

ARTICLE

Competitive diplomacy in bargaining and war

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Abstract

War is often viewed as a bargaining problem. However, prior to bargaining, countries can vie for leverage by expending effort on diplomacy. This article presents a dynamic model of conflict where agenda-setting power is endogenous to pre-bargaining diplomatic competition. The ability to compete for leverage generates a new channel through which the nature of potential war affects the quality of peace. First, costs of war grow the bargaining surplus, fueling the battle for leverage and reducing welfare even if war never occurs on the path of play. Second, competitive diplomacy erodes the gains from peace, making it possible that war is relatively efficient. An extension of the model finds that frictions to cooperation create a risk of costly delay but also protect against erosion of the surplus. Moreover, I find that reliable deals avert “efficient” wars but introduce a trade-off between welfare and timely settlement.

“Diplomacy is indispensable to identify and implement solutions to conflicts ... short of military involvement. It helps to galvanize allies for action and marshal the collective resources of like-minded nations and organizations to address shared problems ... We must upgrade our diplomatic capabilities to compete in the current environment and to embrace a competitive mindset.”

— US National Security Strategy (Trump, 2017) on “Competitive Diplomacy”

Diplomacy can advance state interests. Secretary of State George Shultz likened diplomacy to gardening, where investments in international relations keep out the weeds to maintain fertile ground.¹ Costly sacrifices today can help secure a strong position in negotiations tomorrow. For example, under Anwar Sadat, Egypt withdrew from the Soviet–Egyptian Treaty of Friendship and Cooperation, relinquishing the associated benefits. It is difficult to reconcile how diplomatic

maneuvers of this kind could *advance* a country's position with the standard model of crisis bargaining, where endogenous sources of leverage come from power and the costs of war. Sadat must have believed these actions would benefit Egypt in the long run despite the negative direct effect of weakening ties with the USSR on their military strength, as well as any additional costs they would incur in a full-scale war with Israel.

I propose a bargaining theory of war in which states can strategically engage in diplomacy to achieve favorable outcomes in cooperation. In the case of Egypt, bearing the costs of disassociation from the USSR positioned them to recover the Sinai Peninsula by establishing good rapport with the de facto mediator, the United States.² Due to improving US–Egypt relations, the United States pressured Israel to show

¹ Shawn Dorman, “Tending the Garden”, *The Foreign Service Journal*, 2020, retrieved from <https://afsa.org/tending-garden>.

² This was a key component of Sadat's diplomatic strategy from the beginning of his tenure. For example, in a 1971 meeting with US Secretary of State William Rogers, Sadat claimed that he “would like to become much closer with the West” and that “[t]here's no reason why the Arabs should be closer aligned to the Soviet Union” because “[the Egyptian] people like the West better” (Foreign Relations of the United States, 1969–1976, Volume XXIII, Arab–Israeli Dispute, 1969–1972, Document 227, retrieved from <https://history.state.gov/historicaldocuments/frus1969-76v23/d227>).

restraint in the face of a surprise attack in which Egypt gained control of the Suez Canal's eastern bank.³ Moreover, because Sadat signaled an openness to realignment, Egypt's demands took precedence over other Arab states. These actions gave Egypt the necessary bargaining position to demand its preferred terms of peace, which were eventually conceded in the Camp David Accords.

If each side of a zero-sum dispute can use diplomacy to improve its terms of peace, these efforts are necessarily at each other's expense and hence fundamentally competitive. Although "competitive diplomacy" has not yet been incorporated in theories of crisis bargaining, the concept is not new to international politics—the phrase was used in the 2017 US National Security Strategy (Trump, 2017), which called for greater investments in diplomatic capabilities to enhance the state's ability to achieve favorable outcomes through cooperation. Similarly, the 2018 US National Defense Strategy (Mattis, 2018) stated that "long-term strategic competition requires the seamless integration of multiple elements of national power" with "diplomacy" being the first element on the list.

Competitive diplomacy, as discussed here, satisfies three core properties: (1) it is costly, (2) it does not improve a country's war payoffs, and (3) it can improve a country's cooperation payoff. This theory of competitive diplomacy therefore *excludes* diplomacy that improves a country's probability of victory in war. If the goal of diplomacy is to increase military power, it is analogous to arms building, which has been widely explored (Kydd, 2000; Powell, 1993). What has not been explored is diplomacy that positions a country to set the terms of peace. These conditions rule out some common forms of diplomacy, such as military alliances, but still allow for a broad range of actions. Among other things, this may include lobbying a powerful mediator, preemptive favors to other countries with influence over the settlement procedures, and weakening the bargaining position of the opponent, as further discussed in the next section.

Allowing for states to engage in competitive diplomacy of this kind raises new theoretical questions. A state's willingness to expend resources in diplomacy to improve their bargaining position will depend on their expectations about the additional value of the improved position, which in turn will depend on the specifics of the conflict. Diplomacy then becomes a

channel through which characteristics of a potential war can affect the quality of peace. Moreover, if diplomacy entails sacrifices during peacetime, it makes cooperation less efficient and affects a country's propensity to fight. Certain diplomatic settings may be effective at facilitating cooperation and avoiding war, but nevertheless fail to yield satisfying conditions in peace. Likewise, environments that bring good conditions in peace may be lacking in their ability to sustain cooperation in the first place. How does the incentive to compete in diplomacy affect the prospects of cooperation? Which settings fare well at averting conflict while simultaneously preserving the largest gains from peace?

To answer these questions, I develop a game-theoretic model of war that captures the core trade-off between internalizing the gains from cooperation and exerting costly effort to reach preferable peace deals. War and cooperation are modeled as two distinct technologies that can be used to divide a pie. Following previous work in crisis bargaining, war takes the form of a costly lottery over the disputed pie, while cooperation requires agreement to an offer (Davis, 2023; Fey and Kenkel, 2021; Morrow, 1989; Qiu, 2022; Wagner, 2000). Most importantly, states can exert costly effort to attain favorable peace settlements.

There are two key ingredients of the model that establish novel results. First, while existing models treat proposers as either predetermined or randomly recognized by exogenous probability, my approach treats agenda-setting power as endogenous to a country's performance in pre-bargaining competition. This is the core innovation of the model; before bargaining, countries choose how much effort to exert in competitive diplomacy, and greater effort is rewarded with a greater likelihood of setting the terms of a peace offering. Because agenda setters can only recover as much as their adversary is willing to concede in bargaining, this diplomatic competition is notably distinct from military competition in that countries are competing over the surplus from peace, *not* the disputed pie—a fundamentally different object.

Competition over agenda-setting power is a natural way to capture the feature of states competing for preferable peace settlements in the crisis bargaining framework, as agenda setters are a theoretical construct already embedded in models of crisis bargaining. Moreover, the value of agenda-setting power is necessarily equal to the value of the bargaining surplus, making the strategic incentives identical to competition over the surplus directly. The main text focuses on a pre-bargaining all-pay contest over a lottery for agenda-setting power. The all-pay contest captures a broad range of competitive diplomacy methods and enhances analytical clarity as it admits closed-form expressions. The lottery governs the strength of the mapping between performance in the

³ On the morning of the attack, Kissinger articulated the US position: "Israel must not attack, no matter what they think the provocation is" (Foreign Relations of the United States, 1969-1976, Volume XXV, Arab-Israeli Crisis and War, 1973, Document 101, retrieved from <https://history.state.gov/historicaldocuments/frus1969-76v25/d101>; Michael Doran, "The Hidden Calculation behind the Yom Kippur War", *The Hudson Institute*, 2023, retrieved from <https://www.hudson.org/foreign-policy/hidden-calculation-behind-yom-kippur-war-michael-doran>).

competition and agenda-setting power, reflecting the scope of competitive diplomacy or its “decisiveness.”

The second key ingredient is that the interaction is repeated. Importantly, this paper allows periodic outcomes to persist into the future. Crisis bargaining commonly assumes that peace deals are transient and war is game-ending (Fearon, 1995). This is usually appropriate, as these models aim to understand how an inability to commit to long-term settlements affects the incentives for conflict. In contrast, this paper adopts a more general approach to examine the incentives to compete for leverage and their implications for war onset. The model allows country strengths to evolve flexibly over time and, once an outcome ceases to endure, countries again need to resolve their dispute through cooperation or war. These dynamics are especially helpful to understand competitive diplomacy, as a country's incentive to cooperate, and hence their willingness to compete, depends not only on expectations about future power shifts but also on expectations about the relative persistence of peace deals. Naturally, the significance of winning a war is greater when war outcomes are durable than when they are transient, and the value of agenda-setting power is greater when peace deals are expected to persist than when they are not.

The analysis reveals new insights. First, I find that costly wars endogenously create costly peace. Even if wars never occur on the path of play, greater costs of war imply a larger surplus from cooperation. As the surplus expands, agenda-setting power becomes more valuable, creating a stronger incentive to engage in competitive diplomacy. The extent to which costlier wars degrade the quality of peace is moderated by the decisiveness of the competition, where a competition is more decisive if the country that exerts more effort in diplomacy is more likely to become the agenda setter. The surplus from cooperation is least affected when the competition is less decisive, as the value of being the country that exerted more effort and hence the total incentive to compete is weaker. With more decisive competition, countries expend more effort vying for leverage and less of the gains from peace can be recovered. In extreme cases, countries may be no better off in peace than in war.

The model also identifies when war is more efficient than cooperation. After a division of the pie is reached, through war or cooperation, it persists until an opportunity to renegotiate arises. Countries are then driven to fight efficient wars by two forces: the (exogenous) differential persistence of outcomes and the (endogenous) equilibrium effort in competitive diplomacy. The logic is analogous to that of “ripping off the bandage.” For example, if war outcomes persist while peace deals require constant renegotiation, states may prefer simply incurring the larger costs of war today to resolve the issue immediately. Likewise, countries will

have an incentive to fight in the current period if they expect that competitive diplomacy will introduce significantly more inefficiencies after cooperation than it would after war. The precise condition that determines whether war is relatively efficient depends on how outcome persistence and competitive diplomacy interact.

I then extend the model to examine how barriers to cooperation affect the incentives for diplomatic competition and conflict, bridging contractual theories of international cooperation and crisis bargaining. A core idea in international cooperation is that reaching successful deals is not always free and easy—the prevailing rationale for international institutions is their ability to improve the efficiency of the bargaining process by reducing the costs inherent in contracting, from actual expenditures and transaction costs to less tangible frictions (Downs and Rocke, 1995; Dixit, 1998; Keohane, 1984; Lake, 1999; Martin, 1999). The extension thus considers small frictions that obstruct the settlement procedure if countries choose to opt out of diplomacy and, if countries fail to overcome these frictions, they experience costly delay.

With frictions, states may risk delay in attempting to free ride on their adversary's efforts in obtaining peace. The willingness to risk delay depends not only on the size of frictions but also on expectations about future shifts in power, the reliability of peace deals, war outcome persistence, and the scope of competitive diplomacy. As frictions create an incentive to free ride, they discourage diplomatic effort and simultaneously protect against the erosion of the bargaining surplus caused by competitive diplomacy. Likewise, the model suggests that the Pareto optimal level of competition counterintuitively maximizes the probability of delay when peace deals are reliable. This occurs because, while heightened competition discourages free riding and hence reduces the probability of delay, it can simultaneously erode the gains from peace. Reliable peace deals that avert efficient wars therefore create a trade-off between welfare and timely settlement.

This paper makes several contributions to the literature on international conflict. Most importantly, I incorporate and derive analytical implications for an important yet previously unexplored aspect of international diplomacy in crisis bargaining: pre-bargaining competition over agenda-setting power. This builds on previous work that studies pre-bargaining competition by nondiplomatic means; most notably, arming. Powell (1993) and Jackson and Morelli (2009) model the decisions to arm and initiate wars, while Fearon (2018) builds on these by incorporating a dispute in which arming also improves a country's resolution. Coe (2011) argues for costly peace due to arming, imposition, and predation as a rationalist explanation for war. Competitive diplomacy is not only conceptually different from war-related expen-

ditures like arming, but the mechanism in this paper is technically different in a number of important ways. First, arming increases a country's strength and hence improves their expected payoff in war, while diplomatic effort never improves war payoffs. Second, war-related expenses are generally strategic complements, while diplomatic effort can be a strategic complement or substitute depending on the level of their rival's effort. Third, arming and competitive diplomacy are contests over different objects—the incentive to invest in war technology stems from the desire to recover the pie, whereas the incentive to exert diplomatic effort stems from a desire to recover the bargaining surplus.

The article also contributes to our understanding of long-run incentives for war. Work in this domain has primarily focused on commitment problems (Powell, 2006), most typically due to power shifts that create preventive motives (Debs and Monteiro, 2014; Kim and Morrow, 1992) and strategic settings that ease or exacerbate the incentive for prevention (Kravins et al., 2022; McCormack and Pascoe, 2017; Schram, 2021). This paper instead focuses squarely on the incentives to compete for preferable peace settlements with diplomacy. Other related work includes that on diplomacy in crisis bargaining, though the focus on communicating private information makes it quite different from this paper in nature (Fey and Ramsay, 2010; Kurizaki, 2007; Malis and Smith, 2021; Ramsay, 2011; Smith, 1998; Sartori, 2002; Trager, 2010, 2011; Wolford, 2020).

Finally, there is a noteworthy connection between this paper and the literature on legislative bargaining with endogenous institutions (Baron and Ferejohn, 1989; Eguia and Shepsle, 2015), which has extensively studied the dynamics of proposal power. As in legislative settings, agenda-setting power has important implications on core incentives in international diplomatic settings. My approach to treat proposal power as endogenous may be useful to future work in this area.

METHODS OF COMPETITIVE DIPLOMACY

This paper aims to study the implications of competitive diplomacy in crisis bargaining. To isolate theoretical mechanisms, the model intentionally abstracts away from details that may otherwise be important to understand particular empirical cases (Paine and Tyson, 2020). For example, in the previous example of Egypt, the United States is a powerful mediator that has the ability to improve a disputing country's peace settlement through its control of the conflict resolution process. Yet, powerful mediators are absent from the model, as it would not be productive to include a third party with "true" agenda-setting power that allocates "effective" agenda-setting power to one side

or another—it is more natural to simply consider the direct pursuit of agenda-setting power. The essential feature of the model is that engaging in competitive diplomacy can return a favorable peace deal. With that said, before we proceed to the model, it is helpful to briefly outline some of the ways countries can use competitive diplomacy to gain bargaining leverage in practice and identify examples that are consistent with the theory.

Insofar as mediators assign control of the agenda, direct lobbying is one way states can compete. Even when powerful states retain ultimate control over the agenda, smaller states can vie for influence over the terms. According to Foreign Lobby Watch, billions of US dollars have been spent on foreign lobbying over the past several years.⁴ Some of the largest US lobbying firms routinely recruit former government officials and represent foreign governments, using their DC connections to benefit their clients.⁵ For example, BGR group's clients include Azerbaijan, Bahrain, Bangladesh, India, Qatar, Uzbekistan, Saudi Arabia, Serbia, Panama, Kurdistan, Guyana, and South Korea, among others. Saudi Arabia has been especially active, spending over US\$142 million on influencing US legislators between 2016 and 2021, according to the Foreign Agents Registration Act database.⁶ Moreover, lobbying powerful mediators to win favorable peace outcomes extends to civil conflict—BGR also represents the Yemeni National Resistance, for instance. Huang (2016) details how rebel groups engage in competitive diplomacy by hiring law and public relations firms to lobby elected officials in the United States and gain political leverage.

Competitive diplomacy can also take the form of preemptive favors. For example, Barham et al. (2023) provide evidence that states used vaccine distribution during the COVID-19 pandemic, or "vaccine diplomacy," to earn trust abroad and expand their global influence. As Russia began its invasion of Ukraine in February 2022, Argentinian President Alberto Fernández visited Moscow and proclaimed that "Argentina is indebted to Russia because it was the first country to help Argentina access vaccines, and we'll always be grateful."⁷ While they initially called on Russia to cease military operations in Ukraine, Argentina has since refused to impose sanctions on Russia, refused to

⁴ Foreign Lobby Watch, Open Secrets, retrieved from <https://www.opensecrets.org/fara>.

⁵ Foreign Lobbying in the U.S.: The facilitators, *Quincy Institute*, 2024, retrieved from <https://quincystat.org/research/foreign-lobbying-in-the-u-s/#h-the-facilitators>.

⁶ Taylor Giorno and Anna Massoglia, "Saudi Arabia ramped up U.S. influence operations during Biden's presidency", *Open Secrets*, 2022, retrieved from <https://www.opensecrets.org/news/2022/10/saudi-arabia-ramped-up-foreign-influence-operations-in-the-us-during-bidens-presidency/>.

⁷ Facundo Pibida, "Latin America, a 'Vaccine Diplomacy' Recipient, Is Now a Vaccine Donor, Too", *The Wilson Center*, 2022, retrieved from <https://www.wilsoncenter.org/blog-post/latin-america-vaccine-diplomacy-recipient-now-vaccine-donor-too>.

send Ukraine weapons they requested, and abstained from a UN vote to formally condemn Russia's actions.⁸ Earning influence over relevant third parties, such as UN member states like Argentina, can improve a country's ability to set the agenda in peace negotiations. In terms of the model, vaccine distribution reflects a costly investment in diplomatic relations to earn Argentina's support, which in turn improves Russia's ability to recover favorable terms of cooperation.

Finally, competitive diplomacy can be used to worsen the bargaining position of other states. Because conflict settings are zero sum, a state taking actions to weaken their rival's position effectively advances their own. An example is President Biden's visit to Saudi Arabia in July 2022 to exchange international legitimacy⁹ for an opportunity to persuade Crown Prince Mohammed bin Salman to produce more oil. Although this effort failed,¹⁰ it would have reduced European dependence on Russian energy, diminishing Russia's ability to leverage supply shocks to make credible take-it-or-leave-it demands in their conflict with Ukraine. Connecting this example to the model, making sacrifices to Saudi Arabia in exchange for greater oil production would weaken the extent to which Russia can recover bargaining surplus, improving the bargaining position of Ukraine (and the West). Another example is China keeping Taiwan out of international organizations by making pledges to UN member states with voting power in the General Assembly. For example, China has given US\$150 million in aid and US\$500 million in development projects to El Salvador,¹¹ as well as hundreds of millions USD for

infrastructure projects in Honduras and Nicaragua.¹² These states have cut their diplomatic relations with Taiwan and issued statements recognizing Taiwan as a Chinese territory. In the model, the effect of these costly diplomatic efforts would be to provide China with a greater ability to set its terms of peace with Taiwan. Although it is difficult to discern the total effect of these diplomatic interactions, international support (and refusal to support a rival) is generally beneficial to states in reaching favorable cooperation outcomes, whether by formal UN conflict resolution processes or by indirect mechanisms such as international markets. International support can also affect the reinforcement of preferred terms (e.g., through regional pressure and monitoring).

MODEL

This section presents the model, with additional details available in Online Appendix A (SI pp. A1–A12). Two countries $i = 1, 2$ are in a dispute over the division of the unit interval, or “pie.” They have opposing preferences over an outcome $x \in \mathbb{R}$, with $u_1(x) = x$ and $u_2(x) = 1 - x$ denoting the flow payoff for countries 1 and 2. Time is discrete and discounted by $\delta \in (0, 1)$ over an infinite horizon.

Each country faces a choice between cooperating or attacking, $a_{it} \in \{0, 1\}$. If either country attacks, war occurs as a costly lottery.¹³ Specifically, a war in period t is won by country 1 with probability given by the state variable $s_t \in S$, where S is a finite subset of $(0, 1)$. The costs of war are allowed to vary by country and the state of the world, and they are assumed to be strictly positive, $c_i(s_t) > 0$. Additionally, a country's flow payoff after war reflects the winner controlling the entire pie of value 1 and the loser having nothing.

On the other hand, if countries cooperate, they exert effort $e_{it} \geq 0$ in competitive diplomacy. The country that exerted the most effort is recognized as the agenda setter with probability $\pi \in (\frac{1}{2}, 1]$. This characterization lends a straightforward intuition: those that excel at competitive diplomacy can expect to recover π share of the bargaining surplus ex ante. Larger π reflects a competition with greater decisiveness, which translates to the contest's winner being able to expect more of the surplus for themselves. If $\pi = 1$, the all-pay contest is deterministic in the sense that greater

⁸ Christopher S. Chivvis, Oliver Stuenkel, and Beatrix Geaghan-Breiner, “Argentina In the Emerging World Order”, Carnegie Endowment for International Peace, 2023, retrieved from <https://carnegieendowment.org/research/2023/11/argentina-in-the-emerging-world-order?lang=en>; “Argentina abstains from UN vote condemning Russia”, Buenos Aires Herald, February 24, 2025, retrieved from <https://buenosairesherald.com/world/argentina-abstains-from-un-vote-condemning-russia>; “Back and forth: Argentina's changing rhetoric on Russia's war in Ukraine”, Buenos Aires Times, February 23, 2023, retrieved from <https://www.batimes.com.ar/news/argentina/back-and-forth-argentin-as-changing-rhetoric-on-russias-war-in-ukraine.phtml>.

⁹ Saudi Arabia's broad diplomatic strategy has been to improve its public image through reputation laundering (e.g., see David Conn, “Saudi takeover of Newcastle leaves human rights to fog on the Tyne”, *The Guardian*, October 8, 2021, retrieved from <https://www.theguardian.com/football/blog/2021/oct/08/saudi-takeover-of-newcastle-leaves-human-rights-to-fog-on-the-tyne>). “They wanted the rest of the Middle East, and the international community, to sit up and take notice of the favour they had been granted by the US president” (Anna Foster, “Saudi Arabia: The significance of Biden's fist bump with the crown prince”, *BBC News*, July 16, 2022, retrieved from <https://www.bbc.com/news/world-middle-east-62189543>).

¹⁰ Ellen Knickmeyer, Chris Megerian, and Kevin Freking, “A bump and a miss: Saudi oil cut slaps down Biden's outreach”, AP News, October 6, 2022, retrieved from <https://apnews.com/article/russia-ukraine-2022-midterm-elections-biden-inflation-business-fa5f3023af51b1b7201f0c06d86f72d>.

¹¹ “China pledges \$150 million aid to El Salvador as relationship deepens”, *Reuters*, November 8, 2018, retrieved from <https://www.reuters.com/article/world/china-pledges-150-million-aid-to-el-salvador-as-relationship-deepens-idUSKCN1ND0IS/>.

¹² “Honduras and China set \$275 mln cooperation agreement”, *Reuters*, March 22, 2024, retrieved from <https://www.reuters.com/world/americas/honduras-china-set-275-mln-cooperation-agreement-2024-03-22/>; R. Evan Ellis, “China's Growing Strategic Position in Nicaragua”, *The Diplomat*, December 18, 2023, retrieved from <https://thediplomat.com/2023/12/chinas-growing-strategic-position-in-nicaragua/>.

¹³ War as a costly lottery is the preferred approach for comparability with existing crisis bargaining models. The results continue to hold for war with endogenous military effort and with infinite costs of war (or analogously cooperation that grows the pie).

TABLE 1 Notation.

Model parameters		Actions (country i , period t)	
Discount factor	$\delta \in (0, 1)$	War decision	$a_{it} \in \{0, 1\}$
Peace deal persistence	$\lambda \in [0, 1]$	Effort in diplomacy	$e_{it} \in \mathbb{R}_{\geq 0}$
War outcome persistence	$\theta \in [0, 1]$	Peace deal offering	$x_{it} \in \mathbb{R}$
Decisiveness of competition	$\pi \in (\frac{1}{2}, 1]$	Peace deal acceptance	$y_{it}(x) \in \{0, 1\}$
Key state variable			
Relative strength	$s_t \in S \subset (0, 1)$		

Notes: This table lists primitives of the model. For technical details pertaining to other state variables, see Online Appendix A.1 (SI p. A1).

effort in competitive diplomacy is certain to return agenda-setting power.

Upon recognition, the agenda setter i extends the peace offering of their choice, $x_{it} \in \mathcal{X}_i = \mathbb{R}$.¹⁴ The receiving country $-i$ chooses whether to accept the offer, $y_{-it}(x_{it}) \in \{0, 1\}$, with rejection leading to war. The ultimatum bargaining protocol is employed as it is prevalent in the crisis bargaining literature and has been shown to be with little loss of generality (Fey and Kenkel, 2021). A peace deal results in a flow payoff that includes the utility over their accepted allocation as well as any costs of effort they incurred in the process of competitive diplomacy.

After an allocation is determined through either cooperation or war, the game proceeds to the next period. The outcome in period t may persist into period $t+1$ and beyond: each period, the country controlling the pie after war retains possession with probability $\theta \in [0, 1]$, while a peace deal arrived at through cooperation remains intact with probability $\lambda \in [0, 1]$. With complementary probabilities, the countries return to crisis bargaining. As a technical necessity to accommodate these dynamics, the state of the world additionally includes whether the countries are in an active crisis bargaining stage and the status quo allocation. The persistence parameters λ and θ are probabilities that manage the transitions between active and passive states, reflecting the reliability of peace deals and the durability of war outcomes, respectively.

Power transitions may occur over time. In particular, the state variable s_t may evolve flexibly over time according to a Markov transition function $q: S \times A \rightarrow S$, where $a_t \in A = \{0, 1\}^2$ are the war actions taken in period t . Throughout the article, I opt for a general exposition and do not impose additional constraints on the transition function. The virtue of this approach is to explicitly bridge the current model with previ-

ous work that explores shifting power in a variety of ways. This ensures the results are robust to a large set of transition functions that allow but do not require dependencies between actions and the evolution of power. Consequently, many of the expressions are implicitly defined, as explicit characterization in terms of parameters requires selecting a specific q , which is not necessary to recover the results.

The solution concept is Markov perfect equilibrium (MPE), henceforth simply equilibrium. All proofs are relegated to Online Appendix B (SI pp. A12–A20). For reference, Table 1 collects notation and Figure 1 provides a graphical representation of the stage game. In subsequent sections, I suppress all notation that identifies a specific period t when doing so does not create confusion.

Continuation values and the bargaining surplus

A strategy for country i is a function $\sigma_i: S \rightarrow \{0, 1\}^2 \times \mathbb{R}_+ \times \mathcal{X}_i$ given by a quadruple

$$\sigma_i(s) = (a_i(s), e_i(s), x_i(s), y_i(x; s)) \quad (1)$$

corresponding to i 's decision to launch a strike, an amount to exert on competitive diplomacy, a bargaining offer if recognized, and acceptance decisions for all $x \in \mathbb{R}$, respectively.

If war occurs, each country can expect to receive the entire pie for that period with their probability of victory. In every period after war that the war outcome persists, the winning country can expect to hold onto the entire pie with probability θ . With probability $1 - \theta$, the countries return to the bargaining game under a new state s' . Letting $s_1 := s$ and $s_2 := 1 - s_1$ without loss of generality, country i 's expected value of war in state s under strategies σ can be expressed¹⁵

¹⁴ Note that we eschew preventive war by removing budget constraints. If states are unconstrained in their settlements, they can always offer large enough side payments to dissuade preventive war (by, e.g., taking out sovereign debt to extend a cash transfer as in Krainin et al., 2022). This choice streamlines the analysis of the main text and is not crucial for the results. All proofs in the Online Appendix (SI pp. A12–A20, A22–25) consider the general case where countries are potentially constrained in their offers.

¹⁵ MPE is chosen over subgame perfect equilibrium because folk-theorem results allow for unreasonable equilibria in this game due to its infinite horizon. MPE is the standard refinement in this case (Fudenberg and Tirole, 1991; Maskin and Tirole, 2001, pp. 501–505). Refer to Slantchev (2002) for useful discussion of MPE in crisis bargaining. Refer to Online Appendix A.3 (SI p. A2) for

that get accepted are always equal to an opponent's indifference deal.

Denoting the equilibrium offer of country i in state s by $x_i^*(s)$, the expected bargaining surplus from cooperation in state s can then be denoted by $B(s) := x_1^*(s) - x_2^*(s)$, reflecting the amount an agenda setter can extract. Then, $U_i(s) \geq W_i(s)$ for country $i = 1, 2$ if and only if

$$B(s) = 1 - (1 - \delta\lambda)W(s) + \delta(1 - \lambda) \sum_{s' \in S} V(s')q(s'|s, a_U) \geq 0, \quad (5)$$

where $W(s) := W_1(s) + W_2(s)$ and $V(s) := V_1(s) + V_2(s)$ for any state s and transitions q .

Comments on the model

Let us briefly discuss several aspects of the model. First, competitive diplomacy takes the form of an all-pay contest over a lottery for agenda-setting power. This is a natural choice for both substantive and technical reasons. First, the all-pay contest captures many of the competitive diplomacy methods of interest that were outlined above. All-pay contests are regularly used to model a large range of competitive environments, including lobbying (Baye et al., 1993; Fang, 2002), battles and races (Konrad and Kovenock, 2009), and market power competition (Siegel, 2009). Second, all-pay contests are unique in the fact that they yield closed-form expressions that facilitate a clean exposition and comparative statics. While it is not practical to explore every possible form of competition over the bargaining surplus that satisfies the core properties of competitive diplomacy, the central logic derived from all-pay contests is robust to a wide array of commonly used contests. Although Tullock contests do not exhibit continuous equilibrium effort strategies and generally do not admit closed-form expressions, making it a suboptimal choice for the model here, the key implications continue to hold for decisive Tullock contests.¹⁷ Additionally, by the Revenue Equivalence Theorem (RET), the implications also hold under all standard auction contests where the largest bid is awarded the surplus (Myerson, 1981). Because the RET also applies to auctions with private valuations, the model can be straightforwardly extended to bargaining models of war with information asymmetries (e.g., with privately known costs of war).

Second, the scope or decisiveness of the contest is given by parameter π . This provides a straightforward way of understanding variation in the ability to use competitive diplomacy to make cooperative gains.

Cooperative protocols can yield any of an infinite number of mutually preferred peace deals within the bargaining range (Binmore and Dasgupta, 1987), and the lottery introduced by π allows us to explore various mappings without implementing different protocols. For example, when the model considers competitive diplomacy such that greater effort implies a π probability of recovering agenda-setting power, it is equivalent to competitive diplomacy such that greater effort implies recovering π share of the surplus from cooperation in expectation, regardless of the mechanism or bargaining protocol. This allows us to compare settings where more effort in competitive diplomacy is certain to return the entire surplus ($\pi = 1$) to those where the contest yields interior expectations ($\pi < 1$). Moreover, while π is independent of power in the model, Online Appendix C.2 (SI pp. A23–A25) demonstrates that the results are robust to state-dependent differential advantages, $\pi_i(s_t) > \pi_{-i}(s_t) > \frac{1}{2}$. Thus, the model is consistent with recognition probabilities that depend on the relative strength. The intuition is that country incentives are necessarily tied to the *net* gain from exerting more effort in competitive diplomacy, which is always the same for both players: $\pi_1(s_t) - (1 - \pi_2(s_t)) = \pi_2(s_t) - (1 - \pi_1(s_t))$. The model therefore avoids the notational burden without loss in this regard.

Third, the model introduces persistence parameters $\lambda \in [0, 1]$ and $\theta \in [0, 1]$. This generalizes the canonical setting from Fearon (1995), where peace deals are short-lived and war outcomes are permanent ($\lambda = 0$ and $\theta = 1$). As mentioned above, the classic assumptions are strong but sensible given the aim to understand problems pertaining to the inability to commit to peace deals (e.g., after a power shift). This paper, in contrast, does not focus on this type of commitment problem and therefore does not need to unnecessarily restrict itself. More importantly, these parameters are substantively interesting to the analysis as they provide insight into a country's incentive to employ competitive diplomacy. For example, the classic assumptions are too rigid to account for settings where war outcomes are not permanent and peace settlements are not transient. Consider, for example, the back-and-forth claims to Alsace-Lorraine through wars between France and Germany. In the model, the possibility of this to occur affects equilibrium behavior. Thus, I relax the typical constraints on λ and θ to understand how the incentive to compete for agenda-setting power varies across a wider range of settings. The analysis treats λ and θ as exogenous primitives; however, it is plausible that country choices can affect the reliability of a peace deal. This may be a productive consideration for future work.

Finally, while the results can be established with a finite horizon, an infinite horizon is the most

¹⁷ Refer to discussion around Proposition 4 and Online Appendix C.1 (SI pp. A21–A23) for related propositions and proofs.

appropriate setting as the focus is on the incentive to compete for agenda-setting power, which should always depend on expectations about the future. If the horizon were finite, countries would no longer make future considerations at some period T , which would likewise affect all decisions in preceding periods by backward induction. In this way, behavior in all periods would be unduly influenced by expectations of the final period, undermining the intention of repeated play. Lastly, a finite horizon necessarily implies a contradiction to any interior $\lambda \in (0, 1)$ or $\theta \in (0, 1)$.

BENCHMARK: NO COMPETITIVE DIPLOMACY

When there is a positive bargaining surplus, $B(s) > 0$, states will have incentive to compete for agenda-setting power in the hope of recovering it for themselves. First, consider a benchmark without competitive diplomacy. This is analogous to the model with the condition that $\pi = \frac{1}{2}$.

A useful frame of reference will be the canonical Fearon (1995) repeated crisis bargaining game, in which country 1 is endowed with agenda-setting power (instead of competitive diplomacy), war outcomes are permanent $\theta = 1$, and peace deals do not persist $\lambda = 0$. Because Fearon (1995) is especially interested in an inability to commit to long-term settlements, it imposes budget constraints that prevent any side payments, $\bigcap_i \mathcal{X}_i = [0, 1]$. The main text deviates from this to avoid preventive war, though it is accommodated with additional notation in the Online Appendix (SI p. A1). Also noteworthy is Powell (2006), which models deterministically alternating agenda setters over an infinite horizon.

First, this article builds on these works by allowing different outcomes to persist. Rather than war being game-ending and peace deals only lasting one period, war outcomes can now persist into future periods with probability $\theta \in [0, 1]$ and peace deals with probability $\lambda \in [0, 1]$. Since expectations about outcome persistence affect the relative value of going to war over settling things cooperatively, it also affects the value of setting the agenda.

Lemma 1. *The value of being the agenda setter is directly increased by peace deal persistence λ and directly reduced by war outcome persistence θ .*

The case in Fearon (1995) is therefore a worst-case scenario for agenda setters: when peace deals are more persistent and war outcomes less so—greater λ and smaller θ —it is likely that they can extract even greater surplus from their adversaries. This is

because, as the outcome of war becomes less persistent relative to the cooperative settlement, war becomes an even less desirable outside option. Since the outside option is worsened, agenda setters can demand greater proportions from their adversaries. Of course, whether the total effect of persistence parameters on agenda-setting power is positive depends on how those parameters affect the corresponding continuation values, which in turn depends on the transition function.

Allowing outcome persistence to vary flexibly has distributional consequences in peace but alone it does not change the qualitative nature of equilibrium behavior from earlier work.

Proposition 1. *In any equilibrium of the game without competitive diplomacy, countries will cooperate without exerting effort.*

If countries cannot compete with diplomacy to improve their bargaining position, there is no longer an incentive to exert diplomatic effort. Cooperation must be completely efficient when it occurs. The sum of country payoffs is therefore not affected by changing the costs of war in a state that does not result in war, as this sum is guaranteed to be the full pie of value 1.

IMPLICATIONS OF COMPETITIVE DIPLOMACY

Next, we explore the implications of including competitive diplomacy. There are two new features of equilibrium behavior. First, countries now compete with strictly positive diplomatic effort in cooperation, and second, countries may now choose to initiate war because it is relatively efficient compared to competitive cooperation.

Definition 1. A war in state $s \in S$ is efficient if and only if there is no mutually preferred settlement, $\bar{x}_1(s) > \bar{x}_2(s)$.

Proposition 2. (Equilibrium). *There is a unique equilibrium with strategies σ^* in which countries either fight an efficient war or cooperate by mixing diplomatic effort uniformly between zero and $\frac{(2\pi-1)B(s)}{1-\delta\lambda}$.*

Figure 2 illustrates how countries compete in state s according to a mixed strategy defined by cumulative distribution F_s^* . In terms of the cases previously discussed, we can think about a draw from this mixed strategy as the amount of money Saudi Arabia spends lobbying US legislators or the amount of pledges China makes to El Salvador, for example. Let us focus

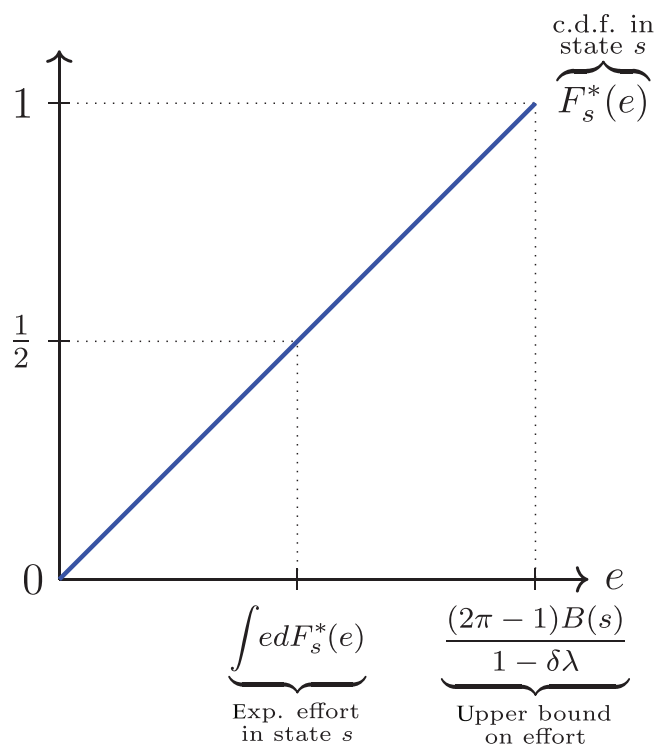


FIGURE 2 Cumulative distribution for diplomatic effort F_s^* .
Notes: The upper bound of the distribution reflects the expected gain from having exerted greater diplomatic effort than an adversary, accounting for both the conditional probability of being recognized as proposer as well as the likelihood that the bargaining surplus can be retained into the future.

on understanding the process of cooperation before turning to efficient wars in the following section.

When choosing to cooperate, a country always extends the offer that is best for them in their adversary's acceptance set, and that offer is always accepted. Then, the difference between the two equilibrium offers defines the surplus from cooperation, which is the value of being a recognized agenda setter. Importantly, the nature of the hypothetical war affects each country's acceptance set, which in turn affects the value of being the agenda setter. Since countries choose how to engage in competitive diplomacy with the value of becoming an agenda setter in mind, the nature of a hypothetical war affects their equilibrium diplomatic strategies and therefore the quality of peace, even if war never occurs on the path of play.

Proposition 3. *Costs of war make peace costlier and reduce welfare.*

Let $C(s) := c_1(s) + c_2(s)$. Then, $\frac{\partial}{\partial C(s)} \int e dF_s^*(e) \geq 0$ and $\frac{\partial}{\partial c_i(s)} V_i(s) \leq 0$ for each country $i = 1, 2$ and for any state s and transition function q .

Usually, increasing the costs of war in the bargaining model makes the peaceful settlement better for the agenda setter and worse for the receiver, with a net effect of zero on aggregate welfare. However, because agenda-setting power is now endogenous to a pre-bargaining diplomatic competition, the larger surplus that results from larger costs of war also provides countries with an incentive to exert greater effort in competitive diplomacy. While the increased surplus still serves to reallocate wealth from the receiver to the recognized proposer in a zero-sum fashion, the total net effect is no longer zero, as countries now exert increased effort trying to become the agenda setter. This increased effort is an inefficient waste, guaranteeing a reduction of expected welfare in the process. Crucially, this does not depend on the outbreak of war, but simply the fact that countries will reduce their acceptance standards in response to a worse outside option.

In addition to the characteristics of war, the extent to which the competition is decisive has important implications on equilibrium behavior and consequently outcomes.

Proposition 4. *Welfare is decreasing in a competition's decisiveness. Moreover, completely decisive competition guarantees the full erosion of the gains from peace.*

Formally, for all states s and transition functions q , (i) $\frac{\partial}{\partial \pi} V_i(s) \leq 0$ and (ii) $\pi = 1$ implies $U_i(s) \leq W_i(s)$ for each country $i = 1, 2$.

This proposition reveals the extent to which competitive diplomacy can be detrimental. The competition's decisiveness heightens the incentive to compete, introducing inefficiencies to cooperation and reducing welfare. Under completely decisive contests, the desire to earn agenda-setting power to capture the benefits of peace can drive countries to exert effort until all of the surplus is destroyed. In particular, a country expects to do no better in peace than in war when $\pi = 1$. Furthermore, it remains possible that the surplus is fully eroded before the point of complete decisiveness, $\pi < 1$.

As discussed above, the all-pay contest is preferred for our main analysis; however, the result is also robust to other common contests. Most importantly, consider a Tullock contest. Let country i receive the better end of the lottery governed by π with probability $\frac{e_i^d}{e_i^d + e_{-i}^d}$ for any effort $e_1, e_2 > 0$ and some decisiveness parameter $d > 2$.¹⁸ Online Appendix C.1 (SI pp. A21–A23) shows

¹⁸ At slight abuse of terminology, parameter π captures the decisiveness of the lottery over agenda-setting power and d captures the decisiveness of the Tullock contest. The condition $d > 2$ guarantees nondegenerate mixed effort strategies. (See Online Appendix C.1 (SI pp. A21–A23) for more detail, explanation, results, and proofs.)

how diplomatic competition by any such Tullock contest continues to erode the full bargaining surplus as $\pi \rightarrow 1$, consistent with Proposition 4. In fact, equilibrium behavior in the all-pay contest is equivalent to that in the limiting Tullock contest as $d \rightarrow \infty$. The robustness of the result is due to the prevailing logic that if disproportionate gains in cooperation can be made by marginal increases in competitive effort, each country will exert even more effort until there is no longer an expected gain from peace.

Efficient wars

Unlike most game-theoretic bargaining models of war, countries may prefer fighting to cooperating despite an ability to settle peacefully today. When this occurs, war is called “efficient” as it entails fewer inefficiencies on the path of play.

Figure 3 illustrates how different couples of equilibrium indifference deals (the deals at which countries are indifferent between war and peace) lead to cooperation or efficient war. If country 2 prefers settlements that are larger than those demanded by country 1 to keep them indifferent (above the dashed blue line), countries will choose to cooperate. Also visible are shaded areas where we would have countries choosing to fight preventive wars due to an inability to settle at a mutually preferred deal if we were to allow for standard convex budget constraints, $\mathcal{X}_1 = [X_1, \infty)$ and $\mathcal{X}_2 = (-\infty, X_2]$; most typically, $X_1 = 0$ and $X_2 = 1$.

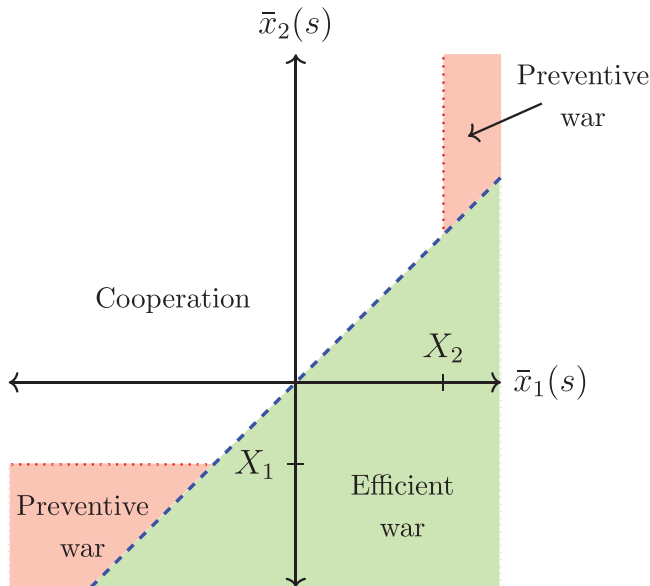


FIGURE 3 Efficient wars in indifference settlements. *Notes:* Efficient war occurs if and only if indifference settlements fall below the diagonal dashed line. Below the horizontal and to the right of the vertical dotted lines indicate the outbreak of preventive war given standard convex budget constraints with the greatest credible offers X_1 and X_2 .

If country 2 does *not* prefer settlements that are larger than those demanded by country 1 to keep them indifferent (below the dashed blue line), an efficient war will break out. These indifference deals come out of equilibrium behavior and, while the couples that lead to efficient war are usually assumed away in standard settings, this section shows how efficient wars can arise endogenously due to competitive diplomacy. Further, the figure demonstrates how the incentives driving those wars differ from those driving preventive wars.

Before stating the general condition for efficient war, let us first define two key terms.

Definition 2. The expected net present value of the pie after war is given by

$$G := \frac{1}{1 - \delta\theta} - \frac{1}{1 - \delta\lambda}. \quad (6)$$

Winning a war yields the entire pie of value 1, and it is retained for each subsequent period with probability θ . The expected present value of this is reflected in the first term of Equation (6). The second term in the expression reflects the aggregate expected present value of the pie prior to a return to bargaining if they cooperate instead, persisting with probability λ . The value G then reflects the aggregate value countries expect to recover from war over peace with regard to the differential tendencies of their outcome persistence, leaving aside their continuation values that rely on strategies upon returning to bargaining.

On the other hand, we also need to account for the discrepancy between war and cooperation upon a return to bargaining.

Definition 3. The total expected net present value of returning to bargaining after fighting in state s is given by

$$\Delta V(s) := \sum_{s' \in S} (V_1(s') + V_2(s')) \times \left[\frac{\delta(1 - \theta)}{1 - \delta\theta} q(s'|s, a_W) - \frac{\delta(1 - \lambda)}{1 - \delta\lambda} q(s'|s, a_U) \right] \quad (7)$$

for any transition function q .

The present value of returning to the bargaining table after war is given by $\frac{\delta(1 - \theta)}{1 - \delta\theta} \sum_{s'} V_i(s') q(s'|s, a_W)$ for country $i = 1, 2$, whereas country i 's present value of returning to bargaining after cooperating is given by $\frac{\delta(1 - \lambda)}{1 - \delta\lambda} \sum_{s'} V_i(s') q(s'|s, a_U)$. Equation (7) defines $\Delta V(s)$ as the difference between the aggregates of these two objects, reflecting the net present value of returning to bargaining after fighting. Unlike G , the term $\Delta V(s)$

reflects the total additional value countries can expect to get by returning to bargaining from war instead of from an existing peace deal, which depends not only on the model parameters but also on the current state of the world and the transition function.

Together, the expression $G + \Delta V(s)$ yields the total net present value of going to war, where G is an exogenous component that reflects to the differential persistence of outcomes and $\Delta V(s)$ is an endogenous component attributable to variation in country strategies across different states of the world (and the likelihood of their realizations) after a return to bargaining.

Equipped with this notation, we can concisely state the following proposition.

Proposition 5. *An efficient war occurs if and only if the total expected net present value of fighting is greater than the total costs of war. Formally, $\bar{x}_1(s) > \bar{x}_2(s)$ for any state s with transition function q if and only if $G + \Delta V(s) > C(s)$.*

Proposition 5 has an intuitive interpretation but is typically not possible in dynamic conflict models, as both G and $\Delta V(s)$ are usually assumed to be weakly negative while $C(s)$ is assumed to be strictly positive. In this article, however, the total expected net present value of fighting may be positive and possibly larger than the total costs of war. In particular, the expression demonstrates how there exist two paths to efficient war: one through the exogenous component G and another through the endogenous component $\Delta V(s)$.

First, because the model allows for war outcomes and peace deals to persist at varying rates according to θ and λ , it is possible that a much greater persistence of war outcomes relative to peace deals can drive countries to fight. The logic parallels that of “ripping off the bandage,” as countries prefer taking their chances in war today if it means they can avoid having to regularly incur the smaller costs of peace for the rest of time. Given $\lim_{(\lambda, \theta) \rightarrow (0, 1)} G = \frac{\delta}{1 - \delta}$, it becomes clear that enough patience can result in an arbitrarily large expected net present value of the pie after fighting. However, while exogenous factors can drive efficient war, their interaction with competitive diplomacy is crucial for the result—as the benchmark above demonstrates, the absence of competitive diplomacy implies the absence of efficient wars. This is because, without competitive diplomacy, the value for cooperation is always large enough relative to the value for war that the equation can never be satisfied (i.e., $\Delta V(s) \rightarrow -\infty$ as $\delta \rightarrow 1$ at a faster rate than $G \rightarrow \infty$).

Second, variation in countries’ equilibrium strategies across different states of the world can bring about efficient war if fighting today is more likely to transition into preferable states of the world tomorrow.

Each possible state of the world comes with a corresponding value for each country that depends on both the primitives of the model and their behavior in equilibrium, some of which are preferable to others. If war is expected to return countries to bargaining under better conditions, they may choose to incur the greater costs of fighting today in order to improve the likelihood they transition to better states of the world tomorrow.

To see how endogenous effort to compete for agenda-setting power can create efficient wars, consider a simple example. Let there be three states of the world $S = \{s, \underline{s}, \bar{s}\}$, with s as the current state and both $\underline{s}$ and $\bar{s}$ as absorbing states where countries cooperate. If war guarantees a transition to state $\underline{s}$ while cooperation guarantees a transition to state $\bar{s}$, countries may prefer to fight an efficient war today when the expected inefficiency from competitive diplomacy in $\bar{s}$ is sufficiently larger than that in $\underline{s}$. This can occur if the surplus from cooperation in state $\bar{s}$ is much larger than that in state $\underline{s}$.

Formally, let $q(s|\underline{s}, a_W) = 1$ and $q(\bar{s}|s, a_U) = 1$, where s is the current state. Fighting ensures the state transitions to $\underline{s}$, whereas the choice to cooperate ensures the state transitions to $\bar{s}$. By Proposition 5, an efficient war results in state s under these conditions if and only if

$$G + \frac{\delta(1 - \theta)}{1 - \delta\theta} V(\underline{s}) - \frac{\delta(1 - \lambda)}{1 - \delta\lambda} V(\bar{s}) > C(s). \quad (8)$$

Because $\underline{s}$ and $\bar{s}$ are absorbing states, we can write this expression solely in terms of model primitives.¹⁹ If we choose costs of war $C(s)$, $C(\underline{s})$, and $C(\bar{s})$ such that this condition holds given δ , λ , θ , and π , then countries will prefer to fight an efficient war as a result of expecting to exert too much effort under cooperation.

Condition (8) shows how increasing the costs of war in a cooperative state can endogenously cause countries to exert greater effort in competitive diplomacy, creating an incentive for efficient war. Intuitively, a country has the incentive to exert greater effort in state s when $C(s)$ is large in addition to being more likely to choose war state s if $C(s)$ is small. In this example, efficient wars are more likely to emerge when there are large costs of war in state $\bar{s}$ and low costs of war in states s and $\underline{s}$. To demonstrate numerically, consider the primitives $\delta = 0.9$, $\theta = \lambda = 0.7$, $\pi = 0.9$, and $C(s) = C(\underline{s}) = 0.1$. Then, an approximate condition for efficient war in state s is $C(\bar{s}) > 0.146$.

In general, the total effect of θ and λ on $\Delta V(s)$ is not straightforward as it depends on how the transition function maps different actions today into different states in the future. Naturally, greater persistence of either outcome can increase $\Delta V(s)$ through country

¹⁹ Refer to Online Appendix A.7 (SI pp. A9–A10) for supporting details. Specifically, Equation (A20) can be used to plug in for $V(\underline{s})$ and $V(\bar{s})$.

continuation values. Persistence avoids inefficiencies, allowing countries to do better upon a return to bargaining if outcomes are expected to last. However, persistence can also decrease $\Delta V(s)$ as the present value accounts for temporal considerations—the more an outcome persists, the longer it will take for a country to recover the gains that come with a return to bargaining, and hence the smaller its present value *ceteris paribus*.

Nonetheless, the model provides a path for understanding the conditional effects of persistence on countries' willingness to fight efficient wars. For example, the following corollary demonstrates that in the event of unreliable peace deals and permanent war outcomes, the effect of war outcome persistence on G overwhelms any possible countervailing effects on $\Delta V(s)$, guaranteeing an efficient war in equilibrium.

Corollary 1. *Patient countries will fight an efficient war if peace deals do not persist and war outcomes are permanent. Formally, for any state s and transitions q , $\lambda = 0$ and $\theta = 1$ implies that $\lim_{\delta \rightarrow 1^-} (\bar{x}_1(s) - \bar{x}_2(s)) > 0$ for both countries $i = 1, 2$.*

This result demonstrates a sufficient condition for countries to prefer “ripping off the bandage” and trying their luck in war. Notably, this condition is the typical assumption in dynamic crisis bargaining models, going back at least to the analysis of preventive motives in Fearon (1995) where peace deals do not persist into the subsequent periods but war is game-ending. If peace entails constant renegotiation based on changes to the underlying state of the world, whereas war outcomes settle a dispute absolutely, then countries will necessarily prefer fighting an efficient war to cooperation regardless of the state's expected evolution. Importantly, this will be true for any country irrespective of their relative strength today or their expected strength in the future.

Moreover, additional implications can be derived under mild assumptions on the transition function. The relative efficiency of war depends heavily on the expected downstream consequences of actions in the current period. If, for example, a war today would be sure to produce a detrimental state of the world tomorrow, the inefficiencies associated with cooperation would need to be vastly greater than if war today is sure to transition into a superior state of the world. For this reason, conditions on state transitions can allow us to recover more precise conditions for when efficient war will or will not arise.

For example, suppose the expected value of returning to bargaining after war is no better than that of returning to bargaining after peace. Then, a corollary follows from Proposition 5.

Corollary 2. *If the expected value of a return to bargaining after war is no better than the expected value of returning to bargaining after cooperation, efficient wars are averted by peace deals that are more persistent than war outcomes.*

Take any transition function $q: S \times A \rightarrow S$ that satisfies $\sum_{s'} V(s')(q(s'|s, a_U) - q(s'|s, a_W)) \geq 0$ for all states $s \in S$. Then, $\lambda > \theta$ ensures that $\bar{x}_2(s) > \bar{x}_1(s)$.

Countries may prefer war or cooperation for one of two reasons: either they are associated with less inefficiencies or they tend to produce superior states of the world in the future. By making the above assumption on state transitions, we rule out the possibility that countries have an inherent bias towards war specifically because they tend to transition to preferable states of the world. This requires that returns to bargaining after war cannot be more favorable in the aggregate than they would be after cooperation. As a result, the only way to favor efficient war is if there is less inefficiency associated with fighting. Since country choices of diplomatic effort are endogenous, the condition that $\lambda > \theta$ is sufficient to guarantee this does not occur.

On the other hand, $\theta > \lambda$ is necessary but not sufficient for efficient war, as a preference for war also requires sufficiently small costs of war under the current state and a sufficiently small expected value of returning to bargaining after cooperation. Like Corollary 1, this result also demonstrates the logic of “ripping off the bandage” at play.

FRICTIONS AND COSTLY DELAY

Consider an extension of the model in which there are frictions, $\mu \geq 0$, that serve to potentially obstruct cooperation. Specifically, if aggregate effort exceeds these frictions, the game proceeds as before and the country that exerted the most effort will be recognized as the agenda setter with probability π . If aggregate effort does not exceed frictions, however, each country will incur a cost of delay $\kappa_i(s) > 0$ before settling at the Nash bargaining solution.²⁰ These frictions may be considered a lower bound on transaction costs in the sense of Keohane (1984) and related work in international cooperation theory. For simplicity, I allow each country's cost of delay to be proportional to the expected gains it stands to lose by going to war. In particular, let $\kappa_i(s) := \rho(U_i(s) - W_i(s))$ for all $s \in S$, so that $\rho \in (0, 1]$ captures the damage each country expects to incur from delay.

In equilibrium, countries take this risk into account when choosing their actions, including their effort

²⁰ This approximates any protocol in which one side does not have an ex ante advantage in recovering agenda-setting power after delay.

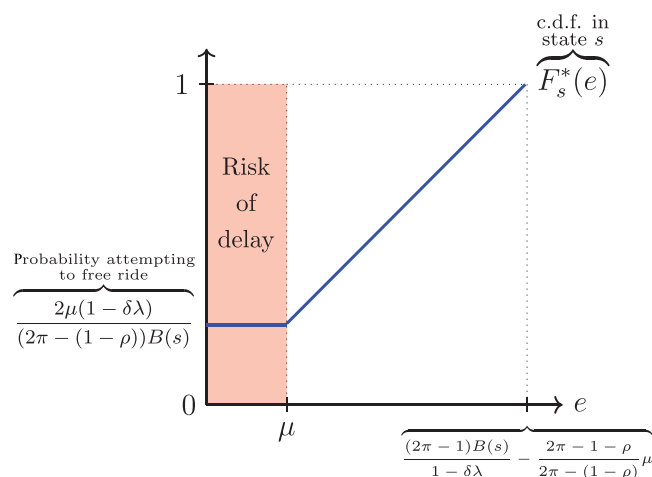


FIGURE 4 Cumulative distribution for diplomatic effort F_s^* with frictions $\mu > 0$. Notes: As a result of frictions, countries may attempt to free ride on the costs of cooperation. The upper bound of the distribution now reflects the size of the frictions and the cost of delay.

in competitive diplomacy. Although countries could guarantee cooperation by exerting the bare minimum necessary, μ , each country occasionally attempts to free ride on the efforts of the other despite creating the possibility of costly delay.

Proposition 6. (Equilibrium). *Take any $\mu > 0$. Given equilibrium strategies σ^* , countries will either fight an efficient war or else they will cooperate by exerting zero effort with probability $\frac{2\mu(1-\delta\lambda)}{(2\pi-(1-\rho))B(s)}$ and otherwise mixing uniformly between μ and $\frac{(2\pi-1)B(s)}{1-\delta\lambda} - \frac{2\pi-1-\rho}{2\pi-(1-\rho)}\mu$.²¹*

Figure 4 illustrates how countries compete in state s when $\mu > 0$ according to a mixed strategy defined by cumulative distribution F_s^* , revealing how equilibrium behavior with frictions results in an occasional costly delay.

Proposition 7. *The results in Propositions 3–5 continue to hold with frictions $\mu > 0$.*

Barriers to peace actually protect against the erosion of peace's surplus caused by competitive diplomacy. This occurs because frictions introduce a countervailing incentive to occasionally exert zero effort, effectively forfeiting the competition in lieu of internalizing the passive gains of cooperating for free. The extent to which frictions serve to insulate countries

from the erosion of competition is therefore proportional to their ability to free ride on their adversary's efforts without fear of delay.

Remark 1. Given equilibrium strategies σ^* , the probability of costly delay in state s is equal to $\omega(s) := \left[\frac{2\mu(1-\delta\lambda)}{(2\pi-(1-\rho))B(s)} \right]^2 > 0$ for any q such that $B(s) > 0$.

Even arbitrarily small frictions to cooperation introduce an incentive to occasionally attempt free riding on an adversary's efforts. Countries want to perform well in diplomacy and receive a greater chance at recovering the surplus from cooperation, given their exerted effort is not larger than the gain. However, conditional on their relative performance, a country prefers not to exert unnecessary additional effort. This incentive to reduce effort conditional on diplomatic performance can therefore create a dilemma for countries that need to cumulatively exert at least $\mu > 0$ to reach an agreement. When countries simultaneously try to free ride on each other, they delay the settlement.

With the probability of delay characterized as a function of equilibrium strategies, we can learn how it is affected by changes in the form of competitive diplomacy. The effect of competition's decisiveness on the probability of delay depends on the selected transition function, as the expected gain from war relative to peace depends not only on the specific values of θ and λ but also on how current actions correspond to expected transitions into different states tomorrow. However, for any state space and transition function, we can choose, decisiveness reduces the occurrence of delay when peace deals are reliable.

Proposition 8. *The probability of delay is decreasing in the decisiveness of competitive diplomacy when peace deals are reliable. Formally, $1 = \lambda > \theta$ implies $\frac{\partial}{\partial \pi} \omega(s) \leq 0$ for all s and q .*

Countries are less willing to free ride under decisive competition, as doing so often results in forfeiting agenda-setting power to their adversary. Instead, countries respond to increased decisiveness by exerting greater effort in competitive diplomacy, consequently diminishing the probability of delay in equilibrium. However, this effect can be overturned when the persistence of war outcomes exceeds the reliability of peace deals, in which case increases to decisiveness may cause an erosion of the bargaining surplus that reinforces free-riding incentives.

However, note that by Proposition 4, decisiveness also reduces welfare. Thus, the Pareto optimal level of competition *maximizes* the probability of delay when peace deals are reliable. Decisive contests endoge-

²¹ Cooperation in state s , therefore, requires $\mu < \frac{(2\pi-(1-\rho))B(s)}{2(1-\delta\lambda)}$. The article focuses on strategies σ^* as it is unique for $\mu = 0$ and always valid for any configuration of parameter values when $\mu > 0$. Under special cases of parameter configurations and $\mu > 0$, strictly positive effort strategies can also be sustained, but all of the results continue to hold.

nously cause countries to exert greater effort relative to the bargaining surplus not only in the current period but also in every future period where there is an expected net gain from cooperation. However, these same equilibrium efforts contribute to an erosion of the bargaining surplus, making peace less valuable. Because countries only free ride to the extent they can gain by doing so, their willingness to free ride is inversely proportional to the severity of competitive diplomacy. This is most clearly seen in the limit: fully decisive competition discourages attempts to free ride, but coincides with the complete dissipation of the bargaining surplus, resulting in payoffs from cooperation that are no better than payoffs from war.

Recall also that $\lambda > \theta$ is the same condition that ensures efficient wars are avoided under mild conditions in Corollary 2. This implies a dilemma: improving the reliability of peace deals can reduce the outbreak of efficient wars; however, it also ensures that there will be tension between promoting country welfare and reaching timely settlements.

How changes in other parameters, including the persistence parameters θ and λ and the harm from delay ρ , affect the probability of delay depends on how those changes affect the bargaining surplus. The intuition is as follows: the faster the surplus grows (or the slower it reduces) in response to changes in a parameter, the more it heightens the incentive to engage in competitive diplomacy and, thus, reduces the probability of delay. Refer to Online Appendix A.8 (SI pp. A10–A12) for a full discussion.

CONCLUSION

I propose a dynamic bargaining theory of war where countries can use diplomacy to compete over agenda-setting power. When competitive diplomacy is present, both the quality and prospects of peace are negatively affected. Increasing the costs of a potential war increases the stakes of the dispute by reducing the value of a country's outside option, thereby encouraging more diplomatic competition and reducing welfare. Under these conditions, it is possible for war to be relatively efficient. Further, I extend the model to examine the role of settlement frictions, finding that they introduce a trade-off between welfare and timely settlement.

The contributions of this paper are theoretical; however, the analysis has empirical implications. For example, the model predicts that there will not be an association between competitive diplomatic efforts and cooperative gains in equilibrium. This is borne out in Blair et al. (2022), which finds that Chinese aid to Africa does not increase their support among beneficiaries, while the United States does enjoy greater

support after aid provisions. Despite this, China considers foreign aid essential to the development of their ability to achieve favorable outcomes through cooperation (Yoshihara and Holmes, 2008). Why would one country experience political gains from aid provisions while another does not? This puzzling empirical phenomenon is consistent with my analysis: by Propositions 2 and 6, the expected effort in competitive diplomacy correlates with the stakes of the dispute and the scope of the competition, but does not govern the equilibrium success in recovering bargaining leverage. The model therefore provides a rational explanation for why we would not necessarily expect to see an association between competitive diplomatic effort and success in securing more favorable cooperation outcomes across cases.

The analysis also highlights that changes to the international environment, as opposed to specific characteristics of a bilateral relationship, can give rise to war. Recent work has re-emphasized the importance of the systemic conditions (Abramson and Carter, 2021; Wolford, 2020). By Proposition 5, a country's propensity to fight depends on the scope of competitive diplomacy to improve bargaining positions π , as well as how it interacts with the reliability of peace deals λ and the durability of war outcomes θ . External factors often play a role in shaping these determinants of country incentives. For example, the decisiveness of competition may reflect the rules, norms, and procedures of prevailing institutions, and the persistence of outcomes may depend on the nature and interests of third parties, such as a great power's willingness to intervene to uphold a previous agreement in the event of defection. Consider, for example, how war outcomes in disputes not involving the United States may be more (or less) durable as a result of their willingness (or reluctance) to intervene and upend unfavorable outcomes. Russia's decision to invade Ukraine in 2022 not only accounts for whether the United States would intervene in the war but also whether the United States would intervene after the war to re-establish the status quo or enforce a resolution even more detrimental to Russia. Studying the interaction of bilateral factors and systemic-level changes is a productive path for future work on international cooperation.

Further, the extension to consider settlement frictions has implications on how peace mediators should approach conflict resolution in contemporary crisis situations. Take the Kashmir conflict between India and Pakistan, where both sides have engaged in competitive diplomacy to improve their bargaining position. In the context of the 1999 Kargil War, India sacrificed international support by rejecting US offers for mediation to keep negotiations bilateral, while Pakistan agreed to withdraw forces from Kargil for the issue to be brought to the UN Security Council and

institutionalized.²² Each side believed a specific resolution procedure (bilateral for India and institutional for Pakistan) favored their desired terms. For peace mediators, the model suggests that reducing frictions to cooperation—while reducing delay—can actually make both sides worse off. Although the model focuses on a complete information setting, it is likely that reduced welfare in peace will exacerbate the incentive to engage in conflict under incomplete information. Therefore, peace mediators should be wary about interventions that aim to reduce frictions instead of those that aim to establish peace directly.

In general, the theory suggests three points of guidance for international institutions to effectively resolve conflicts. First, it highlights the need for institutions to reduce the scope of competitive diplomacy. If states can improve their bargaining position through diplomatic effort, not only can this cause significant reductions in aggregate welfare, but it can also cause war to be relatively efficient from the perspective of the disputing states. Second, while barriers to cooperation introduce the possibility of costly delay, the analysis demonstrates that frictions protect against an erosion of the gains from peace caused by competitive diplomacy. As a result, cost-reducing institutions may do more harm than good: it can be welfare-enhancing to intentionally impose frictions when high levels of competition are unavoidable. Third, the paper identifies a dilemma: reliable peace deals avert efficient wars, but they can simultaneously introduce an unavoidable tension between safeguarding the gains from peace and preventing costly delay. Institutions that aim to maximize welfare while simultaneously reaching immediate peace may prefer to construct peace deals that are not intended to be permanent, especially if the barriers are large.

ACKNOWLEDGMENTS

I thank Kris Ramsay, Matias Iaryczower, Germán Gieczewski, and Gleason Judd for their invaluable guidance. For helpful comments and suggestions, I also thank Peter Bils, David Carter, Perry Carter, Zenobia Chan, Brendan Cooley, Zuheir Desai, Mike Gibilisco, Michael Joseph, Brenton Kenkel, Matt Malis, Helen Milner, Gaétan Nandong, Brad Smith, Jessica Sun, Scott Tyson, Grace Zeng, and audiences at meetings of the American and Midwest Political Science Associations.

²² “Vajpayee stood firm during Kargil conflict: Clinton aide”, Times of India, May 19, 2002, retrieved from <https://timesofindia.indiatimes.com/vajpayee-stood-firm-during-kargil-conflict-clinton-aide/articleshow/10341644.cms>; “Kargil war was a total disaster, claims Gen Majeed Malik”, The News, November 14, 2002, retrieved from <https://www.thenews.com.pk/archive/print/395958-kargil-war-was-a-total-disaster-claims-gen-majeed-malik>; Alastair Lawson, “World: South Asia Pakistan and the Kashmir militants”, BBC News, July 5, 1999, retrieved from http://news.bbc.co.uk/2/hi/south_asia/386537.stm.

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How to cite this article: Ruggiero, Joseph J. 2026. "Competitive diplomacy in bargaining and war." *American Journal of Political Science* 70: 1164–80. <https://doi.org/10.1111/ajps.70006>