Secrecy, War and the International System

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Abstract

How do back door channels for peace work? Leaders who face the threat of domestic accountability might use secrecy to reach agreements the public would oppose, but these agreements might be the cheaper, nonmilitary resolutions that prevent costlier wars. I use a formal model to show how back door channels for peace affect leader behavior, the propensity for peace, and ultimately public welfare. Secrecy can promote peace, but surprisingly not because leaders use these channels to back down: instead leaders at-risk of accountability *always* stand firm behind closed doors. This hawkish stance makes war more likely when adversaries are weak, and removes the threat of war when situations are most dire – when the enemy is likely to win, when war is very costly, and when the stakes are high. My results hold implications for bilateral bargaining, and for a larger effect of transparency on peace in the international system.

Keywords: secrecy, transparency, audience costs, crisis bargaining

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1 Introduction

In war, the need for secrecy is unavoidably in conflict with the need for domestic accountability. Both can enhance public welfare, yet the use of secrecy obstructs accountability, and demands for accountability obstruct the use of secrecy. Consider the Iran-contra affair in which the Reagan administration struck a secret deal to use profits from the sale of weapons to Iran to covertly support the Contra rebels in Nicaragua. This violated the 1974 Hughes-Ryan Act that mandated reports on all covert actions to Congress, the 1976 Arms Export Control Act that prohibited the sale of weapons to nations like Iran that support terrorists, the Boland Amendment which prohibited the U.S. from supporting the overthrow of the Nicaraguan government, and even the U.S. Constitution in subverting Congress's power of the purse.[1] Despite this, Reagan's bargain *did* persuade Iran to intervene on behalf of the U.S. in Lebanon, which saved the U.S. hostages held by Lebanese terrorists without the need for marines to re-enter – an unacceptable alternative given the 1983 Beirut bombings, the deadliest day for U.S. marines since World War II.[2] Since at best records of secret government bargains are limited, theory is necessary to link the effects of secrecy on war to domestic accountability: when leaders will be held domestically accountable but engage in secret diplomacy, how does secrecy affect war and ultimately public welfare?

Secret diplomacy is often seen as detrimental to the public interest. Office-motivated leaders who may be more concerned with short-term political horizons might be

[1] Article I, Section 8 gives the power of the purse to Congress alone, and the Iran-contra affair could be considered unconstitutional.

[2] According to House Resolution 1455 of the 110th Congress, October 23, 1983 "was the deadliest day for the United States Marine Corps since World War II, when the United States Marine Corps fought to secure Iwo Jima." The bombings killed 241 Americans (221 marines and 20 service members) and 58 French soldiers, and injured more than 60 others.

willing to sacrifice long-term public welfare. These politicians might use secret diplomacy to strike bargains that are not in line with the public interest, were not well-considered, or worse, as in the Iran-contra affair, these bargains may even violate domestic and international laws – all while enabling political leaders to shirk domestic accountability. Thus, it is unsurprising that *transparency* is often lauded by both theory and conventional wisdom as a core principle that forms the roots of cooperation.

Yet the notion that secrecy might benefit the public, or is often necessary for peace and security, is equally prominent (see Stasavage 2004; Hale 2008; Auld and Gulbrandsen 2010; and Marquardt 2011). Recent research shows that secret talks between countries, secret diplomacy, may hold distinct benefits for the public: parties may reveal information to avoid wars with specific enemies without revealing sensitive information to *other* enemies; enemies may be more likely to concede if threats are made secretly instead of publicly; and confidential channels can encourage peace by allowing leaders to save face while offering concessions (see Kurizaki 2010; Allee and Huth 2006; Beardsley 2010; Gent and Shannon 2010; Huth, Croco, and Appel 2011; Ramirez 2013). Further, an undisputed aspect of national security is that some information must be classified to prevent enemies from gaining the upper hand, but this classification directly limits accountability by constraining public knowledge.

To reconcile the potential benefits and detriments of secret diplomacy with domestic demands to hold political leaders accountably, I contrast a model in which a leader who faces the threat of domestic accountability bargains *publicly* with an enemy, against one in which the leader bargains *secretly*. In each, the leader makes an offer to the enemy, and if the enemy rejects that offer then the leader decides whether to add extra concessions – thus, the leader may back down with added concessions

when faced with enemy resistance. If the leader backs down in public diplomacy, then that leader pays audience costs – a domestic political price for backing down to the enemy.[3] In secret diplomacy, regardless of whether the leader backed down or stood firm with his initial offer, if any settlement is reached, then the leader's own domestic public observes that settlement and decides whether to punish the leader – the public rationally chooses whether to impose audience costs. In both models, audience costs represent the *post-settlement domestic accountability* that forward-looking leaders may escape by negotiating secretly but cannot escape by negotiating publicly. Further, while secrecy can be used by leaders to avoid domestic accountability, it might also be used to strike bargains that prevent war. Contrasting the two models therefore captures this tension between secrecy and accountability, and provides theoretical answers to questions where answers cannot be observed.

First, how does secret diplomacy affect how a leader behaves? The models show that in public diplomacy, the leader chooses his initially offer carefully, but always stands firm – after all, backing down with that same offer and paying audience costs is a worse outcome – thereby balancing the risk that this *firm* offer will be rejected against the potential gains from offering less.[4] In *secret* diplomacy even though a leader might be tempted to back down and try to avoid audience costs, any potential strategy in which a leader can back down and avoid audience costs is not in equilibrium. Instead, when the enemy is likely to be strong, the public knows that the leader would not risk that the likely strong enemy reject an offer that is too low: therefore, the leader is given extra flexibility and can stand firm with a high offer – a firm compromise that

[3]This is analogous to, but not a literal use of the term *audience costs* in which leaders are punished for escalating a conflict and then backing down. Here the leader is punished for backing down from an initial offer to one with additional concessions.

[4]See Slantchev 2004; Powell 1999 for additional discussion of the well-known risk-return trade off that results in the public diplomacy model. See the model results for further explanation of secret diplomacy.

secures peace and is preferred to war – over a larger range of potential situations.[5] When the enemy is likely to be weak, the public who observes a leader using secret diplomacy knows that this circumstance tempts the leader to use secrecy to back down – to undo this temptation, the weak enemy must sometimes reject offers that even he prefers to war. Given this behavior by the weak enemy, the leader will stand firm behind closed doors with a low offer, rather than attempt to weed out weak enemies with low offers and potentially backing down to offer them even more. Then the leader and the enemy reach a settlement, the public does not believe that the leader backed down and does not punish the leader. This indicates two things. One, that leaders who bargain secretly stand firm when faced with the threat of post-settlement accountability. Second, this post-settlement accountability can give leaders incentive to compromise, when enemies are likely to be strong, and bargaining leverage to stand firm behind closed doors, when enemies are likely to be weak.

The models yield three main results for bilateral bargaining. First, when leaders risk post-settlement domestic accountability, surprisingly, leaders who bargain secretly *do* stand firm. Second, when strong enemies are likely, secrecy allows leaders to make high offers that secure peace against a wider range of enemies than under public diplomacy – thus, the public pays a high price for peace but avoids a costlier war. Third, when weak enemies are likely, the leader's hawkish stance makes war more likely under secret diplomacy. Thus sometimes secrecy promotes peace where public diplomacy may fall short, but under different conditions secrecy increases war.

The results hold further implications for the effect of transparency on global stability. I show that the *ex ante* probability of war – before types are drawn, and before

[5]The leader can make a high offer under secrecy over a larger range of the parameter space – when the leader believes that the enemy is very likely to be strong and somewhat less likely to be strong.

countries become enemies – hinges upon a threshold since secret diplomacy either makes war more likely or not possible.[6] When power is balanced, secret diplomacy reduces the risks of war – especially when wars are very costly. The model shows that it is not surprising that secret diplomacy played a role in ending in the Cuban Missile Crisis. However, when power is *unbalanced*, and leaders may be willing to gamble behind closed doors – standing firm with a low offer that only a weak enemy would accept – public diplomacy reduces war. The intuition behind this result is that if leaders might want to gamble with a risky low offer, then secrecy hurts public welfare. If circumstances are dire and no leader would gamble on war, then secrecy promotes a firm peaceful compromise to prevent a war. My results suggest that global stability may depend less on the balance of power than on the norms of diplomacy within that balance.

The remainder of this paper proceeds as follows. Section 2 discusses the current literature. Section 3 describes the models and results. Section 4 discusses the implications for crisis bargaining. Section 5 concludes. Additional proofs, game trees, and figures are found in the appendix.

2 Secrecy in Crisis Bargaining

In discussing global order since 1713, Finnemore (2003) describes how diplomatic bargaining norms evolved from secrecy – written correspondences between state representatives in the 18th century, to "face-to-face negotiations in congresses but mostly one-on-one [with] much secrecy" in the 19th century Concert of Europe – to today's

[6]This threshold is determined by the total costs of war in relation to the stakes of war versus the difference between a strong and weak enemy (the danger of uncertainty) and is explained further below.

system largely dominated by transparency.[7] Until the mid-20th century, secret diplomacy was the primary mode of interstate bargaining. Only since World War II have the norms of diplomacy shifted toward more transparent talks.

The Demand for Transparency

Four reasons underlie this shift toward open crisis bargaining, and each are related to the needs for domestic accountability *and* secrecy in crisis bargaining. First, as a basic tenet of democratic theory, increased openness makes it easier for the governed to hold the governing accountable. Hollyer, Rosendorff and Vreeland (2011) show that electoral competition is correlated with democracy and transparency, since elections encourage the circulation of policy-relevant information. A free press, public hearings, freedom of assembly, and competitive political parties increase the release of information and the public's expectations for increased political transparency. Liberal democracies thus view transparent political bargaining as promoting accountability and being essential to good governance.[8] Domestic publics demand transparency in crisis bargaining because the public wants ensure that its political leader will represent its best interest when bargaining with foreign enemies.

Second, international pressures deepened commitments to transparency as open communication became viewed as a catalyst to a host of normative goods including effective international diplomacy, reducing cheap talk, and increased cooperation. According to Finel and Lord (2000), nearly half of the six major factors contributing to increased transparency result from international pressures: international organizations spread commitments to transparency as a tool to promote their own effective-

[7] p. 96. Also see pgs. 113-116 for a discussion of diplomacy during the Congress system and the more dramatic departures toward public diplomacy.

[8] Transparency might also be part of a strategic foreign policy. Marquardt (2011) argues that the United States championed global transparency as a tool of American power; using the issue of transparency to justify its hegemony and to discipline and delegitimize rival states.

ness; economic globalization increases international pressure for public disclosure; and governments, NGOs and international organizations have all taken part in a growing normative commitment to increase transparency in believing that it is both moral and effective. Woodrow Wilson's calls for "open covenants of peace, openly arrived at," which have been echoed by Roosevelt and Churchill in the Atlantic Charter and by economic and security organizations such as the World Trade Organization and the United Nations, strengthen a global commitment to promote and abide by norms of transparency.[9] International security alliances cement commitments to transparent bargaining with the goals of encouraging peace and cooperation.

Third, the spread of global and social media have enhanced the speed and availability of information, and making it increasingly difficult for governments to achieve censorship. The growing discussions of whether there is a CNN Effect, whether Wikileaks is harmful or necessary, and whether Twitter can widen social movements into revolutions are evidence that advances in technology heighten the exposure of international events to domestic and foreign observers and enhance the public's ability to hold its leader accountable. Yet, since foreign observers might also be enemies of the state, there exists a tension as to whether national security will be and should be sacrificed in favor of domestic accountability, and vice versa, whether domestic accountability needs to be sacrificed in favor of national security.

Fourth, substantial research is rooted in the premise that uncertainty is a fundamental cause of war, and it is easy to conclude that transparency reduces conflict whereas secrecy increases conflict. Numerous authors agree that private information about capabilities, resolve, and the nature of alliances exacerbate the security dilemma and

[9]The first of Woodrow Wilson's fourteen points calls for: "Open covenants of peace, openly arrived at, after which there shall be no private international understandings of any kind but diplomacy shall proceed always frankly and in the public view."

turn a costly and risky war into a rational alternative.[10] Misperceptions that might prevail in secrecy can be a source of fear, mistrust, and heighten tensions between states at the brink of war.[11] A large literature on audience costs implies that the public nature of crisis bargaining can reduce war: since leaders will face domestic punishment for backing down from their threats, leaders can use public threats to signal their resolve credibly and thereby reduce the uncertainty that leads to war.[12] In application of this argument, Leventoğlu and Tarar (2008) show that since leaders of democracies are considered to be more susceptible to audience costs, audience costs – the ability to hold leaders accountable for their threats made publicly – can help explain the democratic peace. These researchers show that the public nature of crisis bargaining increases peace, with the implication that secrecy increases war.

Thus, despite the increase in commitments to transparency, and the qualitative and theoretical understandings of the importance of transparency, the norm in crisis bargaining – the bargaining between heads of states when the use of force and war is at stake – is that many, if not most, talks are secret until an agreement is reached and revealed to the public. Consider the U.S. talks with the Taliban in 2012-2013, during which these talks are conducted entirely behind closed doors. Consider the Wikileaks debate, which asks whether leaks – increased transparency including about communications regarding government negotiations with other countries – that might hinder

[10] See Fearon (1995), Powell (1999), and Reiter (2003) who discusses how private information about capabilities can prevent expectations from converging, which might be necessary to reach agreements and prevent war.

[11] Jervis's (1976) argues that transparency can prevent misperceptions and facilitate international cooperation. Van Belle (1997) argues that the freedom of the press in particular might mitigate these misperceptions by preventing elites from creating negative images of foreign enemies. More recently, Lindley (2007) finds evidence that transparency reduces fears and cheating among disputing parties. See also Kydd (2005).

[12] See Fearon (1994), (1997). Also see Schultz (2001) and (1999) for work on how a domestic political opposition and transparency (the ability for foreign enemies to observe one's domestic politics) can limit a leader's ability to bluff, and therefore provides a mechanism for credible signaling.

the ability for the United States to bargain effectively is juxtaposed against public demands for domestic accountability. Secret diplomacy is a norm in crisis bargaining, and although it is not currently part of the common discussion, one reason that the public is wary of secret diplomacy is because leaders are held accountable only after agreements are made. The public's only means of securing its best interest in much of crisis bargaining, in on-going day-to-day back channels, is through the threat of post-settlement accountability.

The Norm of Secret Bilateral Diplomacy

Why has secrecy remained the norm? First, national security might require that leaders make compromises that appear to be at odds with public values. Finnemore (2003) explains that the norms of diplomacy since World War II when dealing with *core security concerns* kept negotiations *bilateral and secret*. According to Finnemore, even the use of covert warfare can be thought of as arising from tensions between domestic accountability and the security concerns. Finnemore argues that leaders used covert warfare to respond to third world ideological threats while remaining *publicly* committed to the respect for state sovereignty and the right for self-determination. This tension forced the U.S. and Soviet Union to hide their military interventions as potentially illegitimate: in terms of the argument here, conflicting norms and the threat of domestic accountability created the incentives for secrecy. While Finnemore does not explain why security negotiations were kept secret, her argument can easily be extended: secret diplomacy is pursued because of the tension between the threat of domestic accountability and the need to remain steadfast against an enemy – the need to compromise and potentially back down to prevent a war.

Second, this compromise might be necessary to avoid even costlier wars. This need for secrecy to facilitate compromise and the need for leaders to avoid domestic ac-

countability were key factors in the secrecy that ended the Cuban Missile Crisis. In "The Lie that Screwed up 50 Year of U.S. Foreign policy," Leslie Gelb, president emeritus of the Council on Foreign Relations, dispels the myth that steely-eyed John F. Kennedy forced Khrushchev from behind closed doors to capitulate and remove the missiles in Cuba. Instead, Kennedy's removal of the Jupiter missiles in Turkey has been portrayed as a "mutual concession" which "from the outset, Kennedy's people went out of their way to conceal."[13] In fact, the Jupiter deal was initially proposed by Adlai Stevenson, a prominent politician who served in many foreign policy circles surrounding the early Cold War, but domestic opponents quickly discredited Stephenson for his naive public proposal.[14] Although Gelb's central point is that compromise is essential to foreign policy – even Truman had initially offered to include the Soviets in the Marshall Plan, and thus a smart foreign policy move might be to relax demands that the Taliban accept the Kabul government as is, or to allow Iran to enrich uranium up to a degree with strong inspections – his article highlights a reality in crisis diplomacy: secrecy remains a crucial part of crisis bargaining due to the threat of domestic accountability and the need to reach compromises to prevent costly wars.

Third, secret bargaining allows leaders to selectively offer information bilaterally while withholding information from other enemies. Consider the well-established result that leaders have incentive to misrepresent their own private information about aspects such as their true resolve and their state's power, because appearing more powerful or more resolved increases the chances for the best possible bargain. Since bargaining with an enemy *publicly* inherently informs other foreign adversaries, leaders have reasons to use secret diplomacy even if secrecy with that enemy increases the risk of

[13] p. 25.
[14] p. 26

war. Work by Meirowitz and Sartori (2008) show that states do not simply prefer to claim that they have greater capabilities than in reality, but that states prefer *strategic uncertainty*: states keep information about the gap between true and claimed capabilities secret, even if that secrecy makes war more likely, because increasing difficulty for one's adversary to estimate one's true capabilities *with precision* is what really matters.Slantchev (2010) shows that even strong states sometimes prefer to keep resolve secret – strong actors feign weakness if they will benefit from tactical surprise – and therefore just because one does not observe a credible signal from an adversary does not mean that a credible threat does not exist.[15] These results show that in bilateral bargaining, keeping one's enemy guessing – maintaining uncertainty – is as or may be more important than improving one's bargaining position by appearing more powerful or resolved. And to keep one's enemy guessing – especially when one considers that there may be a line of future potential enemies – requires that leaders use secret diplomacy for bilateral talks since secrecy allows a leader to keep other prying eyes uninformed.[16]

Finally, an important growing literature finds that secret diplomacy – secret threats and voluntary negotiations – are informative and have effects on war even when these might appear to be uninformative cheap talk. Kurizaki (2007) shows that a secret threat may prevail despite its informational inefficacy because defending leaders can save face from diplomatic humiliations before their domestic audiences. Ramsay (2011) shows that voluntary negotiations, even if this diplomacy appears to be cheap talk, that precede decisions to fight or bargain for peace can decrease the overall likelihood of war by allowing states to reveal information and coordinate

[15]The inverse of this argument is that transparency limits surprise attacks or tactical surprises, which might show how transparency can benefit public welfare.

[16]Secrecy might even allow for an even higher level of candor between two states when secrecy is used to conceal information from outside enemies.

their decision-making.[17] These results show that even if diplomacy is cheap talk, secret diplomacy is an important tool in crisis bargaining that can make threats more effective and under certain conditions, may even reduce war.

Secrecy and Accountability

How do these needs for secret diplomacy and for domestic accountability interact? Recent work suggests that secrecy can enhance the welfare of both the leader and the domestic public when the leader expects to be held accountable. For example, recent experimental results on crisis bargaining and presidential approval show that audience costs can encourage leaders to fight even the wars that they will lose (see Trager and Vavreck 2011), and therefore if leaders can avoid these wars by backing down through secret channels than the country as a whole may be better off. Franck and Weisband (1974) argue that secrecy can provide more political flexibility by limiting internal government opposition and public criticism. If vocal domestic minorities monopolize attention and limit a leader's ability to negotiate, then in the language of Robert Putnam's two-level games, secrecy might be preferred if vocal domestic publics or even vocal non-state or transnational actors limit the win set at the international level by constraining the bargaining at the domestic level. Theoretical results by Leventoğlu and Tarar (2005) show that public commitments can create a prisoner's dilemma in which two adversarial leaders can become locked into an inefficient war by their domestic political costs, therefore secrecy might be a rational means to prevent the negative effects of domestic accountability that accompanies public diplomacy. Stasavage (2004) shows that when leaders have opportunity to use the flexibility granted by secrecy to mitigate damage in light of superior evidence, especially when

[17]Since this occurs without exogenous pressures of international reputational costs or domestic audience costs, this work provides a meaningful step forward in arguing that diplomacy is meaningful even when only looking at the interaction between two states as unitary actors and the decision for war.

issues involve a high degree of uncertainty, then secrecy can even improve public welfare. Thus, these empirical and theoretical results suggest that secret diplomacy is useful for leaders who expect post-settlement domestic accountability especially when their bargaining positions are made more rigid as a result of domestic actors and limited information – in other words, secrecy potentially helps when domestic political costs and uncertainty can lock leaders into costlier wars.

Given this relationship between accountability and secrecy, under what conditions will secrecy increase or reduce war? The results are mixed: on the one hand, open provision of information can make threats more credible, reduce the risks of war, and promote domestic accountability, but on the other hand, secrecy might make war less likely by allowing leaders to back down when leaders are locked into war by domestic political costs and uncertainty. And while the results of Leventoğlu and Tarar (2005) imply that secret diplomacy *may be a rational choice* when leaders would be locked into wars by their audience costs, no paper explicitly models this to see what are the consequences when a leader who faces audience costs bargains secretly.

Stasavage (2004) comes closest to the analysis here: he compares open versus closed door bargaining in a principal-agent framework where a representative (the agent) bargains on behalf of his constituents (the principal) with a representative of an opposing constituency, and both constituencies pay a disagreement cost if no bargain is reached. Importantly, Stasavage shows that even though there is an accountability effect in public bargaining – audiences are able to better obtain outcomes that are closer to their preferences – public bargaining can be detrimental since representatives take uncompromising bargaining positions that make disagreement more likely. Ironically, this "posturing" effect occurs when the public is most concerned with whether representatives are biased, since it is at these times that representatives

need to adopt firm positions to convince the public that they are indeed unbiased. He shows that in closed-door bargaining, in secrecy, unbiased representatives are better able to use their private information efficiently and can distinguish themselves (there is a separating equilibrium), because biased representatives use the closed doors to achieve their own and not the public's preferred ideal points.

The primary difference between his model and the model here is that in his model representatives can be biased to secretly prefer the preferences of the opposing constituency. This is appropriate since his focus is on the deliberation within domestic representative assemblies and within international organizations such as the European Union wherein it may be questionable as to whether ministers, congressmen, or ambassadors truly do represent the interests of the public as they claim. In the case of crisis bargaining and war, however, while a leader's preferences may diverge from the preferences of the audience (leaders may be more or less "biased" toward war: willing to gamble, back down, or take risks under certain circumstances), it seems unlikely to assume that a leader may be biased toward the enemy's preferences – one doubts that Kennedy could have preferred to remove the Jupiter missiles *and* allow the Soviets to keep their missiles in Cuba. A second difference is that my model unpacks the "disagreement cost", the war that occurs should bargaining break down. In my model this cost depends on the total costs of war, the stakes, and whether an enemy is more or less likely to win in the potential war (whether the enemy is likely to be strong or weak). I show that these differences add to the understanding of how secrecy affects war in the international system. Thus an important question in light of the rich and divergent literature remains unanswered: how does public versus secret diplomacy affect crisis bargaining in light of domestic accountability?

Since one cannot observe what occurs in secret bargaining, I use theoretical models

to reveal how leaders will rationally maneuver behind closed doors, and compare this behavior, the settlements reached, and the likelihood of war to those that would rationally occur as a result of public diplomacy. The public diplomacy model therefore functions as the baseline of how one would expect a leader to behave when bargaining with an enemy while faced with the threat of post-settlement accountability. I assume that in public diplomacy the public observes all offers made by the leader to the enemy and if the leader backs down, then the public punishes the leader with audience costs.[18] Under secret diplomacy, the public observes only whether a settlement is made, and does not observe any of the offers made by the leader in the process of reaching this settlement. The public infers whether the leader backed down based on common knowledge about the characteristics of the crisis: common knowledge about the likelihood that the enemy is strong or weak which provides information about the expected costs of war. This set up and contrast allows me to focus on a single aspect of secrecy in bargaining – the effects of secrecy when leaders are able to conceal whether they genuinely backed down to enemies.[19]

3 The Models

In each model two countries A and B are involved in a crisis in a game of one-sided incomplete information. Country A possesses a prize $w > 0$ that country B may obtain if B wins a war against A. At the start of each model, Nature draws B's type,

[18]This assumption may be more realistic, i.e., the public may be more likely to impose audience costs, when the country is a democracy, when concessions will be especially painful (in financial crises), and when national honor is at stake (as in enduring rivalries).

[19]Future work might be interested in examining secret bargaining with a different source of uncertainty such as if the leader has information that he might want to conceal from other countries (uncertainty of outside parties), or if the leader is more risk-accepting (uncertainty about leader type).

$p \in \{p_L, p_H\}$, where p gives the probability that B wins the war and *weak* types are less likely to win than *strong* types, $p_L < p_H$. With probability $q \in U[0,1]$ B is a weak type, $p = p_L$, and with probability $1 - q$, B is a strong type, $p = p_H$. B's type is private information. War is modeled as a costly lottery where each country pays a positive cost for fighting, $c_A > 0$ and $c_B > 0$, and the prize for war is greater than the total costs of war, $w > c_A + c_B$. If A wins the war, then A keeps the prize (loses nothing) and B gains nothing. If B wins the war, then A loses the prize (a payoff of $-w$) and B gains prize w.

To prevent the crisis from escalating to war, A and B can reach a diplomatic settlement. Let Ω denote the options for diplomacy where $\Omega = \{D, S\}$ for public diplomacy and secret diplomacy respectively.[20] To capture domestic accountability, country A consists of a leader (hereafter, the leader) and his domestic audience (hereafter, the audience), while B is modeled as a unitary actor.[21]

Under public diplomacy, after Nature draws B's type, the leader makes an initial offer of π_D to B. B accepts or rejects this offer. If B accepts, A pays π_D to B (both the leader and the audience lose π_D), and war is avoided. If B rejects, then the leader chooses between standing firm (and leading his country to war) or backing down with additional concessions Δ_D which make the total "back down settlement"

[20] I present each option separately with equivalent parameter spaces, and compare the results of what would occur under each option. Neither country is given proposal power over the type of diplomacy, since in reality diplomacy can be initiated by either player. By not forcing a player to make this choice, the model allows us to compare outcomes for different players to see why either player might initiate a specific diplomatic option.

[21] This simplifies the model, but more importantly, the inclusion of an audience for B would limit the explanatory power of this model to conflicts where both disputant states face audience costs. How often do two democracies face a crisis where diplomatic options are pursued to prevent the likely outbreak of war? Since crises between democracies, and wars between democracies are not as likely as crises between a democracy and a non-democracy, the models here apply to more real world crises. In the event that the public of both A and B should be considered, for example if dictators face likely audience costs as well, then the results here can be refined for the case of two-sided audience costs with future modification of the models.

$\Pi_D = \pi_D + \Delta_D$. B decides whether to accept or reject this new offer. If B accepts, then B receives Π_D, and war is avoided. Since the audience observes all bargaining in public diplomacy, the audience punishes the leader if he backed down. The audience receives A's payoff of $-\Pi_D$, and the leader receives $-\Pi_D - \alpha$, where $\alpha > c_A + c_B$ represents the leader's audience cost.[22] Figure 1 presents the stylized version of the public diplomacy game.

Under secret diplomacy, after Nature draws B's type, the leader makes an initial offer π_S. B accepts or rejects this offer. If B accepts, then B receives π_S and war is avoided. If B rejects, then the leader chooses whether to stand firm or back down with additional concessions Δ_S, which would make the new proposed settlement $\Pi_S = \pi_S + \Delta_S$. If the leader backed down, then B chooses to accept or reject Π_S. If B rejects then the two countries fight the war. If B accepts π_S, then A pays $\Pi_S = \pi_S$ to B and war is avoided. However, in secret diplomacy, if a settlement is reached then the audience does not know if that settlement was the original offer or the leader's offer with added concessions. The audience updates its beliefs about whether the leader stood firm or backed down. Given the knowledge that a settlement was secured through secret diplomacy and common knowledge about the probability the enemy is strong or weak, q, the audience chooses whether to punish the leader. The audience prefers to punish correctly: the audience receives an additional payoff of 1 if the audience punishes a leader who did back down, or *does not* punish a leader who *did not* back down. If the audience does not punish, then both the leader and the audience pay the settlement. If the audience punishes, then the leader pays audience costs in addition to the settlement. Figure 2 presents the stylized version of the secret diplomacy game.

[22]The assumption $\alpha > c_A + c_B$ allows war to occur. If $\alpha < c_A + c_B$ then war is more costly than backing down, and the leader will back down.

If bargaining breaks down through either diplomatic process, then war occurs. The leader and audience obtain A's war payoff, and B obtains B's war payoff. Given each country's war payoff some additional notation is useful. Let the weak and strong type's reservation values for war be represented by $\Pi_L = p_L w - c_B$ and $\Pi_H = p_H w - c_B$ respectively. Let Π_A represent the maximum settlement that country A will accept (A's reservation value for war).[23]

3.1 Results

Public Diplomacy

First, note that since war is costly, and the leader avoids audience costs by standing firm, the leader always prefers to attempt peace by standing firm with the low offer that is accepted by the weak type rather than enter war directly. To see this note that if no offer is accepted then the leader's payoff is $u_L(\Pi_A|q) = q(-p_L w - c_A) + (1-q)(p_H w - c_A)$. If the low offer is accepted, then the leader's payoff is $u_L(\Pi_L|q) = q(-p_L w + c_B) + (1-q)(-p_H w - c_A)$. Since $u_L(\Pi_A|q) < u_L(\Pi_L|q)$ is always true, the leader prefers to make the low offer: in standing firm with the low offer, the leader gains by reducing the settlement by the enemy's cost of war, c_B, and avoids paying his own costs of war, c_A. In other words, since war is costly, the leader prefers to stand firm with the low offer rather than fail to resolve the crisis.[24]

Second, since the leader will pay audience costs only if he backs down, the leader is always better off by making any acceptable offer *initially* and standing firm. Therefore the leader has only two possible equilibrium strategies: to stand firm with the low

[23] This value varies depending on A's beliefs about whether $p = p_L$ or $p = p_H$, and is specified in the appendix where applicable.

[24] When $q = 0$ the leader is indifferent between the low offer and an unacceptable offer, and for all other values of $q > 0$ the leader makes the low offer.

offer, or stand firm with the high offer. The enemy's best response is for the strong type to accept the high offer and reject the low offer, and for the weak type to accept either offer. Given this best response, the leader prefers to make the low offer if:

$$\begin{aligned} EU_A(\Pi_L, \text{ stand firm}) &\geq EU_A(\Pi_H, \text{ stand firm}) \\ q &\geq \frac{c_A + c_B}{w(p_H - p_L) + c_A + c_B} \equiv q_1^*. \end{aligned}$$

When the enemy is likely to be a weak type, $q > q_1^*$, the leader stands firm with a low offer, and accepts a risk of war against the less likely strong type. War occurs with probability $1 - q$. And when the enemy is likely to be strong, $q < q_1^*$, the leader stands firm with a high offer that secures peace against both types. Proposition 1 states the equilibrium for public diplomacy.

Proposition 1. *The unique equilibrium in public diplomacy is as follows, where* $q_1^* = \frac{c_A + c_B}{w(p_H - p_L) + c_A + c_B}$*:*

- *When* $q < q_1^*$*, the leader makes an initial offer of* Π_H*, both types of B accept, the leader fights if B rejects. War does not occur.*
- *When* $q \geq q_1^*$*, the leader makes an initial offer of* Π_L*, the weak type accepts, the strong type rejects, the leader fights if B rejects. The probability of war is given by the probability of a strong type,* $1 - q$*.*

Secret Diplomacy

As in public diplomacy, since war is costly, the leader will always be better off if he stands firm with the low offer and avoids war as long as he can also avoid audience costs. If the leader did not avoid audience costs, then the gains from reducing the settlement by the enemy's costs of war would not be worth it: since audience costs

close the bargaining space that exists between the two countries' reservation values for war, when the leader will pay audience costs, the leader prefers to stand firm. Second, as in public diplomacy, the leader makes only the high or low offer since as long as an offer will be accepted, the leader prefers that this offer be minimally acceptable offer.

Unlike public diplomacy, where the leader can avoid audience costs only if he stands firm, here the leader often can avoid audience costs while backing down secretly. Therefore, if the leader stands firm and the audience does not punish the leader (since he is standing firm), then the leader can profit from a deviation to backing down privately – this breaks any potential equilibrium. This deviation is rational because war is ex post inefficient: there is always a settlement that is preferred to war as long as audience costs do not close the bargaining space. In fact, even if the leader had made the high offer initially, if the leader can avoid audience costs, the leader would prefer to back down with an *even higher* offer. In sum, when audience costs are not a threat, the bargaining space remains open and the leader will secretly back down.

This limits the potential equilibria. First, any equilibrium in which the leader makes the high offer initially and the audience does not punish is possible if and only if both types of enemy accept that initial offer – since this removes the possibility for the leader to back down by moving the enemy's rejection of the initial to off the equilibrium path. The leader's expected payoff for standing firm to a rejection off the equilibrium path is $\mu(-p_L w) + (1-\mu)(-p_H w) - c_A$, and his payoff for backing down is $-p_H w + c_B - \Delta_S$, where the leader's beliefs μ are undefined. The leader will stand

firm, and this is an equilibrium, if:

$$\mu \geq \frac{c_A + c_B - \Delta_S}{w(p_H - p_L)}.$$

Since this is possible for any concessions, $\Delta > 0$, this is an equilibrium as long as μ, the leader's beliefs off the equilibrium path that the enemy is weak is sufficiently high.

Second, in any equilibrium in which the leader makes the low offer and is not punished by his domestic audience, the enemy's best response cannot be for the weak type to accept and the strong type to reject. If it were, then the leader – believing that he faces the strong enemy if he observes rejection, and knowing that he will not face audience costs since he is supposed to stand firm – would deviate to backing down secretly. Instead, the weak type must mix between accepting and rejecting the low offer.

Three things can be deduced about this equilibrium. First, the weak enemy must accept the low offer sometimes, since if no enemy accepts the initial offer, then the audience punishes the leader if they observe a settlement, and thus the leader prefers to enter war. Second, the strong type accepts the back down offer, otherwise, the leader would not back down. Thus, third, that offer must be at least Π_H since the strong type accepts. Therefore, the leader must mix between standing firm with an offer, π_S, and backing down with Δ_S such that $\pi_S + \Delta_S = \Pi_H$. Thus, to see what occurs I prove the following claim:

Claim. *There exists an equilibrium in which the leader mixes between standing firm with an initial offer of π_S, and backing down to offer $\Delta_S = \Pi_H - \Pi_L$, the weak type mixes between accepting and rejecting the initial offer, the strong type rejects the initial*

offer, both types accept the back down offer, and the audience does not punish.

Proof. First, for the weak enemy to mix, the leader must stand firm with a probability that makes the weak type indifferent between accepting and rejecting the initial offer:

$$f = \frac{\pi_S - p_H w + c_B}{w(p_H - p_L)}.^{25}$$

Given the above strategy, the leader updates his beliefs that the enemy is weak $\mu = \frac{q(1-a)}{1-qa}$ where a is the probability that the weak type accepts the initial offer. Since both types will accept the back down offer and the audience does not punish, the leader mixes between backing down and standing firm if the following is true:

$$\mu(-p_L w - c_A) + (1-\mu)(-p_H w - c_A) = -p_H w + c_B,$$

where substitution of μ gives the following value for the probability that the weak type accepts the initial offer,

$$a^* = \frac{qw(p_H - p_L) - c_A - c_B}{q(w(p_H - p_L) - c_A - c_B)},$$

and where $a^* \in [0,1]$ if and only if:

$$q \geq \frac{c_A + c_B}{p_H w - p_L w} \equiv q_2^*. \tag{1}$$

Given the strategies for the leader and the enemy, upon observing a settlement, the audience updates its beliefs κ that the leader stood firm:

$$\kappa = \frac{qa}{qa + (1-f)(1-qa)}.$$

Note that the audience does not punish the leader for a range of initial settlement offers as long as they are low enough, $\pi_s \leq \pi_{S1}$. This is because the audience does not punish the leader if $\kappa \geq \frac{1}{2}$, and substitution of a^* and f give the following constraints on π_S:

$$\pi_S \leq p_L w - c_B + \frac{qw(p_H - p_L) - c_A - c_B}{1 - q} \equiv \pi_{S1}.$$

Therefore, any π_S such that $\Pi_L \leq \pi_S \leq \pi_{S1}$ is permissible for this to be an equilibrium in which the leader avoids punishment.

The leader's expected utility given any offer π_S is:

$$\begin{aligned} EU_A(\pi_S) = \; & q[a(-\pi_S) + (1-a)[f(-p_L w - c_A) + (1-f)(-p_H w + c_B)]] \\ & + (1-q)[f(-p_H w - c_A) + (1-f)(-p_H w + c_B)], \end{aligned}$$

which reduces to the following upon substitution of a^* and f^*:

$$= -\pi_s \Big[\frac{qw(p_H - p_L) - c_A - c_B}{w(p_H - p_L) - c_A - c_B}\Big] - (p_H w - c_B)\Big[\frac{(1-q)w(p_H - p_L)}{w(p_H - p_L) - c_A - c_B}\Big].$$

Note that since $\frac{qw(p_H - p_L) - c_A - c_B}{w(p_H - p_L) - c_A - c_B} > 0$ as established by the inequality given in (1), the leader's expected utility is decreasing with respect to π_S. The leader sets π_S to be as low as possible, $\pi_S = \Pi_L$. However, since $f^* = \frac{\pi_S - p_H w + c_B}{w(p_H - p_L)}$ this means that $f^* = 1$ and therefore the leader does not back down.

Surprisingly, the leader stands firm with a low offer that even the weak type sometimes rejects. War occurs if the enemy is a strong type, and sometimes when the enemy is a weak type. The probability of war is:

$$q(1 - a^*) + 1 - q = \frac{(1-q)w(p_H - p_L)}{w(p_H - p_L) - c_A - c_B}.$$

This is establishes Lemma 1. □

Lemma 1. *When* $q > q_2^*$ *where* $q_2^* = \frac{c_A+c_B}{w(p_H-p_L)}$*, the leader makes the low offer and stands firm. The weak enemy accepts the initial offer with probability* $a^* = \frac{qw(p_H-p_L)-c_A-c_B}{q(w(p_H-p_L)-c_A-c_B)}$*, the strong enemy rejects the low offer. The audience does not punish with beliefs* $\kappa = 1$*. The probability of war is* $\frac{(1-q)w(p_H-p_L)}{w(p_H-p_L)-c_A-c_B}$*.*

Alternatively the leader can stand firm with the high offer. Note that the leader's expected utility under the equilibrium described by Lemma 1 is:

$$EU_A(\Pi_L) = -\Pi_L\Big[\frac{qw(p_H-p_L)-c_A-c_B}{w(p_H-p_L)-c_A-c_B}\Big] - (p_Hw-c_B)\Big[\frac{(1-q)w(p_H-p_L)}{w(p_H-p_L)-c_A-c_B}\Big].$$

The leader's utility when he stands firm with the high offer is $-p_Hw+c_B$. A comparison of these expected utilities indicates that the leader prefers to make the low offer when weak types are sufficiently likely, when $q \geq q_2^*$, which risks war. When $q < q_2^*$ the leader stands firm with the high offer which both types accept. Proposition 2 states the unique equilibrium in secret diplomacy.

Proposition 2. *The unique equilibrium in secret diplomacy is as follows, where* $q_2^* = \frac{c_A+c_B}{w(p_H-p_L)}$*:*

- *When* $q < q_2^*$*, the leader makes an initial offer of* Π_H*, both types of B accept, the leader fights if B rejects. War does not occur.*
- *When* $q \geq q_2^*$*, the leader makes an initial offer of* Π_L*, the weak type accepts with probability* $a^* = \frac{qw(p_H-p_L)-c_A-c_B}{q(w(p_H-p_L)-c_A-c_B)}$*, the strong type rejects, the leader fights if B rejects, the audience does not punish. The probability of war is* $\frac{(1-q)w(p_H-p_L)}{w(p_H-p_L)-c_A-c_B}$*.*

Comparing the Models

Results for Bilateral Bargaining

How does secrecy affect the likelihood of war and the size of the settlement? Figure 3 shows the settlements offered across different regions of q, where q is the probability that the enemy is a weak type. Figure 4 shows the corresponding probability of war given these settlement offers. When strong enemies are likely, $q < q_1^*$, the equilibria in public and secret diplomacy are equivalent: the leader makes the high offer, both types accept, and there is no war. In the center region, $q_1^* < q < q_2^*$, under public diplomacy the leader stands firm with a low offer and accepts a risk of war against a strong enemy who rejects that offer. However, under secret diplomacy – in needing to stand firm to avoid domestic punishment – the leader secures peace against both types with a high offer. When weak enemies are likely, $q > q_2^*$, under both public and secret diplomacy the leader stands firm with a low offer, but in this region the likelihood of war is greater under secret diplomacy. This is because war occurs against strong types under public diplomacy, but in secret diplomacy war occurs against both strong types and sometimes weak types.[26] Therefore, for bilateral bargaining, secrecy has mixed results – secrecy can make war more or less likely depending on where one is in the parameter space of q. These comparisons are state in Corollary 1.

Corollary 1. *In bilateral bargaining, where* $q_1^* = \frac{c_A+c_B}{w(p_H-p_L)+c_A+c_B}$ *and* $q_2^* = \frac{c_A+c_B}{w(p_H-p_L)}$*:*

- *when* $q < q_1^*$*, secret and public diplomacy are equivalent,* $\Psi_D = \Psi_S = 0$ *and* $\Pi_D = \Pi_S = \Pi_H$*,*
- *when* $q_1^* < q < q_2^*$*, secret diplomacy reduces the probability of war but at a higher price,* $\Psi_D = 1 - q$*,* $\Psi_S = 0$*,* $\Pi_D = \Pi_L$ *and* $\Pi_S = \Pi_H$*,*
- *when* $q > q_2^*$*, secret and public diplomacy result in the same settlement but secret diplomacy gives a higher probability of war,* $\Psi_D = 1 - q$*,* $\Psi_S = \frac{(1-q)w(p_H-p_L)}{w(p_H-p_L)-c_A-c_B}$

[26] Under public diplomacy the probability of war is $1 - q$ which is less than the probability of war under secrecy diplomacy, $\frac{(1-q)w(p_H-p_L)}{w(p_H-p_L)-c_A-c_B}$, since $w(p_H - p_L) > w(p_H - p_L) - c_A - c_B$.

and $\Pi_D = \Pi_S = \Pi_L$,

where Ψ_Ω *represents the probability of war under diplomatic process* Ω.

The Ex Ante Probability of War

Since secrecy increases or decreases war depending on where one is in the parameter space, one might also be interested in the *ex ante* probability of war – the overall probability of war before the type of enemy is drawn.

If we assume that q is uniformly distributed, then

War is *ex ante* less likely under public diplomacy if:

$$1 - q_1^* < (1 - q_2^*) \left(\frac{w(p_H - p_L)}{w(p_H - p_L) - c_A - c_B} \right).$$

And if $q_2^* < 1$, then this is always true, since:

$$\left(\frac{w(p_H - p_L)}{w(p_H - p_L) + c_A + c_B} \right) < 1.$$

Therefore, when $q_2^* < 1$, then the ex ante probability of war is higher under secrecy, however, when $q_2^* \geq 1$, which occurs if $\frac{c_A + c_B}{w} \geq p_H - p_L$, then war is lower under secrecy. In fact, in this case secrecy guarantees peace. This is seen in Figure 5. Thus, the relationship between secrecy and war hinges on the relationship between the total costs of war, $(c_A + c_B)/w$, in relation to the stakes of war, and the difference between a strong and weak enemy, $p_H - p_L$. This is stated in Corollary 2 and I further describe its implications below.

Corollary 2. *Assuming that* q *is uniformly distributed, where* $q_2^* = \frac{c_A + c_B}{w(p_H - p_L)}$,

- *when* $q_2^* < 1$, *the ex ante probability of war is higher under secret diplomacy,*

$\Psi_{S(ex\ ante)} = 1 - q$,

- *when* $q_2^* \geq 1$, *the ex ante probability of war is lower under secret diplomacy,* $\Psi_{S(ex\ ante)} = 0$.

4 Implications for Crisis Bargaining

The results of the model comport with, and also qualify, the existing mechanisms within the literature. The literature finds that the threat of domestic audience costs helps leaders demonstrate their credibility when they escalate threats, but also commits these leaders to uncompromising bargaining positions which can lock them into wars – this opens up the ability for leaders to back down secretly and secure peace. Importantly, first, I find that this is false: if domestic audiences rationally determine whether to punish leaders upon observing that settlements were reached through secret bargains, then leaders who face audience costs *stand firm* behind closed doors. Second, note that the effects of secrecy on war when leaders face audience costs are unclear: secrecy might increase war if leaders *take risks* that they would not take publicly, or secrecy might promote peace if leaders *reach compromises* that they could not make publicly. I show that both of these effects are supported: leaders reach compromises in secrecy that could not be reached publicly, which reduces war, and leaders take risks standing firm with offers that increase war. Thus, secrecy has mixed effects on war, but importantly, I also show that each of these mechanisms occurs only *under specific circumstances*. To understand this, I begin by outlining the effects of secrecy on bilateral bargaining, and then move to implications for peace in the international system.

Consider the example of the Cuban Missile Crisis in which a war with the Soviet Union

was a risk, and Kennedy faced uncertainty about how disastrous that war might be. In the model this is represented by the leader's uncertainty over whether the enemy is a strong or weak type – a war could be more or less disastrous. Suppose Kennedy thought that war would be quite disastrous (the enemy is likely to be strong). The results under this condition can be seen in Figures 3 and 4 where the probability of a weak type, q, is low. The settlements seen in Figure 3 show that when the enemy is very likely to be strong, Kennedy makes a high offer regardless of how public or secret is diplomacy. This high offer can be thought of as a compromise that both countries prefer to war: it is equivalent to the strong type's reservation value for war, which makes the strong type indifferent between war and peace, and it is also less costly than the expected value of war for country A. The models show that regardless of the type of diplomacy, Kennedy makes the offer that even a strong Soviet Union would accept, and that is less costly to the U.S. than war – even with the domestic political cover of secret diplomacy, Kennedy stands firm with a compromise.

However, note that the high offer is made more easily – under a larger region of the parameter space q – when diplomacy is secret. Even when Kennedy is *less certain* that the Soviet Union is a strong, or that war would end badly for the U.S. Kennedy can secure peace with the compromise that both prefer to war. Thus, *secrecy encourages peace, but not because the leader is likely to back down – secrecy gives the leader leeway to offer a compromise even when he is less certain of how disastrous a war might be.* The reduced probability of war from secrecy can be seen in Figure 4.

Three lessons can be drawn. First, when the leader's public would most want to avoid war – when the enemy is strong or when war will be very costly – secrecy enhances public welfare. Second, given this example, does secrecy encourage leaders *to take risks* or allow leaders *to reach compromise*? In other words, did steely-eyed

Kennedy stare down Khrushchev behind closed doors or did he strive for compromise? The results suggest that perhaps Kennedy did both: *standing firm with a high offer is observationally equivalent to making a compromise that both prefer to war while staring down the opponent.* Third, when leaders are threatened by post-settlement domestic accountability, leaders take a firm stance when bargaining secretly, even when that enemy is likely to be strong.

The caveat is that while the leader's firm stance makes peace more likely when the enemy is thought to be *strong*, if the enemy is thought to be *weak* then a leader's firm stance in secrecy increases war. According to the results, Kennedy stands firm against a likely weak enemy with a risky low offer that even a weak Soviet Union – who would accept this low offer in public diplomacy – would sometimes reject in secret diplomacy. Since this offer is rejected by strong enemies always, and by weak enemies sometimes, secret diplomacy results in war more often. It would appear that this risk seems unnecessary: the leader takes a risk on an offer that makes war more likely under secrecy with no gain in terms of the size of the settlement lost. This is seen in Figures 3 and 4 when the probability of a weak type, q, is high. This behavior fits with the intuition that a leader who faces domestic accountability might use secrecy to take unnecessary risks – which occurs in equilibrium when the enemy is likely to be weak.

Since secrecy can either increase or decrease war depending on where one is located in the parameter space of q, it is useful to ask what determines the relative position of q_2^* – the critical threshold that determines whether secrecy makes war more likely, or can provide peace where public diplomacy may fail. This threshold is defined by the relationship between total costs of war relative to the stakes of war, $(c_A + c_B)/w$, and the difference between a strong and weak enemy, $p_H - p_L$. Suppose that one is

uncertain of whether an enemy is very likely to win in war *or* is limited to a small scale war. When bargaining with this enemy, there is a significant difference the war that is fought with an enemy who turns out to be strong and the enemy who is weak. This large difference between types of enemies means that the consequences of standing firm with a low offer to a strong enemy can be severe: this diplomatic blunder might result in a losing war. The scenario in which this blunder is more likely is one where secrecy encourages a leader to stand firm with a risky low offer. That is, when the *difference in enemies* is sufficiently high – when this difference is greater than the costs of war relative to the stakes, $p_H - p_L > (c_A + c_B)/w$ – then that threshold q_2^* approaches zero, and secrecy increases war.[27] This is given in the shaded portion of Figure 5, where the difference in enemies is large. Alternatively, if one were fairly certain of the enemy's capabilities (the difference in enemies is small) or if the costs of war are large, then $p_H - p_L < (c_A + c_B)/w$, and secrecy reduces war.

Consider how this relates to the balance of power in the international system. When power is balanced, then the difference between a strong and weak enemy are small relative to this difference when power is unbalanced. For example, during the Cold War, when the U.S. and Soviet Union were roughly balanced in that both had nuclear capabilities, the differences between whether the Soviet Union was likely or unlikely to win was inconsequential relative to the fact that a nuclear war would be devastating, $p_H - p_L < (c_A + c_B)/w$. According to the results of the model, one reason that the Cold War may have been relatively "peaceful" may be due to the increased costs of war with the advent of nuclear weapons and the maintenance of secret diplomacy. Secret diplomacy allowed leaders of the U.S. and Soviet Union to reach compromises short of war, even though crises arose and regular bargaining was necessary to diffuse

[27] One exists in the parameter space of q where $q > q_2^*$ where secrecy results in a higher risk of war as seen in Figure 4).

tensions. Secrecy prevented crises from escalating to war.

Further, consider the consequences of a *secret* Iranian nuclear program. In this model, Israeli uncertainty about whether Iran has a nuclear weapon, and likewise, Iranian uncertainty about whether Israel has a nuclear weapon, means that the difference between enemies is large. Depending on how costly each side views war, which determines whether the following inequality may be true or false, $p_H - p_L > (c_A + c_B)/w$, may indicate that secret diplomacy to diffuse tensions can increase the risk of war. Since, as argued earlier, secret diplomacy is an unavoidable aspect of crisis bargaining – there are numerous reasons to maintain options for secret channels – one implication is that open policies about nuclear capabilities, which reduces uncertainty, can place leaders into positions where secrecy encourages the peaceful diffusion of tensions.

Finally, since the *ex ante* probability of war – the probability of war before types are drawn – can be thought of as the risk of war before a country realizes its enemies, the above logic gives implications for the effects of secrecy and its complement, transparency, on the international system. Namely, the balance of power may not be as deterministic of peace and global stability as the norms of diplomacy that underlie the diffusion of crises within that balance.

5 Conclusion

Secret diplomacy persists in crisis bargaining for a host of reasons including the advantages of maintaining private information, and the need to keep information from certain enemies secret while revealing that same information to others. With this persistence despite increased demands for transparency, concerns are often raised:

how do political leaders behave in secret bargaining; how do secret talks affect war; and does secret diplomacy ultimately harm or benefit public welfare? By contrasting the results of public diplomacy to secret diplomacy, this paper reveals theoretical answers to these questions and results for crisis bargaining that could not be gathered from empirical observation.

While intuitively leaders who face audience costs might use secret diplomacy to back down, the models show that leaders who bargain secretly *stand firm* with the same offers that are made in public diplomacy. This is because, as in public diplomacy, leaders prefer to avoid domestic costs, and prefer to offer only the minimum that will likely be accepted. The key difference in leader behavior is when the leader makes these offers: in secret diplomacy, the leader makes a high offer that secures peace more often. Secrecy puts a lower demand about the consequences of a war (the type of enemy) the leader believes he confronts – in public diplomacy a high offer is made only if the war will truly be disastrous (when the enemy is almost certainly strong), and in secret diplomacy a high offer can be made even if the leader is less certain that the war will indeed be disastrous.

However, when enemies are likely to be weak, secrecy encourages the leader to stand firm with a low offer that sometimes the weak enemy rejects, even though this offer would be accepted by the weak enemy if negotiations were public. Here, secrecy encourages the leader to stand firm with a risky low offer that can make war more likely. Therefore, in bilateral bargaining, secrecy can secure peace more often when the enemy is likely to be strong by encouraging leaders to stand firm with compromises that both countries prefer to war, but sometimes secrecy can also increase the risks of war by encouraging leaders to make risky low offers. Interestingly, this also shows that the effects of secret bargaining do not alter the behavior of the leader as much

as the behavior of the enemy: in a sense, secret bilateral bargaining can encourage weak enemies to demand more.

The results for public welfare indicate the the public faces a trade-off in secret diplomacy that depends on the size of the settlement and the prospects for peace. While secrecy yields a higher probability of peace when faced with an enemy that is likely to be strong, this peaceful settlement comes at a higher price than if a bargain were reached publicly. Of course, this settlement price is still better than the costs of war. Alternatively, when the enemy is likely to be weak, public and secret diplomacy result in the same settlement, but secrecy makes war more likely.

Since secret diplomacy can make war more or less likely depending on whether one believes one faces a strong or weak enemy, these results provide insight into stability in the international system. When the difference between enemies is large – a strong and weak enemy are quite different – secrecy increases war. However, when the difference between enemies is small, which might occur when power is balanced or when uncertainty is reduced (when capabilities are known), then secret diplomacy reduces war. Finally, if the total costs of war are high – for instance if a nuclear war is at stake – then secrecy opens up a channel to diffuse tensions and prevent wars. This suggests that the balance of power is not as deterministic of peace and stability in the international system as has been argued in the past – the norms of diplomacy can be the difference between a truly dangerous situation and a peaceful one.

6 Appendix

6.1 Additional Proofs

Public Diplomacy

Proof that the leader stands firm with the high offer. Suppose the leader's initial offer is Π_H. Let μ represent the leader's beliefs that the enemy who rejects is a weak type, $p = p_L$. The leader's expected utility for standing firm is:

$$EU_A(F|\mu) = \mu(-p_L w) + (1-\mu)(-p_H w) - c_A.$$

Note that they only way that backing down makes any difference to the leader is if B accepts the back down offer. After all, if B rejects then the two states go to war, which is the same outcome as when the leader stands firm. The leader's utility for backing down if B accepts is the following where Δ_D is the added concession:

$$EU_A(BD, \text{B accepts}) = -\Pi_H - \Delta_D - \alpha.$$

To see that the leader will stand firm if Π_H is rejected:

$$\begin{gathered}\mu(-p_L w) + (1-\mu)(-p_H w) - c_A \geq -p_H w + c_B - \Delta_D - \alpha \\ \mu(p_H w - p_L w) + \Delta_D \geq c_A + c_B - \alpha.\end{gathered}$$

Since $\alpha > c_A + c_B$ the right side of the inequality is negative, and since $\mu \in [0,1]$, $p_H w > p_L w$, and $\Delta_D > 0$ the left side of the inequality is positive. Therefore, the above inequality always holds, and the leader will stand firm with Π_H. The best response for both types of B is to accept the initial offer. □

Proof that the leader stands firm with the low offer. Suppose the leader's initial offer is Π_L. If B rejects this offer, then the leader updates his beliefs, $\mu = 0$, and the enemy must be a strong type. The leader could make the high offer (but pay audience costs), or he could stand firm and go to war. The leader will stand firm if:

$$\begin{gathered}-p_H w - c_A \geq -p_H w + c_B - \alpha \\ \alpha \geq c_A + c_B.\end{gathered}$$

Therefore, since the leader will have to pay audience costs and $\alpha > c_A + c_B$, the leader stands firm. The weak type accepts the low offer and the strong type rejects. □

Secret Diplomacy

Proof of Lemma 1. For the weak type to mix, the leader must stand firm with a probability that makes the weak type indifferent between accepting and rejecting the initial offer:

$$\begin{aligned} EU_{p_L}(Accept|\pi_S) &= EU_{p_L}(Reject|\pi_S, \Delta_S, f) \\ \pi_S &= f(p_L w - c_B) + (1-f)(p_H w - c_B) \\ \pi_S &= f(p_L w - p_H w) + p_H w - c_B \\ f &= \frac{\pi_S - p_H w + c_B}{p_L w - p_H w}. \end{aligned}$$

where $f \geq 0$ if $\pi_S \leq p_H w - c_B \equiv \Pi_H$ and $f \leq 1$ if $\pi_S \geq p_L w - c_B \equiv \Pi_L$.

Upon observing B reject the the initial offer, the leader updates his belief that the enemy is weak according to Bayes' Rule:

$$\mu = \frac{q(1-a)}{q(1-a)+1-q} = \frac{q(1-a)}{1-qa}.$$

Given that both types will accept the back down offer and that the audience does not punish, the leader mixes between backing down and standing firm if:

$$\begin{aligned} EU_A(F|\mu) &= EU_A(BD|\mu, \Pi_H, \Psi = 0) \\ \mu(-p_L w - c_A) + (1-\mu)(-p_H w - c_A) &= -p_H w + c_B \\ \mu(p_H w - p_L w) &= c_A + c_B \\ \mu &= \frac{c_A + c_B}{p_H w - p_L w}. \end{aligned}$$

Substitution of μ indicates that the weak type must accept the initial offer with the following probability for the leader to mix:

$$\begin{aligned} \frac{q(1-a)}{1-qa} &= \frac{c_A + c_B}{p_H w - p_L w} \\ q(1-a)(p_H w - p_L w) &= (1-qa)(c_A + c_B) \\ q(p_H w - p_L w) - qa(p_H w - p_L w) &= c_A + c_B - qa(c_A + c_B) \\ q(p_H w - p_L w) - c_A - c_B &= qa(p_H w - p_L w - c_A - c_B) \\ a^* &= \frac{q(p_H w - p_L w) - c_A - c_B}{q(p_H w - p_L w - c_A - c_B)}. \end{aligned}$$

Note that the specification for a^* provides a few restrictions. First, if $p_H w - p_L w - c_A - c_B > 0$, then $a^* \geq 0$ if:

$$q(p_H w - p_L w) - c_A - c_B \geq 0$$

$$q \geq \frac{c_A + c_B}{p_H w - p_L w} \equiv q_2^*$$

and $a \leq 1$ if:

$$q(p_H w - p_L w) - c_A - c_B \leq q(p_H w - p_L w - c_A - c_B)$$
$$-c_A - c_B \leq q(-c_A - c_B)$$
$$q \leq 1.$$

Second, it is never true that $p_H w - p_L w - c_A - c_B < 0$. To see this, note that if this were true, then $a \leq 1$ if only if $q \geq 1$ (since the above inequalities reverse). Since q can be at most 1, this is not a mixed strategy equilibrium ($a = 1$ only when $q = 1$). Therefore, $a^* \in [0, 1]$ if and only if $p_H w - p_L w - c_A - c_B > 0$, and $q \geq q_2^*$.

Given the strategies of the enemy and the leader, upon observing a settlement, the audience's beliefs that the leader stood firm are:

$$\kappa = \frac{qa}{qa + (1-f)[q(1-a) + 1 - q]} = \frac{qa}{qa + (1-f)(1-qa)}.$$

The audience does not punish the leader if $\kappa \geq \frac{1}{2}$, which is true if:

$$2qa \geq qa + (1-f)(1-qa)$$
$$qa \geq (1-f)(1-qa)$$

Substitution of a^* gives:

$$\frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B} \geq (1-f)\Big(1 - \frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B}\Big)$$
$$\frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B} \geq (1-f)\Big(\frac{(1-q)(p_H w - p_L w)}{p_H w - p_L w - c_A - c_B}\Big)$$

Since $p_H w - p_L w - c_A - c_B > 0$:

$$q(p_H w - p_L w) - c_A - c_B \geq (1-f)(1-q)(p_H w - p_L w)$$

Substitution of f gives:

$$q(p_H w - p_L w) - c_A - c_B \geq \Big(1 - \frac{\pi_S - p_H w + c_B}{p_L w - p_H w}\Big)(1-q)(p_H w - p_L w)$$
$$q(p_H w - p_L w) - c_A - c_B \geq \Big(\frac{p_L w - \pi_S - c_B}{p_L w - p_H w}\Big)(1-q)(p_H w - p_L w)$$
$$q(p_H w - p_L w) - c_A - c_B \geq (-p_L w + \pi_S + c_B)(1-q)$$

$$q(p_H w - p_L w) - c_A - c_B + (1-q)(p_L w - c_B) \geq \pi_S(1-q).$$

The audience does not punish as long as the initial offer is low enough:

$$\pi_S \leq p_L w - c_B + \frac{q(p_H w - p_L w) - c_A - c_B}{1-q} \equiv \pi_{S1}.$$

Since $q(p_H w - p_L w) - c_A - c_B > 0$, we know that $\pi_{S1} > \Pi_L$, therefore there exists π_S such that $\Pi_L \leq \pi_S \leq \pi_{S1}$. Further, $\pi_{S1} < \Pi_H$ if:

$$\begin{aligned}
p_L w - c_B + \frac{q(p_H w - p_L w) - c_A - c_B}{1-q} &\leq p_H w - c_B \\
\frac{q(p_H w - p_L w) - c_A - c_B}{1-q} &\leq p_H w - p_L w \\
q(p_H w - p_L w) - c_A - c_B &\leq (1-q)(p_H w - p_L w) \\
-c_A - c_B &\leq (1-2q)(p_H w - p_L w),
\end{aligned}$$

which is always true. Therefore, any π_S such that $\Pi_L \leq \pi_S \leq \pi_{S1}$ is permissible for this to be an equilibrium in which the audience does not punish.

What does the leader offer? Given the chances that the weak type accepts, a, the leader's probability of standing firm, f, and the audience's strategy to not punish, the leader's expected utility is:

$$\begin{aligned}
EU_A(\pi_S|a,f) = \; & q[a(-\pi_S) + (1-a)[f(-p_L w - c_A) + (1-f)(-p_H w + c_B)]] \\
& + (1-q)[f(-p_H w - c_A) + (1-f)(-p_H w + c_B)] \\
\\
= & -qa\pi_S + q(1-a)[f(-p_L w - c_A) + (1-f)(-p_H w + c_B)] \\
& + (1-q)[-p_H w + c_B - f(c_A + c_B)] \\
\\
= & -qa\pi_S + q(1-a)[-p_H w + c_B + f(p_H w - p_L w - c_A - c_B)] \\
& + (1-q)[-p_H w + c_B + f(-c_A - c_B)] \\
\\
& \text{Let } x = p_H w - p_L w - c_A - c_B, \\
\\
= & -qa\pi_S + q(1-a)(-p_H w + c_B) + q(1-a)fx \\
& + (1-q)(-p_H w + c_B) - (1-q)f(c_A + c_B) \\
\\
= & -qa\pi_S + f\Big[q(1-a)x - (1-q)(c_A + c_B)\Big] \\
& - (p_H w - c_B)(1 - qa)
\end{aligned}$$

Substitution of $a^* = \frac{q(p_H w - p_L w) - c_A - c_B}{q(p_H w - p_L w - c_A - c_B)}$ gives:

$$
\begin{aligned}
&= -\pi_s \Big[\frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B}\Big] \\
&\quad + f\Big[qx - q(p_H w - p_L w) + c_A + c_B - (1-q)(c_A + c_B)\Big] \\
&\quad - (p_H w - c_B)\Big[1 - \frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B}\Big]
\end{aligned}
$$

Since $qx - q(p_H w - p_L w) + c_A + c_B - (1-q)(c_A + c_B) = 0$, and $1 - \frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B} = \frac{(1-q)(p_H w - p_L w)}{p_H w - p_L w - c_A - c_B}$, the leader's expected utility simplifies to:

$$= -\pi_s \Big[\frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B}\Big] - (p_H w - c_B)\Big[\frac{(1-q)(p_H w - p_L w)}{p_H w - p_L w - c_A - c_B}\Big].$$

Since $\frac{q(p_H w - p_L w) - c_A - c_B}{p_H w - p_L w - c_A - c_B} > 0$, the leader's expected utility is decreasing with respect to π_S. The leader therefore sets π_S to be as low as possible: $\pi_S = \Pi_L$, but this means that the leader never backs down, $f^* = 1$, the weak type accepts the initial offer with probability $a^* = \frac{q(p_H w - p_L w) - c_A - c_B}{q(p_H w - p_L w - c_A - c_B)}$, the strong type does not accept the initial offer, the audience does not punish, and this is an equilibrium when $q \geq q_2^*$. □

6.2 Figures

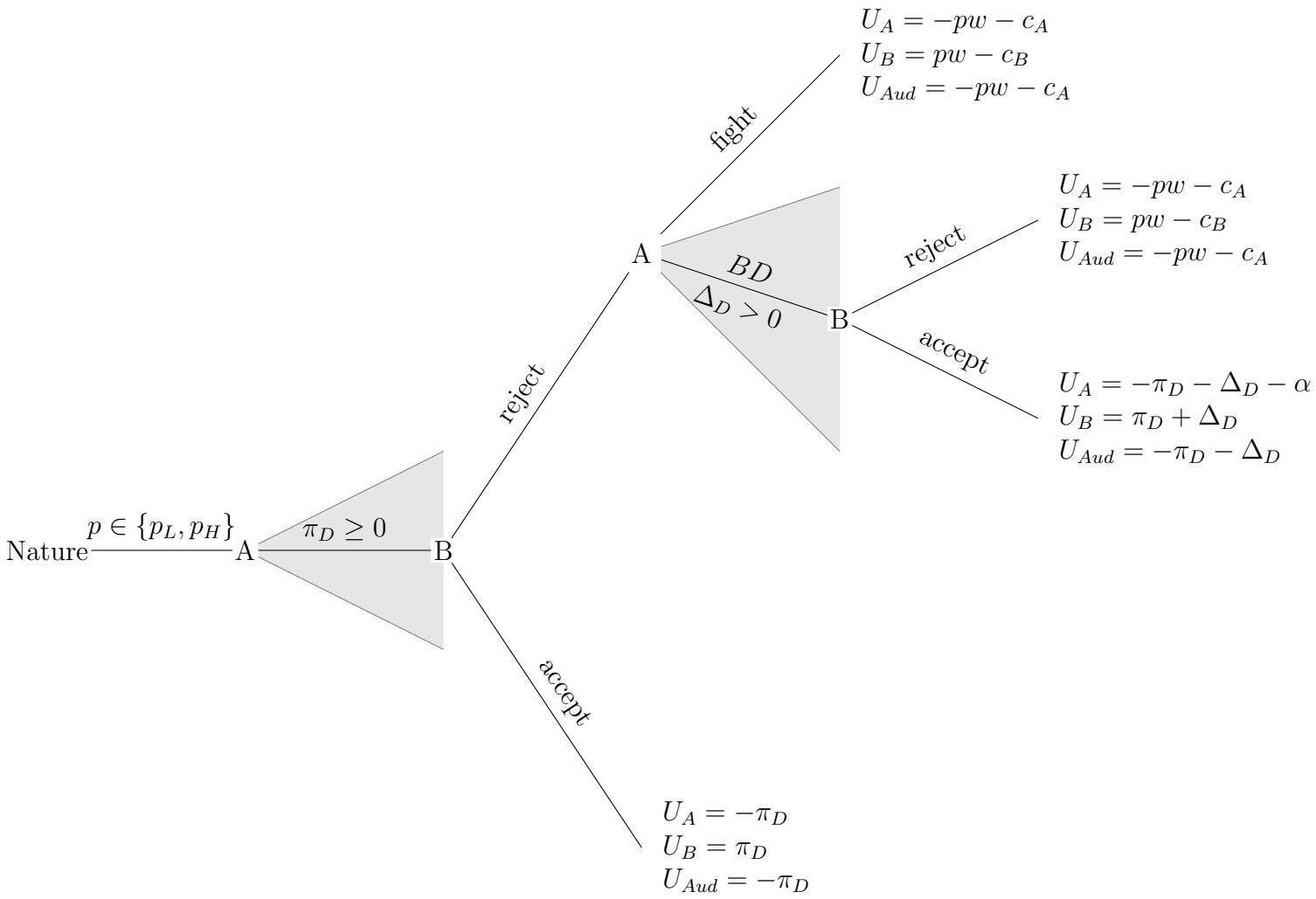

Figure 1: Public Diplomacy with Audience Costs

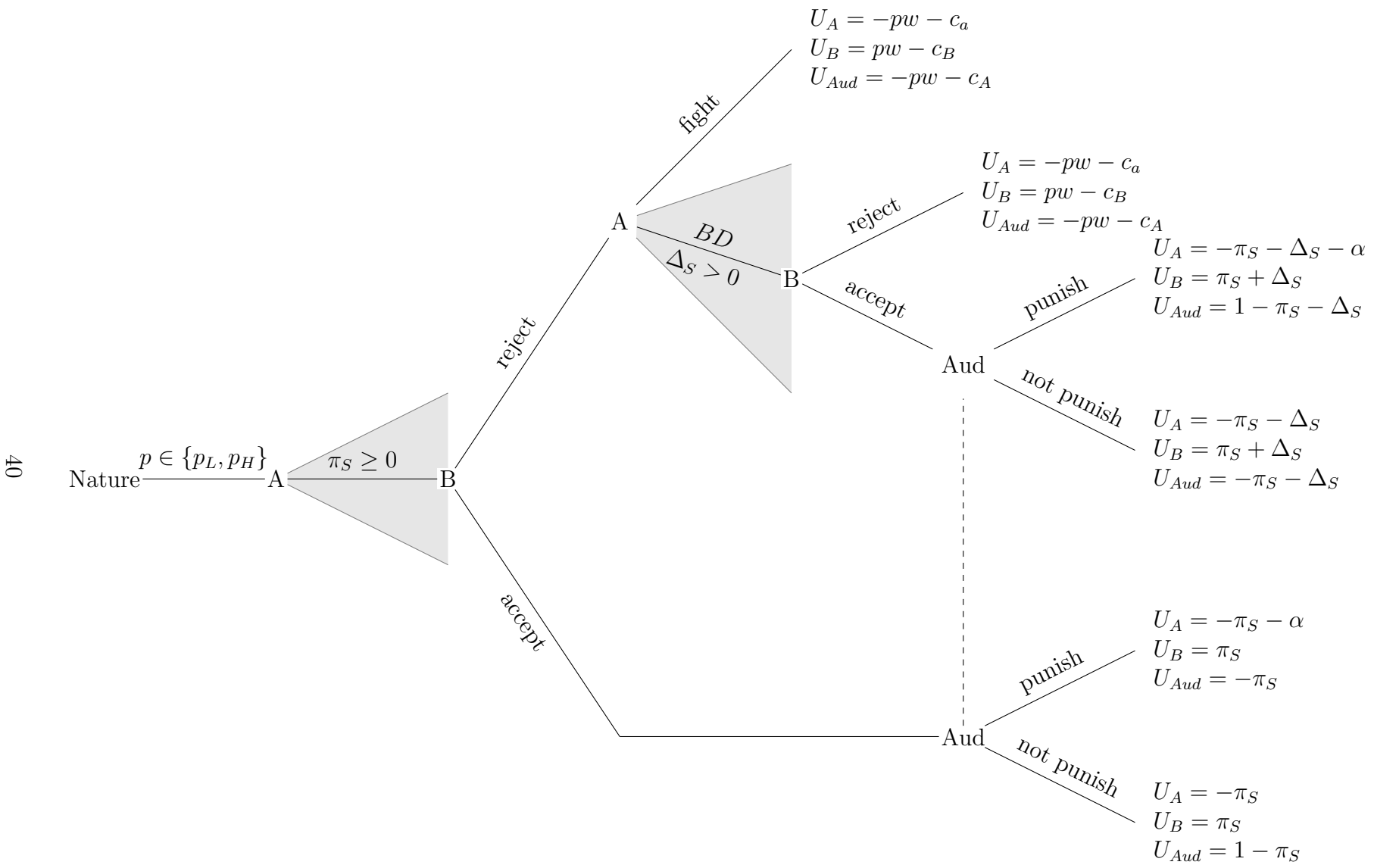

Figure 2: Secret Diplomacy with Audience Costs

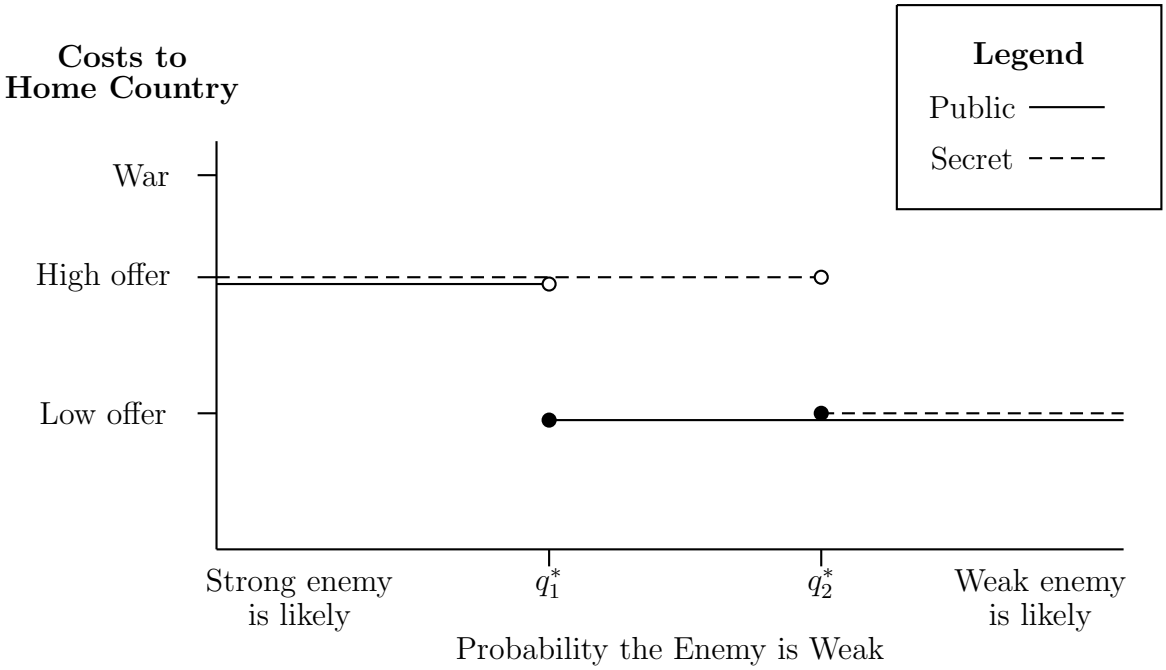

Figure 3: Settlement under Public and Secret Diplomacy

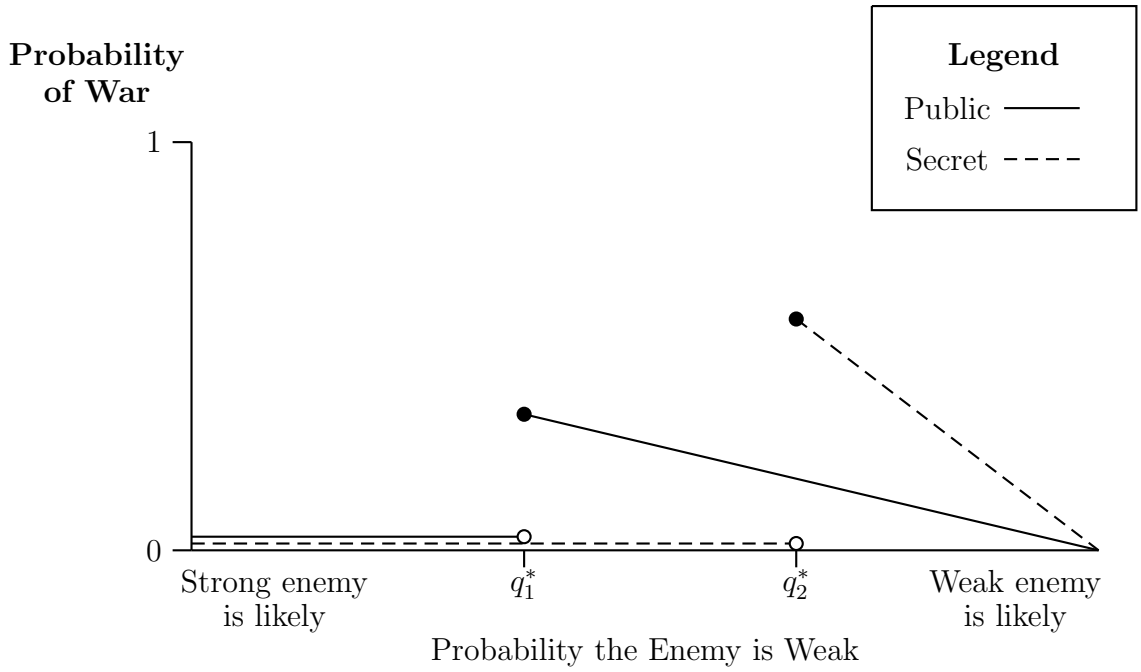

Figure 4: Probability of War under Public and Secret Diplomacy

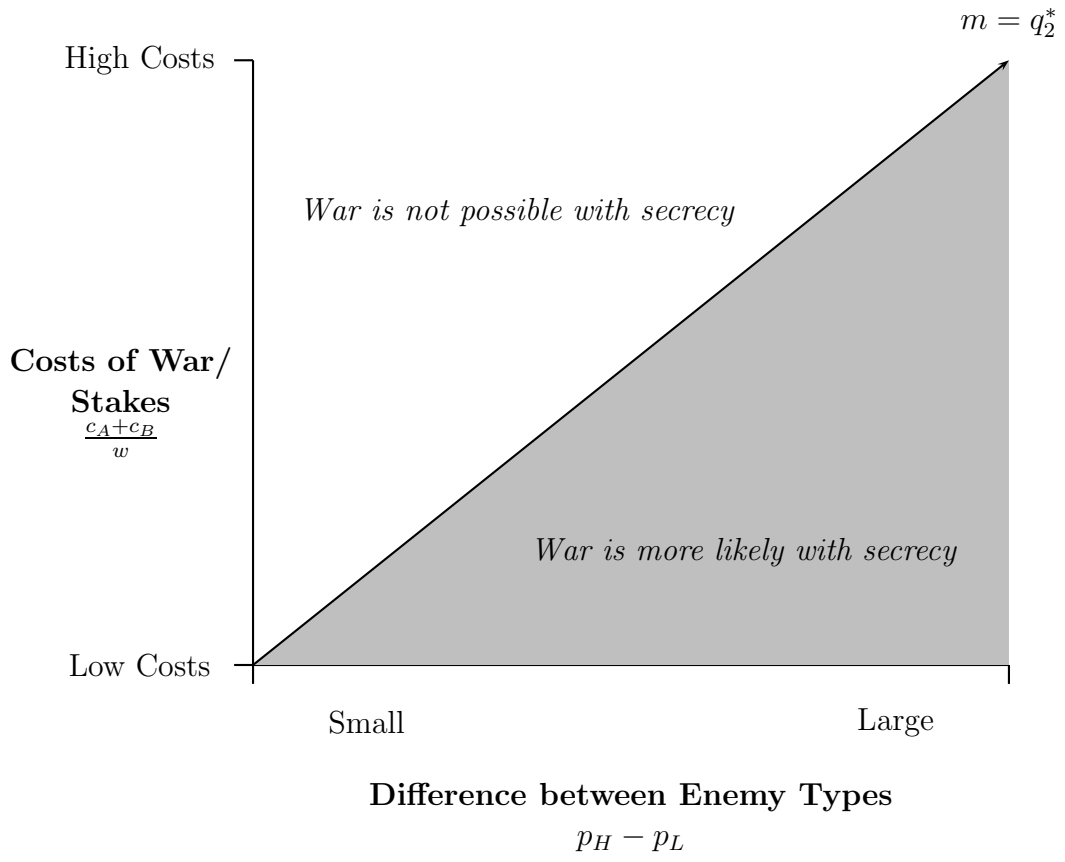

Figure 5: Ex Ante Probability of War in Public and Secret Diplomacy

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