joe Biden. He graduated Phi Beta Kappa from Swarthmore College with a B.A. in political science and statistics.

**Pearl Risberg** is a program coordinator and research assistant with the Simon Chair in Political Economy at CSIS, where she organizes the program's public events, coordinates publications, and conducts supporting research in East Asian macroeconomic issues and policy. She has worked in English language education in Macau SAR, China and Chinese language education in Charlottesville, Virginia. She earned her BA from the University of Virginia, where she double majored in foreign affairs and Chinese language and literature.

## *About the Project Advisers*

**Scott Kennedy** is Trustee Chair in Chinese Business and Economics at CSIS. A leading authority on China's economic policy and its global economic relations, specific areas of focus include industrial policy, technology innovation, business lobbying, multinational business challenges in China, global governance, and philanthropy. Kennedy has been

traveling to China for almost 30 years and has interviewed thousands of officials, business executives, lawyers, nonprofit organizations, and scholars. For over 14 years, Kennedy was a professor at Indiana University (IU). From 2007 to 2014, he was the director of the Research Center for Chinese Politics & Business, and he was the founding academic director of IU's China Office. From 1993 to 1997, he worked at the Brookings Institution. Kennedy received his PhD in political science from George Washington University and his M.A. in China studies from Johns Hopkins School of Advanced International Studies.

**William Reinsch** holds the Scholl Chair in International Business at CSIS and is a senior adviser at Kelley, Drye & Warren LLP. Previously, he served for 15 years as president of the National Foreign Trade Council, where he led efforts in favor of open markets, in support of the Export-Import Bank and Overseas Private Investment Corporation, against unilateral sanctions and in support of sound international tax policy, among many issues. From 2001 to 2016, he concurrently served as a member of the U.S.-China Economic and Security Review Commission. He is also an adjunct assistant professor at the University of Maryland School of Public Policy, teaching courses in globalization, trade policy, and politics. Reinsch served as the under secretary of commerce for export administration during the Clinton administration. Prior to that, he spent 20 years on Capitol Hill as senior legislative assistant to the late Senator John Heinz (R-PA) and subsequently to Senator John D. Rockefeller IV (D-WV). He holds a BA and an MA in international relations from the Johns Hopkins University and the Johns Hopkins School of Advanced International Studies, respectively.

## Annex: Simulation Participants

This project involved two one-day simulations composed of former policymakers and experts on the U.S.-China bilateral economic relationship and international trade. Many simulation participants also joined formulative roundtable discussions and provided comments on various drafts of the report. The thoughtful and creative input of these experts was foundational to the project findings, and to them, we owe sincere thanks.

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Contributors participated in an individual capacity and not on behalf of the institutions with which they are affiliated.

## *Simulation Control and Staff*

Conducting these simulations involved significant coordination and involved a team of experts and staff. The innovative input of these contributors was crucial to the success of the simulations.

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