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Domestic Politics and International Bargaining

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Abstract

Domestic Politics and International Bargaining
By Yeon Kyung G. Park

This dissertation explores how domestic politics affects the international bargaining decisions of leaders and their foreign counterparts. The field of international relations often assumes that a leader's public commitment helps states overcome asymmetric information about each other's resolves and help them avoid unnecessary conflict. This hinges on the assumption that citizens dislike broken promises and always punish a leader if (s)he reneges on a public commitment. Relaxing this assumption, the dissertation develops a formal model that fully specifies when citizens politically punish their leader and when this punishment makes the leader fulfill his or her public statement. Citizens' evaluation of their leader is a function of four factors: their dislike for their leader's inconsistency between words and actions, benefits from a bargaining outcome, issue complexity, and issue salience. The model shows that citizens do not always punish their leader for backing down and that the leader sometimes does choose to back down. Moreover, citizens give more support to their leader's decisions if the issue at hand becomes more complex or salient to them. In sum, the model's results suggest that the leader's commitments do not always effectively tie hands, especially in complex and high-stake bargaining situations—the very settings in which such commitments have been expected to be highly binding. The non-parametric combination analysis of a crossover survey experiment confirms the hypotheses derived from the main model and the overall theory. I then extend the model to the international level to examine under which condition a leader commits, and when such commitments successfully deter a foreign counterpart from continuing a crisis. The extension shows that the leader faces greater odds of punishment when (s)he commits than when not, and Foreign therefore is more likely to stop given the commitment than given non-commitment. However, when Foreign anticipates that the leader is likely to concede in case of a continued crisis, the commitment is less likely to credibly convince Foreign that the leader is willing to fight. If so, the leader faces less incentive to commit, or trade off greater odds of punishment for a small chance of deterring Foreign.

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"I will instruct you and teach you in the way you should go; I will counsel you with my loving eye on you." (Psalm 32:8 NIV)

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Chapter 1

Introduction

1.1 Introduction

According to conventional wisdom, a leader's public commitment can help states tackle asymmetric information, which is a major cause of conflict in international bargaining. Under incomplete information, states want to misrepresent their resolve in order to achieve better bargaining outcomes but they also want to credibly communicate their true intention in order to avoid unnecessary and costly conflict. In this case, making a public commitment can serve as a credible signal (Fearon 1994). Once a leader makes a public statement, (s)he raises domestic attention and expectations about the issue. Since domestic constituents will politically punish a leader if (s)he backs down (i.e., impose audience costs on the leader), the leader who commits is locked into following through. Therefore, the commitment of a leader who is held accountable by domestic constituents becomes a costly signal, thereby effectively dissuading his or her foreign counterpart from continuing the crisis.

This widely held argument has contributed to the field of international relations (IR) by bringing domestic politics in—particularly, voters'willingness to hold leaders accountable—to explain inter-state bargaining. However, we sometimes see real-world situations that counter to the argument's predictions. On August 20, 2012, President Barrack Obama publicly drew a red line against the Syrian government, stating that "the red line for us is we start seeing a whole bunch of chemical weapons moving around and being utilized (Ball 2012)." He publicly reinforced this red line again in December the same year, stressing that "the use of chemical weapons is and would be totally unacceptable" and that there would be "consequences" if they were used (Solomon and Barnes 2012). The extant literature proposes that the Syrian government under President Bashar al-Assad should find President Obama's red-line threat credible and be deterred from using chemical weapons. In the case of Syria's use of chemical weapons, the existing literature on international bargaining predicts that President Obama would follow up with an action to demonstrate the "consequence" of crossing the red line. However, not only did Syria use chemical weapons in August 2003, but President Obama did not follow through on his public statement. He first stated that it was not him who set the red line but the world did. Then, although he could order the U.S. military action, he tossed the ball to the Congress, insisting on honoring the country's democratic tradition.

There are other cases that run contrary to the aforementioned argument. When the ruling of the International Court of Justice (ICJ) on Nicaragua vs. Colombia extended Nicaragua's rights over disputed islands[1] in 2012, Colombian President Juan

[1]Islands of the San Andres and Providencia Archipelago.

Santos did not follow through on the country's commitment to comply with ICJ rulings, but instead withdrew its ratification for the commtiment (i.e., Bogota Pact). Instead of punishing President Santos, the opposition party and the public "applauded" his noncompliance.[2] Similarly, during the Greek debt crisis, citizens did not punish Prime Minister Alexis Tsipras in the 2015 election, but instead re-endorsed him even after he broke his "no more austerity" commitment to international creditors and the Greek people. As these examples illustrate, the commitment of a leader held accountable by domestic constituents does not always affect the behaviors at Home or abroad. Why do we see such a discrepancy between the widely applied IR insight and real-world cases?

1.2 Domestic Constituents and International Bargaining Outcome

Although the existing literature on international bargaining highlights domestic politics to explain why a leader's commitments can help states avoid conflict, domestic constituents have played a limited role. They are hardwired to always punish the leader if (s)he does not carry out a commitment while never condemning following through (Fearon 1994, Guisinger and Smith 2002, Schultz 2001, Smith 1998). Combined with yet another assumption that the punishment for backing down increases monotonically as a crisis escalates, domestic repercussions for backing down are be-

[2]Territorial Disputes (2013, September 12). A Sea of Troubles. The Economist. Retrieved from http://www.economist.com/blogs/americasview/2013/09/territorial-disputes.

lieved to eventually become sufficiently large to lock a leader into following through once committed.

In this dissertation, I relax these assumptions and explore how domestic constituents affect the inter-state bargaining decisions of leaders at Home and abroad. To do so, I first develop a formal model to explore domestic interactions between a leader and citizens and empirically test its implications with a survey experiment. I then zoom out to the international level to examine how such domestic dynamics affect the leader's and a foreign counterpart's decisions. In the next section, I explain how the existing literature has understood the leader's public statements in inter-state bargaining settings. Next, I present an overview of each chapter of the dissertation, followed by a section on novel features of the models.

1.3 Overview of Extant Literature

1.3.1 The Assumption of Domestic Repercussions for Backing Down in the International Bargaining Literature

As Schultz (2001) and Bueno de Mesquita and Smith (2012) noted, scholars only recently have begun to explore the intersection of domestic and international politics. Among many works, Fearon (1994) is often recognized as a major step forward in offering domestic explanations for inter-state behaviors. Building on Schelling (1960)'s discussion on credible commitments, Fearon (1994) highlighted the role of citizens to understand how states with incomplete information avoid a costly war. In this

study, he assumes that citizens dislike broken promises and such dislike increases monotonically as a crisis escalates. Since the leader knows there are costly domestic repercussions for not carrying out a threat, (s)he will follow through once committed. Because a leader facing such potential repercussions will be locked into honoring a threat to use force, this threat makes a foreign counterpart stop challenging. This leads to the implication that a low-resolve type state and a high-resolve type state choose separate actions, thereby making a signal (i.e. a public threat) meaningful. Moreover, since domestic constituents exert more influence on their leader's political survival in a democracy than in a nondemocracy, the study suggests that democratic leaders' commitments are perceived to be more credible and consequently more effective in avoiding unnecessary war in bargaining.

Many scholars have been building on this seminal work and have based their studies on its idea of the impact of a leader's commitment on inter-state behaviors (Allee and Huth 2006, Broz 2002, Busch 2000, Dorussen and Mo 2001, Frankel 2005, Jensen 2003, Leblang and Mukherjee 2005, Leeds 1999, 2003, Levy et al. 2015, Simmons 2010). However, the study's very assumption that makes the leader's commitment effective in crisis bargaining has been understudied. That is, many studies have simply assumed that citizens always punish their leader if (s)he backs down on a commitment (s)he made publicly. Moreover, voters in most studies do not evaluate their leader regarding the decision to honor the commitment. As many scholars also have pointed out, this is because these studies overlook the potential impact of citizens' preferences over the bargaining issue at stake (Bagashka and Stone 2013, Chaudoin 2014, Levendusky and Horowitz 2012, Ramsay 2004, Schultz 2001, Slantchev 2006,

Snyder and Borghard 2011, Tomz 2007).

If individuals' preferences over the bargaining outcome (i.e. what results from the leader's following through or backing down) are not taken into account, the public's reaction is a function of only whether the leader is being consistent between his or her words and actions. However, people usually have a preferred outcome, depending on which outcome is more beneficial in a relative sense. For instance, if making concessions is costly but brings peace which is better than an even costlier war, citizens may prefer concessions to war. People may use such preferences as the basis for politically evaluating their leader's decisions. In fact, the gap between people's and a leader's (agent's) ideal policy positions is one of the primary topics in the literature on voting behaviors and public opinion.[3]

Moreover, most bargaining studies assume that a leader's decisions during the initial commitment stage and at the later taking-action stage are dependent events. Nevertheless, interstate bargaining usually takes time. In fact, formal models in international bargaining are usually sequentially staged. There can be shock at what is at stake in the bargaining process, the willingness to fight, or even the leadership between the two stages. Even in the canonical crisis-bargaining example of the 13-day long Cuban Missile Crisis, neither Khrushchev nor Kennedy took immediate actions after Kennedy's public ultimatum. During this period, the U.S. implemented the quarantine, and behind-the-door communications (including letters) took place. These

[3]Ideology/party voting, issue voting, and even retrospective voting all consider preferences, ex ante positions, and ex post performances of leaders with respect to policies either at the unidimensional or the multidimensional policy space. (For more, See: Austen-Smith and Banks (1988), Carmines and Stimson (1980), Conover, Feldman and Knight (1986), Downs (1957), Fiorina (1981), Hayes (2005), Kramer (1971), Krosnick (1990), Taylor and Doria (1981), Taylor and Jaggi (1974))

altered the two leaders' calculations of the expected utilities of fighting compared to conceding. In the next subsection, I review how some key formal model works have explored the role of a leader's commitment in interstate bargaining. I then present an overview of key empirical studies that have examined whether individuals indeed punish their leader for breaking foreign policy commitments.

1.3.2 Formal Models on Leader's Bargaining Commitment

Among those who employed the game theoretical approach, Smith (1998) is widely recognized as the first serious attempt to clarify the theoretical foundation of the assumption of voter punishment for the leader's backing down in bargaining settings. Smith (1998) uses an extended crisis game to show how these punishments are potentially generated under different domestic political institutions and conditions. The study shows that such punishments for backing down are generated endogenously when the availability of the leadership selection institution makes the leader's policy statements credible. This study was the first project to integrate the domestic electoral phase into the international crisis bargaining stage to examine when voter are willing to punish their leader for backing down. While this study initiated formal-model discussions of the theoretical basis of the credibility of the leader's commitment, the model suffers from the same setback as the original theory by positing that citizens consider a leader who backs down incompetent, and thereby automatically subject to punishment for breaking his or her promise (Schultz 1999, Slantchev 2006).

Guisinger and Smith (2002) also model both international and domestic circumstances relevant to voter punishments for backing down. The authors use two models, the country-contingent reputation (CCR) model for interstate bargaining and the agent-contingent reputation (ACR) model for domestic politics between a leader and voters. While CCR assumes that a country and a leader are one unitary actor, ACR separates the leader from the citizens. Thus, if a state loses reputation under CCR, replacing the incumbent leader with a new one does not restore the state's integrity since the model distinguishes the leader from the state. Conversely, under ACR, if a leader tarnishes the state's reputation, it can be restored by changing the leader. Thus, voters are willing to punish a leader who backs down only in ACR in which there is an incentive for citizens to replace a leader to restore their state's reputation. By comparing the two models, the authors have shown that it is important not to examine domestic dynamics regarding international bargaining with a unitary-actor state model. However, similar to Smith (1998), the study assumes a public aversion toward backing down. Authors regard backing down as being on par with bluffing and assume that a leader's decision to back down leads to the state's losing its reputation or integrity at the international level.

Studies such as Schultz (1998) and Ramsay (2004) take a different angle. They argue that the relevant studies in the existing literature do not consider the possibility of other characteristics of democratic institutions —besides the voters' dislike of broken promises—affecting the credibility of a state's commitments. Schultz (1998) attempts to address this issue by incorporating political opposition in the crisis bargaining model. His model shows that an opposition that has an informational ad-

vantage over citizens can reveal its government's war cost by either supporting or opposing the incumbent's decision to honor the commitment.

Building on Schultz (1998), Ramsay (2004) formally explores when domestic and international audiences perceive the opposition's signal to be credible. Ramsay (2004) assumes that the opposition tries to maximize the probability of winning an election; that the opposition also cares about its country's national interest in foreign policy; and that Nature decides the competency of both an incumbent and an opposition. If the incumbent is sufficiently competent, the opposition will be prepared to trade off its electoral ambition for a better bargaining outcome for the nation, thereby endorsing the incumbent. However, if the incumbent is incompetent, the opposition will prioritize its electoral gain and will not endorse the leader. Ramsay's model stresses that the opposition's endorsement can change another state's behavior only when there are both international and domestic audiences.

While Ramsay (2004) contributes to the discussion on whether other features of democracy potentially confound the impact of voters' punishment for backing down, the leader's decision in this model does not necessarily pertain to inconsistency. The incumbent's action profile of accepting or rejecting a foreign rival's offer does not reflect i) whether the leader has committed in the first place, or ii) whether the leader has reneged or honored the commitment. Thus, it does not allow readers to compare the impact of potential punishment for backing down to that of the opposition party or another feature of democratic institutions.

Similar to Ramsay (2004), Slantchev (2006) focuses on another feature of democratic institutions that can condition the existence and size of domestic punishments

for a leader who backs down. When Nature determines the policy type, the incumbent leader chooses either to continue pursuing the policy or not, followed by the opposition's decision whether or not to approve the policy. Then, the leader can either repress or allow the opposition's disapproval. Lastly, Nature reveals whether the policy succeeds or not, followed by the citizens' selection of a leader. Assuming that both the incumbent and the opposition are first and foremost office-seeking; and that, unlike Ramsay (2004), the opposition's concern for the national interest does not mitigate its electoral motives; Slantchev demonstrates that the signal from the opposition will always be uninformative. If repression is cheap, the opponent will be repressed. Conversely, if repression is costly, the office-seeking opposition will always dissent to maximize the chance of being elected. Given the model's equilibria, Slantchev reasons that a relatively unbiased source of information (i.e., the media) can affect citizens' willingness to punish their leader for backing down if the government allows the source to play an independent role to facilitate public monitoring.

While Slantchev notes the role of media as yet another potentially important trait of democratic institutions and tries to relax the assumption of the public's aversion toward backing down, his study also suffers from the same problem as Ramsay (2004): the incumbent's decision whether to continue a bad policy or not does not mirror the situation in which leaders may be sanctioned for being inconsistent between words and actions.

Debs and Weiss (2014), which offers the most recent formal model on the leader's commitment in an inter-state bargaining, has the same issue. The authors criticize the assumption of automatic condemnation of a leader who backs down, noting that

different circumstances may favor different outcomes. While the authors note that different circumstances and context may affect the way in which citizens evaluate their leaders, the model does not capture the leader's inconsistency in the case of backing down. Because a leader decides simply whether to reject or accept an offer, it is unclear whether political punishment in this case is compatible with that imposed on the leader for breaking promises.

1.3.3 Survey Experiments

Empirical studies have taken further steps than formal studies to address the role of bargaining outcome in understanding the impact of a leader's commitment in international bargaining. Tomz (2007) paved the way for later scholars to adopt survey experiments as a way to confirm the assumption that voters punish a leader for backing down. If voters indeed punish their leader for backing down, Tomz highlighted that there is a problem of selection bias in observational studies. If leaders believe that they will be punished for backing down when making foreign policy decisions, they will make certain commitments that are relatively easy to honor or are less likely to require being carried out. In addition, they will select themselves out when they expect citizens to react harshly against backing down, thereby leading researchers not to observe the public backlash at all and to overemphasize the impact of citizens' punishment for reneging. In this survey experiment, respondents are provided with a scenario of a military crisis. A control group is told that a leader is not involved in a crisis whereas the treatment group is informed that the leader has backed down

after escalating the crisis. All the respondents are asked whether they approve of the leader's decision. The approval rating of a leader who stays out and that of a leader who backs down are then compared so that the voters' punishment for backing down is measured directly. Tomz (2007) finds support for the assumption of audience costs; the respondents who are told that their leader has reneged on his or her commitments are 16% more likely to disapprove of their leader.

The study has become a benchmark for several subsequent works. For instance, Trager and Vavreck (2011) build on Tomz (2007) and compare approval for backing down as well as for staying out to that for following through. Levendusky and Horowitz (2012) also build on Tomz (2007) but include two more components in the survey. First, the authors include a situation in which a leader may use his or her informational advantage to justify his decision not to honor a commitment. Second, the opposition's support of the incumbent's decision is added to see if partisanship affects the magnitude of citizens' punishment. Similar to Tomz (2007), the study finds that respondents who were told that leaders had backed down after issuing a threat are more likely to disapprove of their leaders than those in the control group. However, approval for the reneged leader more than doubles from 18% to 39% when the leader justifies his or her move, and this is even higher than approval for the leader who stays out (33%).

While these survey experiments contributed to test whether citizens indeed punish their leader for backing down, as Chaudoin (2014) points out, these experiments fail to address one of the previously mentioned questionable assumptions. The authors overlook the potential influence of respondents' preferences for different bargaining

outcomes. Chaudoin (2014) underlines the potential significance of respondents' policy preferences in affecting their willingness to sanction a leader whose words and deeds are inconsistent. The author tries to gauge the magnitude of the effects of policy preferences and of policy consistency (between policy commitment and action) to test whether respondents' policy preferences moderate how much (s)he punishes the leader for being inconsistent. Chaudoin finds that respondents with strong policy preferences, regardless of the direction of the preferences, are less affected by the fact that the leader has backed down. Conversely, respondents who do not have strong policy preferences are willing to punish their leaders for backing down. Similar to Chaudoin (2014) , Kertzer and Brutger (2015) also emphasize the need to take the policy outcome preferences into account when testing the assumption of citizens' punishment for backing down by suggesting that Tomz (2007) incorrectly measures such a punishment. First, Kertzer and Brutger point out that comparing the approval ratings for backing down and for staying out does not fully capture the impact of the punishment. Instead, the authors claim that the approval ratings of these two decisions have to be compared against the approval rating of the intermediate decision, or following through. According to the authors, staying out and following through are both consistent but differ with respect to the degree of belligerence since the former engages no threat unlike the latter. Backing down and following through both involve the use of threat to use force, but differ with respect to policy consistency. Thus, to correctly capture the impact of potential domestic punishment for reneging—which makes the leader's public commitment credible—the authors compare both backing down and staying out against following through.

Thanks to Chaudoin (2014) and Kertzer and Brutger (2015), the survey experimental literature–unlike the formal model literature–has started to address the impact of bargaining outcome preferences when discussing citizens' punishment for the leader's backing down. However, since these two studies focus rather on how citizens' prior bias or policy predispositions affect the way they evaluate the leader, it does not offer a full picture of how and whether the value of bargaining outcomes affects citizens' willingness to punish their leader for reneging on a commitment. Moreover, as Fearon (1994) does, these survey experimental studies also make the mistake of not distinguishing between the commitment stage and the action stage. By comparing staying out (no commitment), backing down, and following through against one another, these experiments overlook the possibility that the value of the bargaining outcome citizens and the leader face at the later action stage is different from that the leader and Foreign face during the earlier commitment stage.

So far, both game theoretical and survey experimental studies have helped to understand why and whether citizens punish their leader for backing down. However, as the above review shows, most studies based on formal models have overlooked the impact of citizens' preferences for bargaining outcomes on how citizens evaluate their leader. Even though we have found that citizens in general dislike broken promises, we still lack understanding of whether the odds of such a punishment always lock a leader into following through. Therefore, instead of merely adopting or empirically testing this exogenous assumption that the leader is always punished for backing down (and that (s)he is always supported for following through), in this dissertation I offer a fully specified formal model that unpacks domestic politics in relation to

international bargaining.

1.4 The Main Model - Domestic Dynamics

In Chapter 2, I develop the main domestic model that formally theorizes i) under what conditions citizens politically punish their leader's following through as well as backing down and ii) when these punishments persuade the leader to honor his or her words, thereby making the commitment a meaningful signal to foreign counterparts in international bargaining settings. In this dissertation's model, voters form preferences based on four factors. First, the model allows for the bargaining literature's understanding that citizens disapprove of their leader's inconsistency between promises and actions (hereafter referred to as "inconsistency"). Second, accounting for the aforementioned shortcoming in the existing bargaining literature, I let voters form preferences over the value of the bargaining outcome of following through as well as backing down. Therefore, even though citizens dislike the inconsistency between the leader's words and actions, they may still prefer backing down to following through if it is less costly to concede than to fight.

The third and fourth factors are issue complexity and issue salience, respectively. Because this dissertation incorporates bargaining consequences, it addresses how citizens process information relevant to the consequences of their leader's honoring or reneging on a commitment. Relevant studies in the literature assume that, due to the "public" aspect of the leader's commitment, citizens will understand and pay attention to an issue at stake once the leader commits. However, there are con-

tending perspectives regarding how citizens channel given information. On the topic of how voters form opinions on policies, some scholars have claimed that citizens are incapable of understanding policy consequences (Achen 1975, Achen and Bartels 2004, Almond 1950, Campbell et al. 1960, Caplan 2008, Caspary 1970, Erskine 1963, Lippmann 1955, Malhotra and Kuo 2008). Others assume that the public can fully grasp policy outcomes and that voters' unidimensional ideal policy positions translate into electoral decisions (Davis, Hinich and Ordeshook 1970, Downs 1957, Key 1966, Page and Brody 1972, Page and Shapiro 1982). In fact, many international political economy studies suggest that voters base their political preferences on which policy yields greater benefits (Bearce 2003, Bearce and Hallerberg 2011, Broz, Frieden and Weymouth 2008, Fordham and Kleinberg 2012, Jensen 2008, Pandya 2010, Rogowski 1987, Scheve 2004). This dissertation reconciles these two views. While citizens may have full access to information about which of the leader's action brings greater benefits, a given issue may be so complicated that they are unable to ascertain which bargaining outcome brings greater value (Baum and Groeling 2009, Berinsky 2007, Carmines and Stimson 1980, Citrin and Sides 2008, Gelpi, Feaver and Reifler 2005, Hainmueller and Hiscox 2006, Kono 2006). Furthermore, individuals may find some issues more salient than others. Based on how salient a given issue is, individuals may vary in terms of their willingness to punish their leader for backing down. Therefore, citizens' perceived bargaining outcome benefits in the model are affected by issue complexity and issue salience. As a result, citizens' evaluation of their leader's action is endogenized as a function of i) inconsistency, ii) benefits of bargaining outcomes, iii) issue complexity, and iv) issue salience.

Equilibrium results show that citizens do not always punish backing down or always support following through. Therefore, the odds of punishment for backing down does not always tie the leader's hands into following through. Comparative statics results also show that as an issue becomes more complex or salient to citizens, they become more supportive of the leader's decisions. In other words, the main model derives an implication that in a complex high-stake international bargaining, the leader's commitment is less likely to help states overcome asymmetric information to avoid conflict.

1.5 Empirical Analysis of the Main Model

In Chapter 3, I undertake a survey experiment to test four implications from the theory. The hypotheses relate to the bargaining outcome of the leader's action (H1), issue complexity (H2), issue salience (H3), and the leader's political punishment cost (H4). The dependent variable is operationalized with survey respondents' approval for a leader's actions. Since the hypotheses are from a formal model—in which players observe a shock, update their belief, and respond accordingly—I adopt a crossover experimental design that randomly assigns respondents to different sequences of vignettes. This design helps better trace how survey subjects process and react to any change in a given treatment. Given that I test multiple predictions to draw inferences for each hypothesis and for the overall theory, I use a non-parametric combination (NPC) method that employs formal functions to combine relevant tests into a global p-value. The NPC methods yield strong support for hypotheses regarding

the bargaining outcome, issue complexity, and issue salience. When all hypotheses are combined to draw a global conclusion, the NPC results in a p-value of .0001 and supports the overarching theory. I supplement the main result with the NPC analysis of the crossover experiments controlling for a family-wise error rate (FWER) which accounts for a potential Type I error that can occur when there are many predictions to test. I also check the robustness of the main result by running the NPC analysis of the canonical between-subject experiment. The two additional tests produce a global p-value of .0001 as well, confirming the result of the main analysis. The empirical analysis confirms the main model's results that citizens' evaluations of their leader's decisions to honor or renege on a commitment depend on benefits from the bargaining outcome and how complex or salient the issue is to citizens.

1.6 The Extended Model - International Decisions

Having explored the domestic dynamics, I offer an extended model in Chapter 4 to understand i) under which condition the leader commits, and ii) when the leader's commitment deters the leader to stop challenging. The model zooms out to the international level to include a foreign counterpart and assumes that Foreign has already challenged Home. To reflect the foreign counterpart's payoff structures in relation to those of the leader and the voter at Home, I unpack the term α which stands for the bargaining outcome in the main model and redefine it with the probability that Home wins the war (p), the full gain at stake for bargaining (a), and the respective state's cost of fighting (C_H and C_F). Home's fighting cost is revealed to Home's leader

after the leader decides whether or not to commit such that it reflects the possibility that there is a shock to bargaining outcomes between the commitment and the action stages. As a result, the variable that induces the information asymmetry between the voter and the leader is no longer α but is now C_H in the extended model. Issue salience and issue complexity still affect how citizens evaluate the leader once the players reach the domestic subgames.

The equilibrium results partly support the assumption in the existing literature that a leader faces greater odds of punishment when (s)he commits than when (s)he does not. Anticipating this, Foreign is more likely to stop challenging given the commitment than given no-commitment. Despite this, the leader's public commitment does not always deter Foreign from continuing its challenge. As we have seen in the main model, the leader can still back down even after having committed. Therefore, based on available information, if Foreign concludes that it is likely for the leader to concede in a continued crisis, the commitment is less likely to credibly convince Foreign of the leader's true willingness to fight. Because the leader trades off greater risks of punishments for a better chance to deter foreign when (s)he commits, the leader's incentive to commit decreases if the commitment is less likely to stop Foreign's challenge. Therefore, the extension offers new insight into the impact of commitments in inter-sate bargaining. As the leader's concession becomes likely (e.g., Home's maximum fighting cost ($\overline{C_H}$) increases, or Home's potential gains from fighting (pa) decrease), the leader's commitment is less likely to effectively deter Foreign. Recall that citizens become more supportive of their leader when a given issue becomes more complex or salient. Therefore, in this case, the commitment becomes less effective in

stopping Foreign's challenge. Since there is only a small chance to deter Foreign by committing, the leader is less likely to commit.

Put together, the extension confirms the main model's implication that in complex high-stake international bargaining settings—the very setting in which the existing bargaining literature believes the commitment affects states' behaviors—the leader's commitment does not effectively help states overcome asymmetric information or avoid conflict. Moreover, since the commitment does not effectively deter crisis, it implies that states may end up facing an undesirable outcome. Suppose that Nature reveals a fighting cost that is so high that it is better for the leader to concede. If the foreign counterpart continues despite the commitment in this case, the leader may end up not only fighting but also getting punished for doing so. In other words, while the existing literature assumes that commitments lead to an optimal outcome of stopping the crisis, this extension shows that a leader may face a consequence that is suboptimal with respect to a bargaining outcome as well as the prospect of political survival. Lastly, contrary to various scholars who turn to audience costs to explain democratic peace (Fearon 1994, Gartzke and Lupu 2012, Gelpi and Griesdorf 2001, Gibler and Hutchison 2013, Potter and Baum 2010, Schultz 2001), since the odds of punishment do not always make the leader's commitment credible enough to stop a conflict, this extension also suggests that such a punishment might not be the key answer that explains how democratic leaders realize peace or prevail in conflict.

1.7 Novel Features of the Models

To formally model the role of domestic politics in international bargaining, I theorize with three novel approaches. First, the model does not exogenize different types of offers or leaders. To date, citizens in relevant studies evaluate their leader's previous performance(s) in order to decide whether to politically punish or support the leader. Capturing the retrospective nature of voters' evaluation, many formal works have featured good/bad offers (Debs and Weiss 2014, Guisinger and Smith 2002, Ramsay 2004, Ramsay and Ashworth 2017, Tarar and Leventoğlu 2012) or competent/incompetent leaders (Slantchev 2006, Smith 1998). While such setups provide interesting insights, especially with regard to interstate bargaining, introducing different types of leaders/offers can result in either conflating the citizens' dislike for broken promises and the value of bargaining consequences or overlooking the latter. Therefore, instead of facing exogenously given types of leaders or actions, citizens in this model will retrospectively evaluate their leader by making tradeoffs between benefits from the bargaining outcome and their dislike for the leader's inconsistency.

Second, the model recognizes the need to distinguish the commitment stage from the action stage. As previously discussed, most relevant studies in the extant literature consider staying out as a comparable alternative to both backing down and following through (Fearon 1994, Ramsay and Ashworth 2017, Schultz 2001, Smith 1998, Tomz 2007, Trager and Vavreck 2011). However, the leader's decision on whether to commit precedes that on whether to follow through. These decisions in the two different time periods can be independent of each other. Moreover, after the onset

of a crisis, an external shock can be introduced. Then, even if the two decisions are at first marginally dependent, these can become conditionally independent given the shock. Thus, this dissertation sets the two stages apart.[4]

Third, the model gives citizens a choice of punishing leaders not only for backing down but also for following through. To date, in most international bargaining models that pertain to citizens, voters play no role with regard to the leader's decision to follow through; leaders are not punished when they carry out their promises. However, leaders can face negative political consequence for following through on a threat. For instance, President Galtieri's fall after the Falklands War shows that leaders—including nondemocratic ones who face relatively low odds of punishment for backing down—can suffer political costs even for honoring their commitments. Moreover, when we take bargaining outcome into consideration, it is evident that citizens can form negative attitudes toward the outcome of following through, as suggested by anti-war protests during the Vietnam War. Since this dissertation relaxes the assumption that punishment is guaranteed for backing down, it only makes sense to relax the assumption that following through has no political backlash.

Lastly, in the extended model in Chapter 4, this dissertation allows the leader to choose to fight or concede even after making no commitment. Moreover, incorporating the previously mentioned third feature, citizens will evaluate (i.e., punish or support)

[4]Formally, let α_1 represent the value of policy outcome relevant to the leader's decision whether to commit or not at the commitment stage and α_2 for that regarding the leader's decision whether to back down or follow through at the action stage. Let β stand for any shock that has led the leader to publicly commit. Suppose α_1 and α_2 are randomly distributed with the respective density functions $\mathrm{F}(\alpha_1)$ and $\mathrm{F}(\alpha_2)$. If α_1 and α_2 are marginally dependent events, $\mathrm{F}(\alpha_2) \neq F(\alpha_2|\alpha_1)$. Even if so, the shock can make α_1 and α_2 independent events; the conditional density functions given the shock can be as the following: $\mathrm{F}(\alpha_2|\beta) = \mathrm{F}(\alpha_2|\beta, \alpha_1)$ even if $\mathrm{F}(\alpha_2) \neq F(\alpha_2|\alpha_1)$.

such decisions by the leader. Game theoretic models in the existing literature have characterized the alternative to the leader's decision to commit as "stay out," after which citizens are not allowed to politically evaluate their leader. In order to fully explore under which conditions citizens want to punish their leaders and when their decisions affect international bargaining behaviors, this dissertation does not limit citizens' role only to the commitment subgame.

Chapter 2

Main Model: When Can a Leader's Commitment Tie Hands?

2.1 Introduction

In this chapter, I develop the dissertation's main model on the leader-voter dynamics at Home regarding the leader's international bargaining decisions. As mentioned in Chapter 1, the model relaxes the assumption that citizens always punish their leader for not carrying out a foreign policy commitment (s)he made in public. It explores under which conditions citizens punish their leader for backing down as well as following through and, given those conditions, when the leader backs down or follow through.

I first outline assumptions of the main model. First, because this model looks at the domestic interaction regarding the leader's bargaining commitment, it assumes that a foreign state has challenged against Home, and the leader at Home has issued

a commitment to take an action if the foreign counterpart does not stop. Second, consistent with the assumption of many formal models on the leader's commitment in bargaining settings, this model assumes that citizens retrospectively evaluate their leader's action (Bechtel and Hainmueller 2011, Debs and Weiss 2014, Fearon 1994, Guisinger and Smith 2002, Karol and Miguel 2007, Margalit 2011, Ramsay 2004, Ramsay and Ashworth 2017, Slantchev 2006, Smith 1998, Tarar and Leventoğlu 2012). That is, even if citizens cannot change the decision that the leader has already made, they still have an incentive to take an action about it. Third, as in canonical principal-agent models, the leader in this model is assumed to have an information advantage over the true value of the bargaining outcome. Fourth, the leader cares not only about his or her political survival (office-seeking), but also what bargaining outcome Home secures (policy-seeking). Based on these assumptions, I develop the following model on domestic politics regarding the leader's public foreign policy commitment.

2.2 The Model

The model has a leader (L) and a median voter (V). The game starts with Nature (N) drawing the marginal value ($\alpha \sim U(-\bar{\alpha}, \bar{\alpha})$) of a bargaining outcome of backing down (BD) relative to that of following through (FT), which is normalized to 0. Thus, $\alpha > 0$ signifies that the benefits from the consequence of backing down are greater than those of following through, whereas $\alpha < 0$ indicates the opposite. After the leader (L) observes α, (s)he decides whether to back down or follow through on the public commitment. Unlike the leader, the voter only knows its distribution. Given

the leader's move, the voter makes a noisy observation of $\hat{\alpha} = \alpha + \epsilon$, where ϵ is the uncertainty generated by how complex the issue is to the voter. The greater the value of $\bar{\epsilon}$ to which ϵ can range, the more complex an issue is. Neither player knows the actual value of ϵ, but both have a common prior belief that ϵ is distributed uniformly on $(-\bar{\epsilon}, \bar{\epsilon})$.[1] Given the distribution of ϵ, the voter's posterior belief is that α is uniformly distributed on the interval $(\hat{\alpha} - \bar{\epsilon}, \hat{\alpha} + \bar{\epsilon})$. After observing the leader's move and $\hat{\alpha}$, the voter decides whether to punish (P) or support ($\neg P$) the leader.

Recall that the leader is both office-seeking and policy-seeking. Thus, the leader's payoff structure is affected by two features: the benefits from a bargaining outcome, and the utility loss the leader suffers from getting politically punished, or V_p. The latter can range from a decrease in approval rating to loss of office. Suppose the leader does not carry out his commitment. Because the leader backs down, (s)he gets α as a bargaining consequence regardless of which action the voter takes. If the voter supports the leader, α is the leader's payoff. If the voter punishes, the leader pays V_p in addition to α. If the leader follows through, the bargaining outcome value is 0.[2] Therefore, if the voter supports, the leader's payoff is 0. If the voter punishes, the leader pays V_p as in addition.

Now, consider the voter. Recall that the voter retrospectively evaluates the leader. Therefore, the voter wants to punish the leader if (s)he disapproves of the leader's decision and reward when (s)he approves it. To determine whether to approve the leader or not, the voter cares about two things. One is the bargaining outcome payoffs,

[1] While ϵ does not pertain to the leader's knowledge of α, ϵ also affects the leader's strategy vis-á-vis how the voter sets his or her strategy based partly on ϵ.

[2] Recall that the benefit of following through is normalized to 0.

weighed by how salient the given issue is to the voter. Second, the voter has an incentive to punish the leader for being inconsistent between words and actions (C_v). Given these two factors, suppose the leader has followed through. Since following through involves no inconsistency, the voter will approve and consequently support the leader's decision if following through brings a better bargaining outcome than backing down does (i.e. $\alpha < 0$) and punish otherwise. Now, consider the leader who backed down. Once again, whether backing down is more favorable than following through in terms of the bargaining outcome matters first to the voter. But this is not enough for the voter to forgive backing down. The voter forgives (i.e. supports) backing down if the bargaining outcome from backing down is great enough to offset his or her incentive to punish the leader for being inconsistent and punishes otherwise. The voter's calculus is captured in Lemma below:

Lemma 1. *The voter will punish the leader for following through iff*

$$\mathbb{E}[\alpha \mid \hat{\alpha}, \mathscr{L}] \geqslant 0.$$

The voter will punish the leader for backing down iff

$$\mathbb{E}[\alpha \mid \hat{\alpha}, \mathscr{L}] \leqslant \frac{C_v}{s}.$$

Now, I parametrize the voter's payoffs such that they capture the voter's aforementioned preference ordering and the retrospective nature of voter behavior. First consider the follow-through path. I normalize the voter's payoff for punishing the leader to $s\alpha$ and define the payoff to the voter for supporting the leader as 0. α captures the intensity of the voter's preference over the bargaining outcome of backing down, and s reflects issue salience. The larger α, the stronger the incentive to

favor backing down and to punish following through. As a result, when backing down brings a better bargaining outcome than following through does (i.e. $\alpha > 0$), the voter wants to punish the leader for following through. Conversely, if the benefit from the consequence of following through is greater than that of backing down (i.e. $\alpha < 0$), the payoff structure reflects that the voter wants to support the leader.

Next, I turn to the back-down path. In this case, I normalize the payoff for punishing the leader to 0 and define the payoff to the voter of supporting the leader as $s\alpha - C_v$. Once again, the larger α, the stronger the incentive to favor—thus forgive—backing down. The parameter C_v captures the intensity of the voter's dislike for the leader behaving inconsistently (i.e. inconsistency cost). The larger C_v, the stronger the voter's incentive to punish backing down. The voter only wants to forgive (not punish) the leader for backing down when the benefit from the outcome of backing down exceeds the inconsistency cost.[3] The game tree graphically presents the structure of the model in Figure 2.1, and notations are summarized in Table 2.1.

[3]For example, suppose the voter's dislike for the leader's inconsistency can be quantified such that the voter suffers \$100 worth inconsistency cost if the leader backs down. The voter will have a greater incentive to punish the leader who backs down if the marginal benefit from the consequence of backing down is only worth\$10 than if it is worth \$1,000.

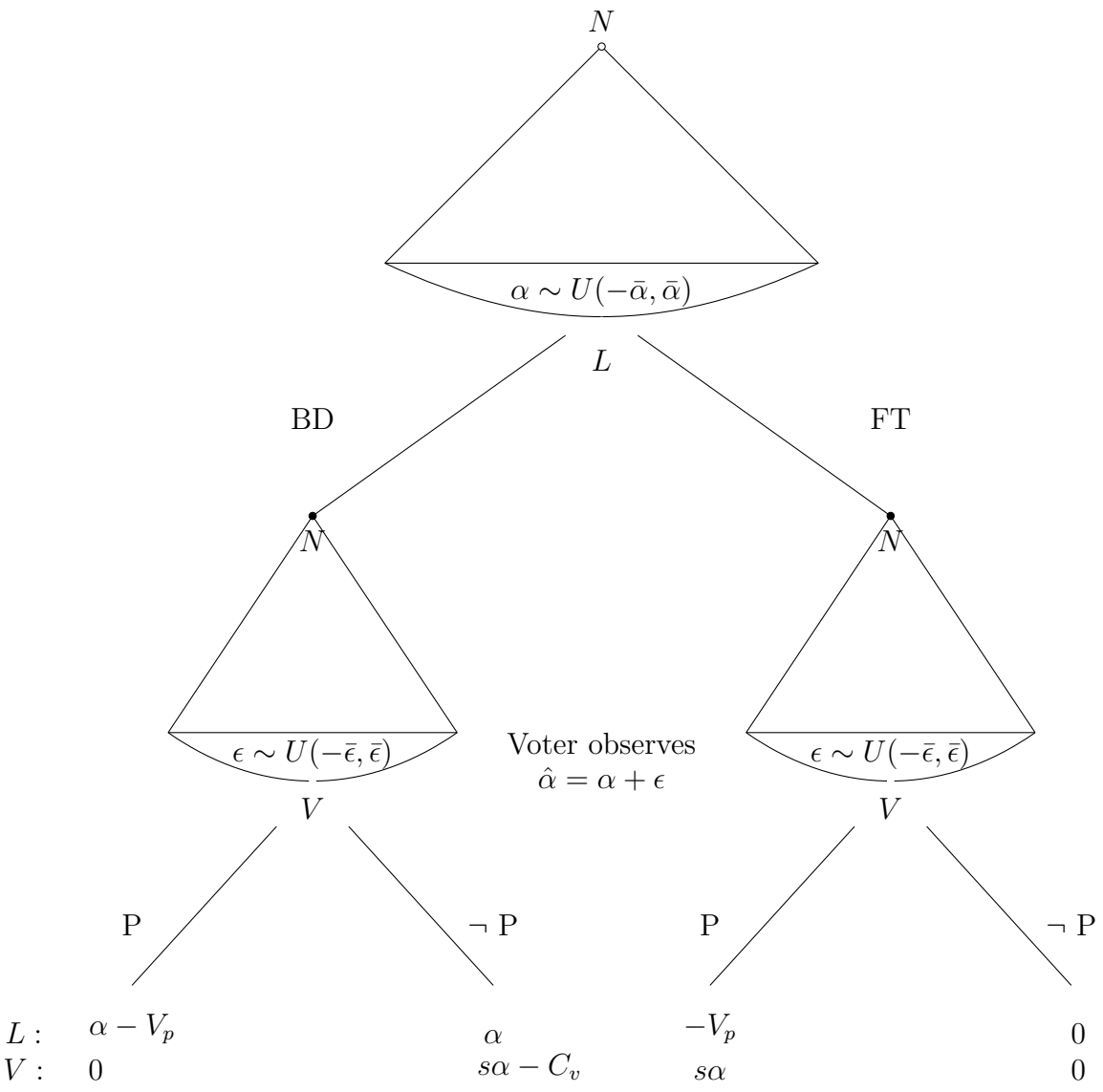


Figure 2.1: Game Tree Presentation of Domestic Model of International Bargaining

Table 2.1: Model Notations

$\alpha \sim U(-\bar{\alpha}, \bar{\alpha})$	The marginal value of the bargaining outcome of backing down compared to that of following through
$\hat{\alpha}$	The voter's noisy observation of α; $\hat{\alpha} = \alpha + \epsilon$
$\epsilon \sim U(-\bar{\epsilon}, \bar{\epsilon})$	uncertainty over a bargaining outcome value due to issue complexity
C_v	Inconsistency cost; $C_v \geqslant 0$
	The voter's incentive to punish the leader for inconsistency
V_p	The leader's cost from political punishment; $V_p \geqslant 0$
$s \in \mathbb{R}_{\geqslant 1}$	Issue salience to the voter

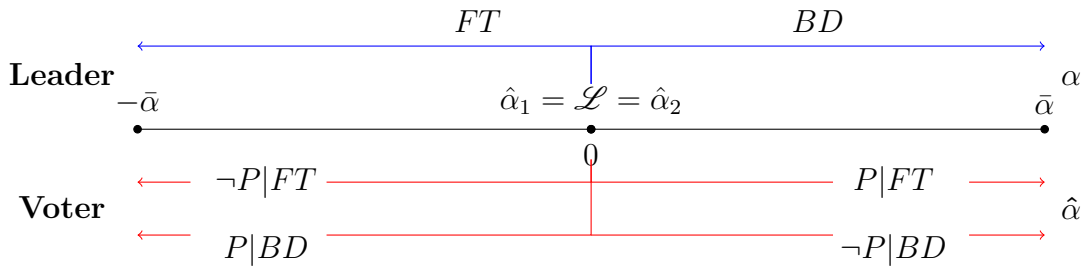
2.3 Results

I identify a perfect Bayesian equilibrium (pBE) in which players with incomplete information play cutpoint strategies. There is one cutpoint ($\mathscr{L}$) for the leader and two, $\hat{\alpha}_1$ and $\hat{\alpha}_2$, for the voter regarding following through and backing down, respectively. The leader is choosing between backing down or not, and the voter is deciding whether to punish, conditional upon the leader's decision. Before going further, I present the following Lemmas:

Lemma 2. *If $\hat{\alpha} \in [-\bar{\alpha}, -\bar{\epsilon})$, the voter knows with certainty that α is negative and always supports the leader who follows through and punishes the leader who backs down.*

Lemma 3. *If $\hat{\alpha} \in (\frac{C_v}{s} + \bar{\epsilon}, \bar{\alpha}]$, the voter knows with certainty that α is greater than $\frac{C_v}{s}$ and always supports the leader who backs down and punishes the leader who follows through.*

If $\hat{\alpha}$ is in the ranges specified in the Lemmas above, although the voter has incomplete information, $\hat{\alpha}$ is such that any α that generated this very $\hat{\alpha}$ must be one for which the voter wishes to punish/endorse respectively. For any value α in the specified ranges, the voter will always have a dominant strategy and will not update his or her belief about α given the observed value of a given bargaining outcome, $\hat{\alpha}$. Thus, I focus on the case in which the model's pBEs pertain to $\hat{\alpha} \in [-\bar{\epsilon}, \frac{C_v}{s} + \bar{\epsilon}]$. I first walk through baseline equilibria in the following subsection.



The leader does not pay political costs.

Figure 2.2: Baseline Model 1 ($\bar{\epsilon} = 0$; $C_v = 0$; $s = 1$)

2.3.1 Baseline Models

If I were to graphically present the equilibrium, I would need to present it in a plane with respect to α and ϵ on two dimensions since the voter's cutpoints pertain to the two random variables. All else equal, the leader's and the voter's cutpoints maintain the same distance from one another at any values of ϵ.[4] Therefore, to facilitate a better understanding of equilibrium results, I present both players' equilibrium cutpoints on one dimension of α, assuming ϵ is held at a fixed value. The aforementioned two-dimensional equilibrium space will be introduced in a later section.

Throughout the baseline models, I assume that the issue is not particularly salient to the voter (s = 1). Suppose the voter has complete information about α ($\bar{\epsilon} = 0$) and does not care about the leader's inconsistency (C_v=0). Then, the voter approves the leader's action as long as that action is more favorable than the alternative in terms of bargaining outcomes. If following through is a preferred action, the voter supports it and punishes otherwise. Likewise, if backing down is a preferred choice,

[4]When the voter's cutpoints are drawn with respect to α and ϵ, the slopes of the voter's cutpoints do not change while the leader's cutpoint is expressed as a vertical line. See Figure 2.9 for more information.

the voter supports it and punishes otherwise. Given the voter's strategies, the leader also chooses the action that brings a better outcome. Put together, as shown in Figure 2.2, the leader always chooses the action that the voter likes, and the voter never punishes. There is no conflict of interest, and their preferences are the same. The equilibrium of the first baseline model is summarized in the following proposition.

Proposition 1. *Assume issue salience is low ($s = 1$). If there is no inconsistency cost under complete information ($C_v = 0$ and $\epsilon = 0$), the voter and the leader prefer the same decisions, and the leader is always supported in equilibrium ($\mathscr{L} = \hat{\alpha}_1 = \hat{\alpha}_2 = 0$).*

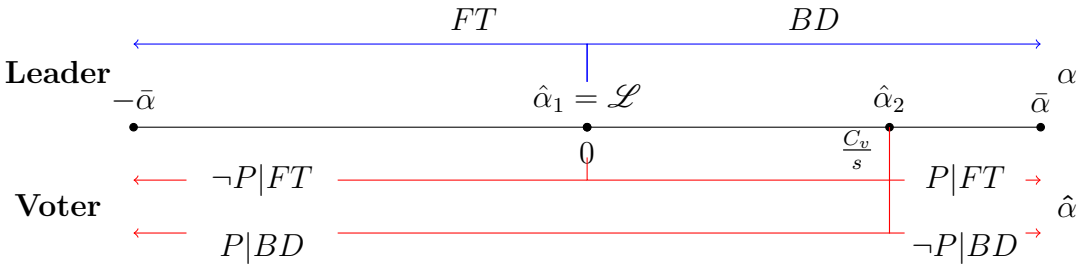


Figure 2.3: Baseline Model 2 ($\epsilon = 0$; $C_v \neq 0$; $s = 1$)

Now, suppose that there is still no uncertainty around the true value of a bargaining outcome ($\bar{\epsilon}$=0) as in Baseline Model 1, but that the voter dislikes the leader's inconsistency ($C_v \neq 0$) as shown in Figure 2.3. Because follow-through does not involve inconsistency, the voter's first cutpoint regarding following through is the same as in Baseline Model 1; the voter endorses this action if it is a better bargaining choice ($\alpha < 0$) and punishes otherwise. However, backing down is handled differently. For the voter to support backing down, not only does the bargaining consequence of backing down have to be greater than those of following through, but the benefit from

this consequence should be sufficiently great to offset the voter's incentive to punish the leader's inconsistency ($\hat{\alpha}_2 = \frac{C_v}{s}$).

However, the leader's strategy does not change from the Baseline Model 1. Unlike in the previous baseline model, when backing down is a slightly better bargaining choice than following through ($0 < \alpha < \frac{C_v}{s}$), there is a zone where the leader is punished for either following through or backing down. If the leader is going to be punished either way, (s)he is better off to choose the action that will at least result in greater bargaining benefits. Thus, the leader will back down whenever its consequence is more favorable than following through ($\mathscr{L} = 0$) although (s)he can be sometimes punished for doing so. The equilibrium of this baseline model is presented in Proposition 2.

Proposition 2. *Assume issue salience is low ($s = 1$). If there is inconsistency cost under complete information ($\frac{C_v}{s} \neq 0$ and $\epsilon = 0$), citizens punish their leader for backing down but do not affect the leader's decision in the equilibrium ($\mathscr{L} = 0$, $\hat{\alpha}_1 = 0$, and $\hat{\alpha}_2 = \frac{C_v}{s}$.)*

2.3.2 The Full Model

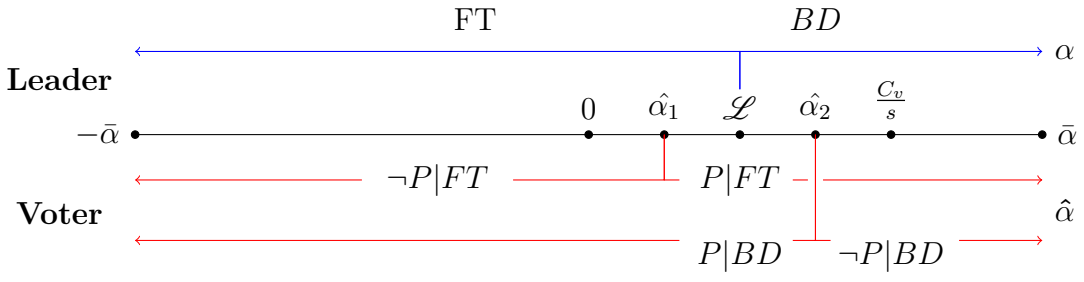


Figure 2.4: Full Model - Interior Solutions

Now, consider the full model in which there is uncertainty around bargaining outcomes. Because the voter does not know the true value of bargaining outcomes, (s)he makes the best estimate of which of the leader's two actions is a better bargaining choice. To do so, the voter no longer depends solely on the leader's action but cues off of his or her noisy observation of bargaining benefits ($\hat{\alpha}$). Given backing down, the voter will support the leader if the observed benefit of backing down seems sufficiently great ($\hat{\alpha}_2 < \hat{\alpha}$) and punish otherwise. Likewise, given following through, the voter will support the leader if the observed benefit of following through seems sufficiently great ($\hat{\alpha} < \hat{\alpha}_1$) and punish otherwise.

Recall from Baseline Model 2 the zone in which the leader is punished for both actions when backing down is slightly better than following through in terms of bargaining outcomes ($0 < \alpha < \frac{C_v}{s}$). Now that the voter is uncertain of bargaining benefits, when in this zone, the leader has an incentive to deviate to following through from backing down to reduce the odds of punishment for backing down. However, such a deviation in turn increases the odds of punishment for following through. If the voter's observed benefit of backing down is sufficently large ($\hat{\alpha}_1 < \hat{\alpha}$), the voter will conclude that backing down is the more preferred action and punish the leader for following through in this case. Therefore, although the leader deviates to reduce the probability of punishment for backing down, it has created odds of punishment for following through. Equation 2.1 in Corollary 1 below formally presents how the leader balances the two odds of punishments to decide whether to follow through or back down:

Corollary 1. *Let U_L denote the leader's utility for a given action. Then,*

$$\begin{cases} U_L(\alpha) = \alpha - (V_p * Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha)) & \textit{if the leader backs down} \\ U_L(\alpha) = 0 - (V_p * Pr(\hat{\alpha} \geqslant \hat{\alpha}_1 \mid \alpha)) & \textit{if the leader follows through} \end{cases}$$

Leader backs down iff:

$$\alpha - (V_p * Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha)) \geqslant 0 - (V_p * Pr(\hat{\alpha} \geqslant \hat{\alpha}_1 \mid \alpha))$$

Which rearranges to:

$$\underbrace{\alpha}_{\textit{bargaining outcome benefits}} \geqslant V_P * \underbrace{[Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha) - Pr(\hat{\alpha} \geqslant \hat{\alpha}_1 \mid \alpha)]}_{\textit{balancing risk of punishments}} \tag{2.1}$$

Also in Corollary 1, this model for the first time formally defines audience costs, or the the punishment the leader faces for backing down after making a public commitment. I separately clarify this definition as below:

Definition 1. ***Definition of Audience Costs***

Audience costs, or the citizens' political punishment for the leader's backing down after a public commitment, can be defined as

$$V_p * Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha)$$

where $Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha)$, or the probability that the leader is punished for backing down, can be expressed as $\frac{\hat{\alpha}_2 - (\mathscr{L} - \bar{\epsilon})}{2\bar{\epsilon}}$.

The definition shows that audience costs in this model are endogenized in terms of the leader's utility loss from getting politically punished (V_p) and the probability that the voter will punish the leader's backing down, which is a function of the leader's and the voter's cutpoints. Given the leader's and the voter's strategies, $\hat{\alpha}_2 - (\mathscr{L} - \bar{\epsilon})$ is the range of $\hat{\alpha}$ for which the leader is punished. These cutpoints are also endogenized as a function of the value of the bargaining outcome of backing down compared to that of following through (α), the maximum size of uncertainty ($\bar{\epsilon}$), issue salience (s),

and the voter's inconsistency cost (C_v).[5]

Put together, when citizens are allowed to care about bargaining consequences in addition to inconsistency, the model shows that citizens do not always support following through or automatically punish backing down. Instead, citizens may *support* backing down and also *punish* following through. Given the citizens' strategies, the leader in equilibrium sometimes chooses *not* to carry out his or her public commitments. In other words, unlike conventional wisdom, this model shows that the leader's public commitments do not always tie the leader's hands. The equilibrium result of the full model is summarized in Proposition 3, and proof is provided in Appendix.

Proposition 3.

$$\mathrm{L} = \begin{cases} \mathrm{FT} & \text{if } \alpha \leqslant \mathscr{L} \\ \mathrm{BD} & \text{otherwise} \end{cases}$$

$$\mathrm{V} = \begin{cases} \neg\mathrm{P}|\mathrm{FT} & \text{if } \hat{\alpha} \leqslant \hat{\alpha}_1 \\ \mathrm{P}|\mathrm{FT} & \text{otherwise} \\ \mathrm{P}|\mathrm{BD} & \text{if } \hat{\alpha} \leqslant \hat{\alpha}_2 \\ \neg\mathrm{P}|\mathrm{BD} & \text{otherwise} \end{cases}$$

where

$$\hat{\alpha}_1 = \begin{cases} \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} & \text{if } C_v \leqslant \frac{2\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p} \\ -\bar{\epsilon} & \text{otherwise} \end{cases}$$

$$\hat{\alpha}_2 = \begin{cases} \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} - \bar{\epsilon} & \text{if } C_v \leqslant \frac{2\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p+\bar{\epsilon}} \\ \frac{C_v}{s} + \bar{\epsilon} & \text{otherwise} \end{cases}$$

$$\mathscr{L} = \begin{cases} \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} & \text{if } \bar{\epsilon} < 2V_p \text{ and } C_v < \frac{\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p} \\ 0 & \text{otherwise} \end{cases}$$

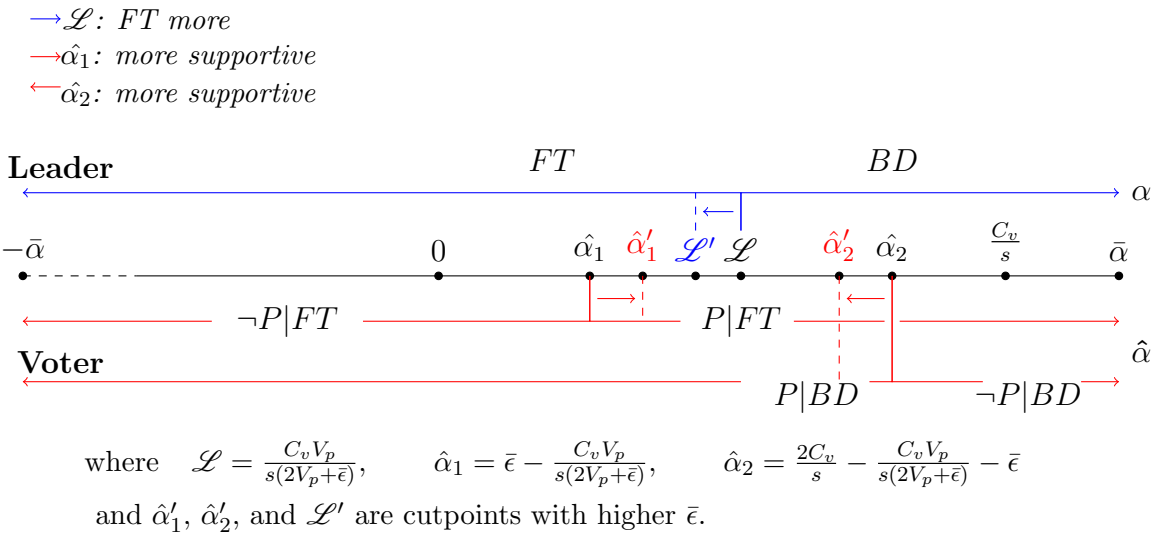
The condition for $\hat{\alpha}_2$ is more binding since $\frac{2\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p+\bar{\epsilon}} < \frac{2\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p}$.
$\therefore$ If $\hat{\alpha}_2$ is interior, then $\hat{\alpha}_1$ is interior.

[5]See Appendix for the actual value of audience costs in this model.

Proposition 3 fully presents the mathematical solutions to the equilibrium. In the equilibrium, the leader backs down if the marginal benefits from the bargaining outcome of doing so are sufficiently great ($\alpha > \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$) but follows through otherwise. When the leader follows through, the voter endorses the leader if his or her observed benefit of following through is large enough ($\hat{\alpha} < \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$) and punishes otherwise. When the leader backs down, the voter supports the leader's decision if the observed bargaining value of backing down is great enough ($\hat{\alpha} > \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_P+\bar{\epsilon})} - \bar{\epsilon}$), but punishes otherwise. Boundary solutions are derived from Lemma 1 and 2 and are discussed further in Appendix. While the three cutpoints take different values in the interior and the boundary solutions, the basic dynamics and behaviors stay the same. Thus, I will focus on the equilibrium characterized by the interior solution in the rest of the paper. In the next subsections, I turn to comparative statics results to explore how players' equilibrium strategies change in a complex high-stake international crisis bargaining.

2.4 Complex and Salient International Bargaining Settings

2.4.1 Issue Complexity ($\bar{\epsilon}$)



where $\mathscr{L} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_1 = \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_2 = \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} - \bar{\epsilon}$
and $\hat{\alpha}'_1$, $\hat{\alpha}'_2$, and $\mathscr{L}'$ are cutpoints with higher $\bar{\epsilon}$.

Figure 2.5: Issue complexity ($\bar{\epsilon}$)

First, I consider what happens when an issue becomes more complex to the voter (i.e., $\bar{\epsilon}$ increases). As the range of the distribution of uncertainty (ϵ) increases, the voter has greater difficulty in discerning which of the leader's two actions is more favorable in terms of bargaining consequence. Therefore, the voter allows for more uncertainty regarding both following through and backing down, deferring more to the leader. As a result, the voter's first cutpoint ($\hat{\alpha}_1$) shifts to the right as shown in Figure 2.5. Similarly, the voter's second cutpoint shifts to the left. Given less risk of punishments regarding both actions, the leader's cutpoint shifts closer to 0, which is the cutpoint when the leader's decision is motivated mainly by bargaining outcomes. In sum, if

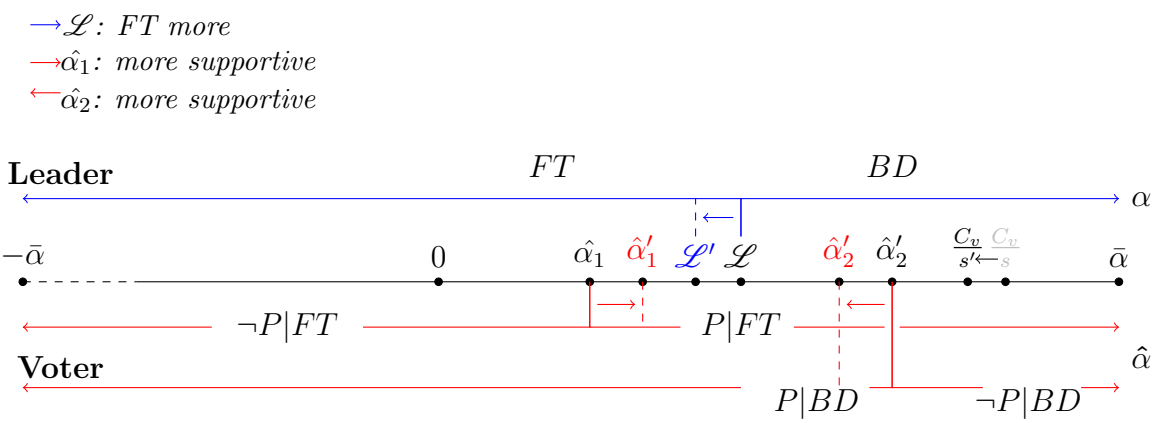
an issue at hand becomes more complex, the voter becomes more supportive of the leader's decisions and punishes the leader less often. With less risk of punishment, the leader puts more weight on actual consequences of his honoring or reneging on the commitment. This implies that the leader backs down more often as the issue becomes more complex to the voter.

So far, extant literature has assumed that once a leader publicly commits, citizens becomes aware of the leader's course of action and consequently becomes more willing to hold the leader accountable for breaking a promises in case of his or her backing down (Fearon 1994, Guisinger and Smith 2002, Schultz 1998, Smith 1998, Tarar and Leventoğlu 2012, Weeks 2008). However, this comparative statics result suggests that even if the leader commits before the eyes of the public, voters may not fully grasp the convoluted foreign policy issue and its consequence and, as a result, delegate more to the leader.[6] Therefore, contrary to the assumption of exant studies, when it comes to a commitment with respect to a complicated foreign policy matter, voters may become more supportive of their leader's decisions. The proof is in Appendix, and this result is recaptured in Proposition 4 below:

Proposition 4. *All else equal, if an issue at stake becomes more complex to the voter, (s)he defers more to the leader and becomes more supportive of both backing down and following through. The leader backs down more often.*

[6]This result is consistent with other studies that have highlighted the issue of informational asymmetry between the leader and the public such as (Berinsky 2007, Kono 2006, Levendusky and Horowitz 2012)

2.4.2 Issue Salience (s)



where $\mathscr{L} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_1 = \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_2 = \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} - \bar{\epsilon}$
and $\hat{\alpha}'_1$, $\hat{\alpha}'_2$, and $\mathscr{L}'$ are cutpoints with higher s.

Figure 2.6: Issue salience (s)

Next, I turn to issue salience (s). As the issue at stake becomes more salient to the voter, the voter places greater weight on the value of bargaining outcomes. Therefore, if the leader backs down, the voter becomes more willing to trade off the incentive to punish the leader for inconsistency for gains from the outcome of backing down. As presented in Figure 2.6, the voter's second cutpoint ($\hat{\alpha}_2$) that considers backing down shifts to the left. Because the odds of getting punished for backing down is reduced, the leader faces less incentive to deviate to following through given the benefits that slightly favor backing down (small $\alpha > 0$). As a result, bargaining outcomes end up exerting a greater influence on the leader's strategy as well, shifting his or hers cutpoint ($\mathscr{L}$) to the left closer to 0. Now that the leader follows through less often when backing down is, in fact, a better outcome, the voter finds the leader's following through as a more credible signal of the true value of bargaining benefits

(α) and becomes more supportive of the leader. Then, the cutpoint $\hat{\alpha}_1$ shifts to the right. Overall, if the issue becomes more salient to the voter, the voter becomes more supportive of the leader's decisions, and the leader backs down more frequently than when the issue is less salient.

Similar to the result of issue complexity, the comparative statics outcome on issue salience is also interesting. Many existing studies on international bargaining have conjectured that citizens would become more willing to punish the leader for backing down more if they care more about the given issue (Clare 2007, Fearon 1994, Gibler and Hutchison 2013, Guisinger 2009). However, the model's result shows that the voter becomes more supportive of the leader when the issue at stake is important to them. Proof is provided in Appendix, and this result is summarized in Proposition 5:

Proposition 5. *All else equal, if an issue at stake becomes more salient to the voter, the voter puts more weight on bargaining outcomes than on the leader's inconsistency and becomes more supportive of both backing down and following through. The leader backs down more often.*

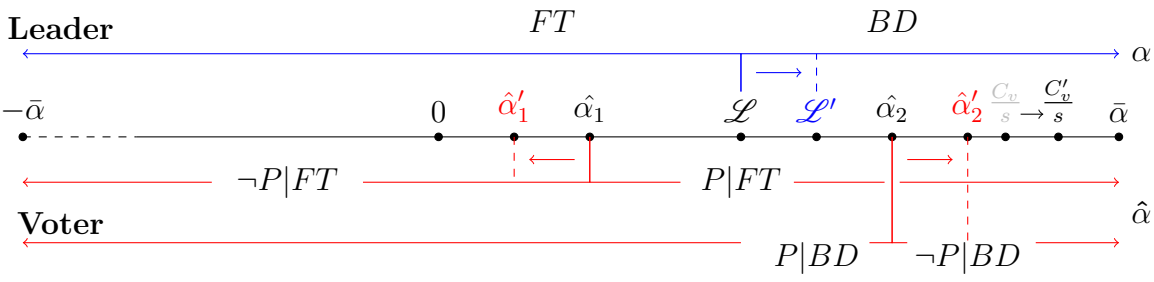
Put together, comparative statics results from issue complexity and issue salience show that citizens become more supportive of the leader's backing down as well as following through when the issue at hand becomes more complex and/or salient to them. As a result, the leader who faces less risk for his or her political survival puts more weight on which action brings a better bargaining outcome when making a decision. Put differently, the leader in this case backs down more often. This suggests that the leader's commitment does not effectively tie the leader's hands in

a complex high-stake international crisis bargaining, which is the very setting that exant studies have believed such a commitment to lock the leader's and consequently a foreign counterpart's bargaining decisions. In Chapter 4, I extend this model to the international level and confirm how issue complexity and salience affect the foreign's behaviors.

2.4.3 Revisiting Key Assumptions in the Literature

Before moving on to a discussion on the impact of the odds of punishments for backing down on the leader's behavior, I revisit the two assumptions adopted by many studies on the role of domestic politics on international bargaining. The first is the citizens' incentive to punish inconsistency (C_v), and the second is the absence of punishment for following through.

a) The Voter's Incentive to Punish Inconsistency (C_v)



where $\mathscr{L} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_1 = \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_2 = \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} - \bar{\epsilon}$
and $\hat{\alpha}_1'$, $\hat{\alpha}_2'$, and $\mathscr{L}'$ are cutpoints with higher C_v.

Figure 2.7: Inconsistency cost (C_v)

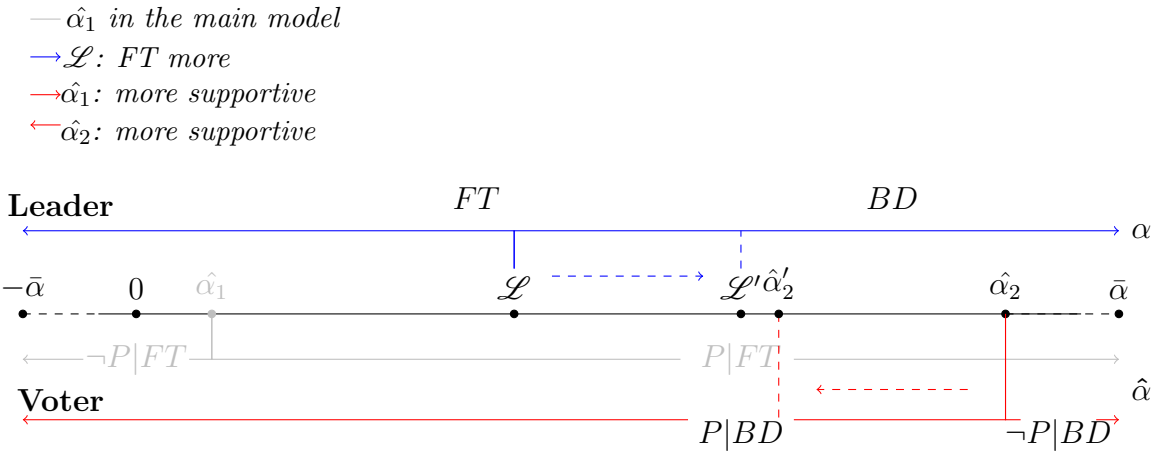
As discussed previously, one of the key theoretical assumptions in the international bargaining literature is that domestic constituents will punish their leader who backed down because they dislike broken promises. How does this aversion affect players' equilibrium strategies in this model? If a voter's aversion toward the leader's inconsistency increases, the voter punishes backing down more often; the voter's second cutpoint in Figure 2.7 shifts to the right. Because the leader faces greater risk of punishment for backing down, (s)he is more incentivized to deviate to following through when the bargaining benefits slightly favor backing down. As a result, the leader's cutpoint shifts to the right, signifying that the voter's increased dislike for the leader's inconsistency persuades the leader to follow through more often.

This result regarding the impact of constituents' dislike for broken promises on the leader's behavior is consistent with the literature's assumption. An interesting finding that the model derives pertains to following through: if the voter's incentive to punish the leader's inconsistency increases, the voter becomes more punishing of the leader *also* for following through. Since the leader follows through more frequently when benefits actually favor backing down (for a greater range of small $\alpha > 0$), the leader's following through serves as a less credible signal of the true value of bargaining outcomes. Therefore, the voter shifts the first cutpoint to the left. Put differently, if citizens highly dislike inconsistency, it increases not only the odds of punishment for backing down, but also those of following through. Since the increase in C_v exerts a greater influence on the the risk of punishment for backing down than

on that for following through[7], the leader is persuaded to follow through more often when backing down is in fact a better bargaining choice, and the voter punishes the leader more often overall. I summarize this result in Remark 1:

Remark 1. *If the voter's dislike for the leader's inconsistency (C_v) increases, the voter punishes the leader more often for both decisions, and the leader follows through more often.*

b) No Punishment for Following Through



where $\mathscr{L} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_1 = \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_2 = \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} - \bar{\epsilon}$
and $\hat{\alpha}'_1$, $\hat{\alpha}'_2$, and $\mathscr{L}'$ with no punishment for FT.

Figure 2.8: Model with No Punishment for Following Through

The second common assumption in related studies in the literature is that constituents do not punish the leader for honoring commitments. Figure 2.8 zooms into the full model's equilibrium characterized by interior solutions and sheds light on how the players' equilibrium strategies are affected when I introduce an assumption that

[7]Proof can be found in Appendix.

the leader is not punished for following through. Note that the voter now has only one cutpoint since (s)he does not punish the leader for following through. If the voter does not punish following through, the punishment for backing down has a greater impact on the leader's strategy such that the leader's cutpoint ($\mathscr{L}'$) is higher than that of the full model ($\mathscr{L}$). That is, the leader's backing down in this case serves as a more credible signal of benefits from bargaining outcomes than in the full model equilibrium. As a result, the voter in fact becomes more supportive of the leader under the assumption of no punishment for following through. This result stresses the importance of examining the impact of citizens' punishment for backing down vis-á-vis those for following through. By omitting political costs that citizens impose on following through, scholars may not only overestimate the impact of domestic punishments for backing down, but also fail to grasp that the leader balances the odds of punishments for backing down against those for following through. I summarize this result in Remark 2:

Remark 2. *The impact of domestic punishments for backing down is overestimated in the equilibrium of a model that assumes no punishment for the leader who follows through.*

2.4.4 The Generation and Impacts of Audience Costs

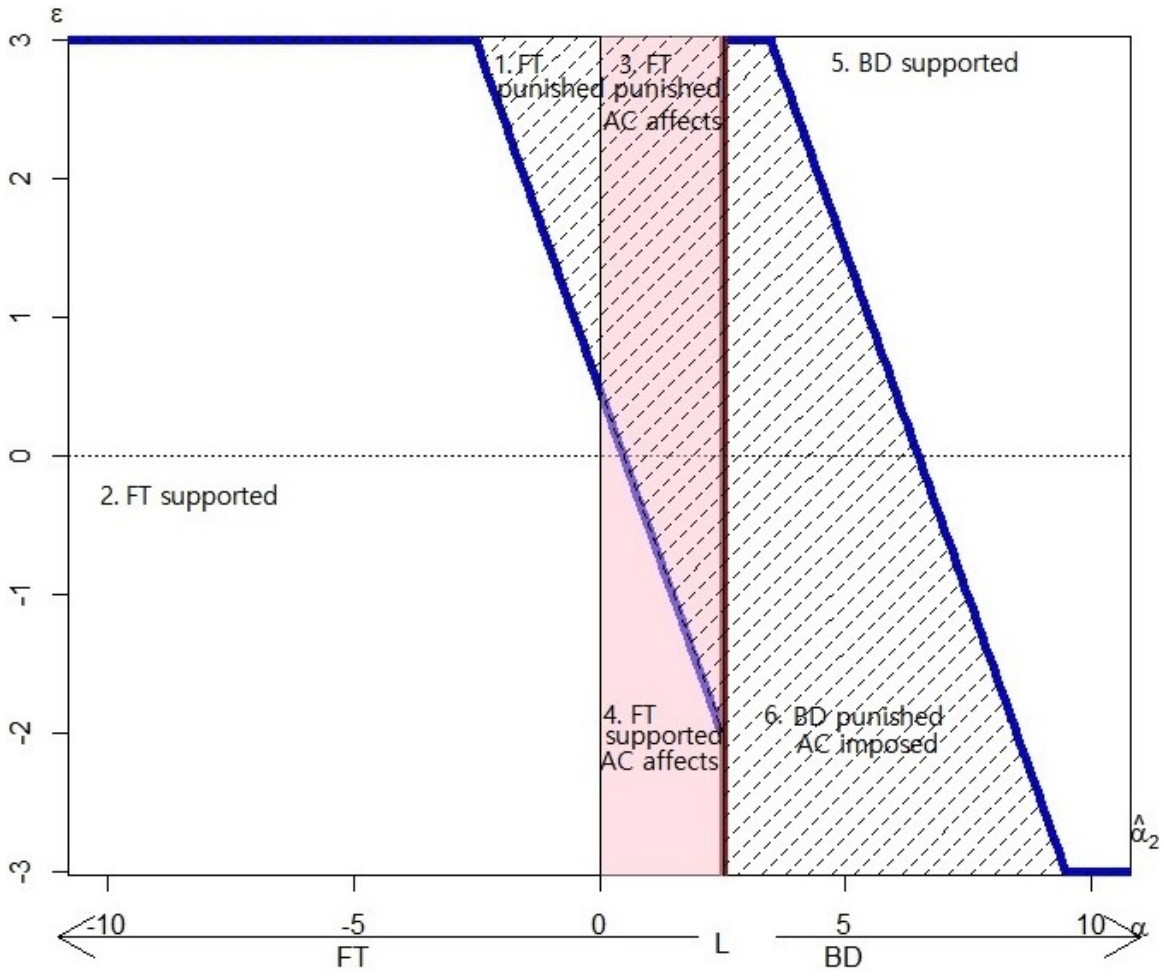


Figure 2.9: Equilibrium Space (Interior solution with s=1, C_v=6, V_p=8, $\bar{\epsilon}$=3)

Table 2.2: Political Costs in Six Zones

Zones	Leader's Preferences	Leader's Decisions affected	Punishment imposed	Punishment
Zone 1	FT	FT	X	P_{FT}
Zone 2	FT	FT	X	X
Zone 3	BD	FT	P_{BD}	P_{FT}
Zone 4	BD	FT	P_{BD}	X
Zone 5	BD	BD	X	X
Zone 6	BD	BD	X	P_{BD}

*P_{BD}: Domestic punishment for BD; P_{FT}: political cost for following through

Given all the results, when do the leaders get punished for backing down? And if punished, do these punishments always affect the leader's behavior? To answer this, I graphically present the game's equilibrium space in Figure 2.9. As previously mentioned, this equilibrium space is a comprehensive way to illustrate the voter's cutpoint strategies with respect to two parameters, α and ϵ. The marginal bargaining outcome value of backing down (α) is on the horizontal axis, and uncertainty (ϵ) due to issue complexity is on the vertical one. First of all, a non-bold vertical line passes through the origin, which shows where the benefits from consequences of the leader's two actions are the same ($\alpha = 0$). Along with other elements of the figure, it is used to distinguish Zones 1 and 2 from Zones 3 and 4. The bold vertical line represents when the bargaining outcome value drawn by Nature equals the leader's cutpoint ($\alpha = \mathscr{L}$). The left line with a negative slope demonstrates when the voter's observed bargaining outcome value is equal to his or her first cutpoint ($\hat{\alpha} = \hat{\alpha}_1$). Notice that this line stops when it intersects with $\alpha = \mathscr{L}$. This is because $\hat{\alpha} = \hat{\alpha}_1$ pertains only to the leader who follows through. Similarly, the right line signifies when the voter's observed bargaining outcome value equals his or her second cutpoint ($\hat{\alpha} = \hat{\alpha}_2$). It starts from the line's intersection with $\alpha = \mathscr{L}$, thereby pertaining only to the leader's decision to back down.

These lines create six different zones in which the two leaders behave differently in the equilibrium. First, Zone 1 is where uncertainty about bargaining outcome values is so great that, although benefits for following through are greater ($\alpha < 0$), the uncertainty makes the voter incorrectly conclude that the bargaining outcomes favor backing down ($\mathbb{E}_v[\alpha \mid \hat{\alpha}, FT] > 0$) and consequently punish the leader who follows

through. In Zone 2, the uncertainty is small or negative enough not to lead the voter to make a wrong decision. Accordingly, the voter concludes that following through is a favorable decision ($\mathbb{E}_v[\alpha \mid \hat{\alpha}, FT] < 0$) and supports the leader's following through.

In Zone 3, as in Zone 1, the voter punishes the leader who follows through. Unlike in Zone 1, however, the voter's punishment is the right decision since bargaining outcomes are actually better if the leader backs down. This in turn makes the voter's support for following through in Zone 4 the wrong decision. If the leader can make a decision based on bargaining outcomes only, as shown in the baseline equilibria, the leader's preferred action is to back down whenever the value of its bargaining outcome is greater greater than that of following through ($\alpha > 0$). However, given the same values of bargaining outcomes, when the model features inconsistency costs under incomplete information, punishments for backing down now dissuade the leader from reneging as shown in Zones 3 and 4. Therefore, as highlighted with dots in Figure 2.9, Zones 3 and 4 are conditions in which the odds of punishments for back down exert influence on the leader's behavior.

In Zone 5, the voter supports the leader who backs down. Sometimes, uncertainty may mislead the voter to overestimate the outcome value of backing down and to wrongly support it when bargaining outcome benefits are in fact not large enough to offset the voter's inconsistency cost ($\alpha < \frac{C_v}{s}$). In Zone 6, the voter punishes the leader who backs down. High uncertainty may lead the voter to underestimate outcome benefits of backing down and incorrectly punish the leader when the benefits actually surpass the voter's inconsistency cost ($\alpha > \frac{C_v}{s}$). Note that, while the voter punishes the leader in Zone 6, these do not affect the leader's behavior; the leader

would still have backed down given the same values of outcomes had (s)he based his or her decisions solely on bargaining consequences.

Put together, Table 2.2 summarizes these results to show which odds of punishments are imposed and affect the leader's behaviors. The leader's preferences reflect his or her equilibrium strategies in baseline equilibria in which (s)he is mainly driven by bargaining outcomes as opposed to office. The voter punishes the leader in Zone 1, 3, and 6. The voter punishes backing down only in Zone 6. However, this risk of punishment affects the leader's behavior in Zone 3 and 4 such that the leader is persuaded not to back down and follow thorugh. Furthermore, while the punishment for following through (P_{FT}) are imposed on the leader in Zone 3, what influences on the leader's decision is rather the risk of punishment for backing down (P_{BD}). Neither odds of punishments is imposed or affects the leader's strategy in Zones 2 and 5; the voter endorses the leader's decision, and the leader chooses the action that (s)he prefers. From these results, we can understand that even if the leader is punished for backing down, sometimes this punishment does not change the leader's behavior. The odds of punishment for backing down persuade the leader to follow through only when the bargaining outcome of backing down are slightly more favorable such that the citizens cannot discern which action brings better bargaining outcomes. Furthermore, even after the leader changes mind and follows through in this case, (s)he may still face punishments for following through.

2.5 Conclusion

In this article, I have explored the conditions under which citizens punish their leader and when such punishments deter the leader from reneging on his or her commitment in international bargaining. The model's results show that while citizens *do* punish a leader who backs down, they do so only when the bargaining outcome of backing down is not favorable enough to offset their dislike for inconsistency. Additionally, even if the leader is punished for backing down, such punishments do not always change the leader's behavior. If the bargaining outcome of backing down is only slightly more favorable than that of following through, the odds of punishments for backing down dissuade the leader from backing down. That is, the leader's incentive to improve his chances of political survival leads him to deviate from backing down to following through. However, as the bargaining outcome of backing down becomes more favorable, the leader is driven more by policy than by office and is not deterred from backing down. In other words, as shown in Figure 2.9, the condition under which the punishment for backing down locks the leader into following through is even more limited than that under which the voter punishes the leader for backing down.

Furthermore, the model's results regarding issue complexity and issue salience derive interesting implications. First, as an issue at stake becomes more complex or salient to citizens, they become more supportive of the leader, and the leader backs down more often. In other words, although extant literature has expected the leader's commitment to affect states' bargaining decisions in complex high-stake bargaining

situations, these are the very conditions under which the commitment does not effectively tie the leader's hands. Relatedly, the model suggests that audience costs may not increase monotonically as the crisis escalates. As reasoned in an earlier section, a shock can be introduced to change the benefits from bargaining outcomes both at the commitment stage and at the action stage. Second, Remark 2 implies that models which overlook the voter's role in following through may have overestimated the impact of audience costs. Moreover, the odds of punishments for following through are sometimes greater than those of backing down ($\hat{\alpha} > \hat{\alpha}_1$) when citizens are allowed to care about bargaining outcomes. Therefore, although this model has a finite horizon, many of its findings lead to an implication consistent with the empirical findings of (Davies and Johns 2013) that audience costs do not increase simply because a crisis escalates. Put together, this main model's results suggest that a leader's public commitment does not always help states overcome asymmetric information and avoid costly conflict. In the next chapter, I empirically test this main model's implications.

Chapter 3

Empirical Analysis of the Domestic Model

3.1 Introduction

In this chapter, I empirically test the implications derived the dissertation's main model developed in Chapter 2. Building on the recent experimental studies on whether and how citizens evaluate their leader's foreign policy performances (Chaudoin 2014, Kertzer and Brutger 2015, Levendusky and Horowitz 2012, Tomz 2007, Trager and Vavreck 2011), I test the model's implications based on a survey experiment which is innovative in two ways.

This design still allows me to perform the canonical between subject analysis based on random assignments, which I use to do the robustness checks. But since what I test are implications from a formal model where players observe, learn or update beliefs, within-subject design can be especially useful since it captures how the same

respondents process the change in information and react.

First, I adopt a type of within-subject design called a "crossover experiment" in which I randomly assign respondents, not to different vignettes, but to different *sequences* of vignettes. Respondents are randomly assigned to one treatment in a period and then crossed over to another in the next period. Crossover design helps tracing how subjects process and react to any change in a given treatment. Therefore, it is useful to test predictions derived from a formal model in which players learn and update their beliefs. Moreover, since scholars can examine within-subject and between-subject effects, the crossover design offers more analytic leverage than the oft-performed canonical random assignment design does.

Second, to analyze the responses from the experiment, I use a non-parametric combination (NPC) method. The analysis mainly focuses on how the change in each parameter affects the way survey respondents evaluate their leader. From the many moving parts that affect the preferences of domestic actors, I focus on the voter's strategies and test implications with respect to four parameters: the observed benefits from a bargaining outcome ($\hat{\alpha}$), issue complexity ($\bar{\epsilon}$), issue salience (s), and the leader's political punishment costs (V_p). Because a leader can either follow through or back down, each parameter—except the leader's punishment cost—is empirically analyzed with more than one hypothesis. Moreover, ultimately, implications are tested to draw a global conclusion about one formal theory. As a result, this empirical analysis has multiple predictions to confirm. As a researcher increases a number of hypotheses to test, (s)he also inflates the likelihood of making a Type I error. Therefore, in addition to independently testing each hypothesis, I use the NPC framework

to formally combine relevant component predictions to draw an inference about each parameter and also about the theory as a whole. When all hypotheses are combined to draw a global conclusion, the NPC results in a p-value of .0001 and rejects the global null in favor of the overarching theory.

3.2 Hypotheses and Experimental Settings

Recall that the theory's equilibrium results and implications pertain to conditions under which *i)* the voters punish their leader for both backing down and following through; and given that, *ii)* when the leader backs down or follows through. As is the case in most experiments on audience costs[1], this empirical analysis focuses on the former and tests how voters evaluate the leader. Therefore, the respondents are regarded as potential American voters. I test the model's results pertaining to four parameters: the voter's observed marginal benefit from the outcome of backing down ($\hat{\alpha}$), issue complexity ($\bar{\epsilon}$), issue salience (s), and the leader's political punishment cost (V_p).

To date, most experimental studies on domestic punishments for backing down have compared public approval for a leader who backs down against that for one who stays out (Levendusky and Horowitz 2012, Tomz 2007) or follows through (Chaudoin 2014, Kertzer and Brutger 2015, Trager and Vavreck 2011). Extant studies have focused on confirming/measuring the existence of audience costs or testing the impact of institutional conditions (e.g., support from parties or elites, and leaders revealing

[1]Except Yarhi-Milo (Forthcoming), which takes a sample of past and present Israeli leaders.

new information). While this paper builds on these critical studies, it also takes a different direction. I focus primarily on changes in individuals' responses to each of the leader's two actions separately. As emphasized earlier, one of the theoretical innovations of this study is that it allows the domestic audience to evaluate their leader for both backing down *and* following through. As a result, in equilibrium, the voter has two separate cutpoints that guide his/her preferences and actions for the leader's two respective decisions. Given the two cutpoints, comparative statics results are also analyzed separately for following through and backing down. Thus, I hypothesize and perform analyses with respect to changes in public approval for *each* of the leader's actions and briefly discuss, in a later section, the difference in approval across the leader's actions in relation to the existing literature. I first describe how I translate the model's implications into testable hypotheses and explain the experimental design.

3.2.1 Hypotheses

According to the theory of this analysis, citizens' evaluation of their leader depends first on the benefits accruing from the leader's decisions. Therefore, if the observed benefit of a certain action increases, citizens will be more likely to support the leader for taking that very action. Hypotheses 1a and 1b specify the impact of observed benefits in terms of the leader's two respective actions.

Hypothesis 1. ***Bargaining Outcome***

a) *If the voter estimates that backing down brings a better bargaining outcome (i.e. $\hat{\alpha}$ increases), the voter is less likely to support the leader's following through.*

b) *If the voter estimates that backing down brings a better bargaining outcome (i.e. $\hat{\alpha}$ increases), the voter is more likely to support the leader's backing down.*

Hypotheses 2 and 3 pertain to the model's comparative statics results regarding issue complexity and salience. As shown in the previous chapter, the model predicts that citizens become more supportive of the leader for both decisions—backing down and following through—if the relevant issue becomes more complex or salient to them.

Hypothesis 2. ***Issue Complexity***

a) *If the issue becomes more complex to the voter, the voter is more likely to support the leader for following through.*

b) *If the issue becomes more complex to the voter, the voter is more likely to support the leader for backing down.*

Hypothesis 3. ***Issue Salience***

a) *If the issue becomes more salient to the voter, the voter is more likely to support the leader for following through.*

b) *If the issue becomes more salient to the voter, the voter is more likely to support the leader for backing down.*

The last hypothesis relates to the political punishment cost (V_p) the leader perceives. Unlike other parameters, the leader's political punishment cost does not directly affect the voter's utilities. Instead, V_p changes the leader's cutpoint which then affects the voter's actions. Since the previous chapter did not discuss comparative statics result regarding this feature, I present a brief overview of the result. Suppose the leader cares highly about his office (i.e. the utility loss the leader experiences for being politically punished has increased). When backing down is a slightly better

ourcome than following through such that the voter cannot tell which of the two actions brings a greater benefit, the greater weight the leader puts on political survival will increase his or her incentive to deviate from backing down to following through to avoid potential punishment for backing down. If the voter knows that the leader highly cares about his office, the voter anticipates that the leader will tend to shy away from backing down. Accordingly, if the leader backs down in this case, his/her decision becomes a more credible signal of the true value of the bargaining outcome benefit (α). In sum, the voter will become more supportive of the leader's decision to back down if the leader's political punishment cost increases.

Hypothesis 4. ***Leader's Political Punishment Cost***

If the leader's political cost increases, the voter is more likely to support the leader's backing down.

3.2.2 Vignette Settings

To measure the dependent variable of how the domestic audience reacts to the leader's actions, I asked the respondents how they evaluated the way the president handled a given situation on a seven-point approval scale.[2] When describing the leader's actions, as done in earlier studies (Chaudoin 2014, Kertzer and Brutger 2015, Levendusky and Horowitz 2012, Tomz 2007, Trager and Vavreck 2011), I used neutral language and avoided the actual phrases "back down" or "follow through." The experiments on the

[2]Strongly disapprove (-3), somewhat disapprove, lean toward disapproving, neither approve nor disapprove, lean toward approving, somewhat approve, strongly approve (3). Then, I re-coded the scale into a dichotomous approval variable that takes the value of 1 if a respondent has said (s)he strongly approves, somewhat approves, or leans toward approving.

value of the bargaining outcome, issue complexity, and the leader's punishment cost were conducted in the context of an international crisis while that on issue salience was performed in a setting of international trade. Before the respondents started the survey, they were informed that they would read about a situation the U.S. has faced many times in the past and could face again in future.

In the scenario of an international crisis, a challenging state sends a military force to a neighboring country, and the U.S. president publicly warns of U.S. military involvement if the challenging state continues the attack. I capture the different values of the observed marginal benefit from the consequence of backing down with casualty estimates in case of U.S. military engagement. Some experimental studies have included information about casualties, but it was to measure the degree of escalation (Davies and Johns 2013, Tomz 2007)[3] or to characterize a lost war (Trager and Vavreck 2011). Unlike existing studies, this project focuses on using casualty estimates to update respondents' belief about how costly and thereby how unfavorable it would be, in terms of bargaining consequences, to follow through.

Since what voters observe is not the actual benefit but includes noise, I allow for uncertainty around the casualty estimates by specifying that the estimates are forecast by publicly available reports. Compared to minimal casualties, substantial casualties reflect the observed value of the bargaining outcome that favors no military action (backing down), representing a higher value of $\hat{\alpha}$.

Given a moderate level of uncertainty introduced in the previous scenario, to capture the increase in issue complexity, I add the information that the reports' as-

[3]The U.S. suffered casualties while a crisis escalated before its leader backed down

sessments are often either underestimated or overestimated. This increases the entire range between which the uncertainty around the estimates is distributed without introducing any policy bias toward either backing down or following through. Put together, casualty estimates ($\hat{\alpha}$) can be either i) minimal or substantial ii) with or without additional uncertainty around the accuracy of the casualty estimates, and the leader either backs down or follows through. The full survey wording is as follows:

> "A country sent its military to take over a neighboring country. The U.S. president said that if the attack continued, the U.S. military would push out the invaders. The attacking country continued to invade. Publicly available reports estimate that the U.S. will suffer [minimal / substantial] casualties if it militarily engages itself.
>
> [(No additional information) / However, these assessments are often either underestimated or overestimated.]
>
> In the end, the U.S. president [orders the military / does not send the military] to engage."

As a result, I have specified eight vignettes (2 x 2 x 2) so far. With these vignettes, to test hypotheses 2a and 2b regarding issue complexity, I can either fix the value of casualty estimates ($\hat{\alpha}$) to one level or study how issue complexity affects approval for both levels of estimates. However, this project already has several hypotheses to test, which increases the probability of falsely rejecting or falsely failing to reject the null hypotheses. Therefore, to minimize the number of tests, I need a setting that ensures that I capture the impact, if any, of issue complexity. In that regard, for each of the leader's two actions, I choose the casualty level that allows enough room for a change in approval. In other words, I fix casualty estimates to be substantial for following

through (H2a) and to be minimal for backing down (H2b). In both cases, casualty estimates do not favor the leader's respective actions, and approval ratings will be low. Thus, if the increased issue complexity has the hypothesized positive impact on the voter's approval of the leader, the specified levels of casualty estimates will help observe any increase in respondents' approvals in both the follow-through and the back-down vignettes.

Now, I consider the leader's political punishment cost, the last feature tested in the context of international crisis. I operationalized this parameter with the U.S. president's term. Due to the prospect of re-election, the leader's political punishment cost is relatively higher during the first term. In addition, because uncertainty around the value of the bargaining outcome is a necessary condition for voters to attach more weight to the leader's action of backing down, I test the impact of the leader's cost with high issue complexity. Since Hypothesis 4 regards backing down only, the full survey wording for the leader's cost is as follows:

> "It is a U.S. president's [first / second] term. A country sent its military to take over a neighboring country. The U.S. president said that if the attack continued, the U.S. military would push out the invaders. The attacking country continued to invade. Publicly available reports estimate that the U.S. will suffer minimal casualties if it militarily engages itself.
>
> However, these assessments are often either underestimated or overestimated.
>
> In the end, the U.S. president does not send the military to engage."

When capturing issue salience with survey wording, it is important to distinguish

the impact of issue salience and that of the observed benefits of bargaining consequences. It is possible that people may pay higher attention to a given issue if its benefits (or costs) increase. In this case, not only issue salience but also the observed value of bargaining outcomes vary. To prevent the benefits from consequences of the leader's actions ($\hat{\alpha}$) confounding the impact of issue salience on voter approval, I need to ensure the value of the bargaining outcome is fixed in the eyes of respondents. However, in the survey's international crisis scenario, I operationalize the bargaining consequence with the qualitative level of casualty estimates. As a result, it is likely that there is a heterogenous interpretation of what the actual point values of "minimal/substantial" casualties are.[4] Thus, I test issue salience in a different setting of international trade, in which the value of bargaining outcome can be fixed with a numeric quantity.

The respondents are informed that the U.S. president has committed to removing trade barriers to a certain type of import, which costs the relevant American industries approximately $ 20 million per year. Removing trade barriers can lower the price of the product of interest and consequently is beneficial to consumers. To ensure that the consequence of the leader's action is fixed to $ -20 million/year, respondents are told that removing a trade barrier does not change the product's price. With

[4]The qualitative values of casualty forecasts are not problematic when it comes to capturing the impact of the observed bargaining outcome value on the voter evaluation of the leader. Hypothesis 1 makes a prediction in which a change in one parameter in a certain direction is related to another directional change in a dependent variable. Given that this analysis considers the "mean" difference in responses, as long as respondents on average agree on the direction of the change, I can test the directional predictions of Hypothesis 1. However, because heterogenous interpretations of what the actual point-values of casualties can affect the salience of the issue to the respondents, I test issue salience in a setting in which I can quantitavely fix the value of the consequence of the leader's action.

policies regarding the trade barrier having no impact on consumer price, and given the same consequence, the only change applied is the different level of issue salience, which is captured with two different types of imports—Alaska pollock and dairy products. While not many people are familiar with pollock, most citizens know of dairy products. They not only consume dairy products a lot, but also know that many U.S. producers across states are engaged in the dairy industry. However, pollock is not consumed as much and is caught in a few states, such as Alaska. Therefore, when given information about trade barriers, respondents are expected to find the trade barriers on dairy products more salient than those on pollock. The following is the full survey wording:

> The U.S. president signed and ratified a trade agreement to remove trade barriers on Alaska [Alaska pollock / dairy products] imported from some countries to the U.S. Removing trade barriers will not significantly affect the [pollock / dairy] price in the U.S. domestic market, but will cost the relevant U.S. industries approximately $20 million per year.
>
> In the end, the president [removes / does not remove] the trade barriers.

Overall, I have 12 vignettes to test seven hypotheses. Having described how four parameters have been operationalized, I summarize the vignette information in Table 3.1.

Table 3.1: Vignette Descriptions

Leader's action	Vignette notations	Descriptions	Predicted approval	Hypothesis (parameters)
Follow Through (FT)	FTα	minimal casualties		
	FTα^+	substantial casualties	FTα > $FT\alpha^+$	H1a ($\hat{\alpha}$)
	FT$\alpha^+\bar{\epsilon}$	substantial casualties & reports under/overestimated	FTα^+ < $FT\alpha^+\bar{\epsilon}$	H2a ($\bar{\epsilon}$)
	FTs	trade barrier to pollock		
	FTs$^+$	trade barrier to dairy	FTs <FTs^+	H3a (s)
Back Down (BD)	BDα^+	substantial casualties		
	BDα	minimal casualties	BDα^+ > $BD\alpha$	H1b ($\hat{\alpha}$)
	BD$\alpha\bar{\epsilon}$	minimal casualties & reports under/overestimated	BDα^+ < $BD\alpha^+\bar{\epsilon}$	H2b ($\bar{\epsilon}$)
	BDs	trade barrier to pollock		
		high trade barrier to dairy	BDs <BDs^+	H3b (s)
	BD$\alpha\bar{\epsilon}V_p1$	leader's 1^{st} term		
	BD$\alpha\bar{\epsilon}V_p2$	leader's 2^{nd} term	BD$\alpha\bar{\epsilon}V_p1$ > BD$\alpha\bar{\epsilon}V_p2$	H4 (V_p)

3.2.3 Crossover Design

The main analysis is based on the crossover experimental design that randomly assigns respondents to different *sequences* of vignettes that are crossed over. Because the crossover design allows researchers to perform an analysis based on the canonical between-subject design that randomly assigns respondents to different vignettes, the latter is also performed to check the robustness of the main analysis.

Suppose there are two treatments (e.g. A and B). In a crossover experiment, there should be two different sequences of these treatments (i.e., 2 x 2 crossover experiment). For instance, a respondent can be assigned to either i) a sequence that starts with Treatment A and then Treatment B (sequence AB); or ii) the other sequence that begins with Treatment B and then crosses over to Treatment A (sequence BA). Since

the four parameters take two different values, the crossover design yields two sequences for each of the seven hypotheses, thereby resulting in 14 tests.

To calculate the treatment effects in a crossover experiment, scholars usually take the mean of the treatment effects from the two sequences. However, this approach needs a further assumption that the carryover effects, or the treatment effects carried over from the previous time period, are identical in both sequences. If a respondent is assigned to vignette A during the first period and then to vignette B in the next period, the impact calculated during the second period could be due to the change in the parameter of interest in vignette B, and/or the residual effect of the value of the parameter initially given in vignette A in the first period. Table 3.2 helps us understand how the treatment effects in a 2 x 2 crossover design are often calculated.

Table 3.2: Calculating Treatment Effect in Crossover Design

	Period 1	Period 2
Sequence AB	Φ_{1A} $(\bar{Y}_{1.1})$	$\Phi_{2B} + \lambda_A$ $(\bar{Y}_{2.1})$
Sequence BA	Φ_{1B} $(\bar{Y}_{1.2})$	$\Phi_{2A} + \lambda_B$ $(\bar{Y}_{2.2})$

where

$\bar{Y}_{j.k}$: response due to change in parameter k in j^{th} period.
Φ_{jk}: the direct effect of change in parameter k in j^{th} period.
λ_k: the carryover effect of parameter k.

$$\mathbb{E}(\hat{\Phi}_B - \hat{\Phi}_A) = \frac{\{(\bar{Y}_{2.1}) - (\bar{Y}_{1.1})\} + \{(\bar{Y}_{1.2}) - (\bar{Y}_{2.2})\}}{2}$$

$$\mathbb{E}(\hat{\Phi}_B - \hat{\Phi}_A) = \frac{((\Phi_{2B} + \lambda_A) - \Phi_{1A}) + (\Phi_{1B} - (\Phi_{2A} + \lambda_B))}{2}$$

$$\mathbb{E}(\hat{\Phi}_B - \hat{\Phi}_A) = \{\underbrace{(\frac{\Phi_{2B} + \Phi_{1B}}{2})}_{\hat{\Phi}_B} - \underbrace{(\frac{\Phi_{1A} + \Phi_{2A}}{2})}_{\hat{\Phi}_A}\} + \underbrace{(\frac{\lambda_A - \lambda_B}{2})}_{\text{carryover effect}}$$

Scholars often take steps such as introducing a long lag between two periods of surveying the same subjects to wipe out potential carryover effects (Hainmueller and Hiscox 2010). Instead of averaging treatment effects in two sequences or wiping out carryover effects, I treat each sequence as an independent hypothesis and run all fourteen subtests. Recall that I am using the NPC method, which calculates p-values for all 14 subtests before combining them to draw a collective conclusion about a theory. Therefore, even if there is any carryover effect, NPC will help derive a global p-value that accounts for any potential residual effect transferred from the first to the second period. In the next section, I introduce the NPC method and discuss the empirical results.

3.3 Non-parametric Combination (NPC) Analysis

I measure the impact of the four parameters on approval by examining the change in percentage of the respondents who approve of the way the president has handled the situation.[5] The seven hypotheses regarding the four parameters are generated from one theory. Therefore, in order to empirically test this overarching theory, it is important to test not just a few, but all the relevant implications the theory derives. To do so, researchers usually test the observable predictions separately and perform an F-test or employ other informal ways to combine these independently drawn inferences. However, this approach can lead to a misleading conclusion for a theory of interest. First, as suggested in Caughey et al. (2017), independently testing each

[5] A respondent is regarded as having approved if the person answers to strongly approve, somewhat strongly approve, or lean toward approving.

of the seven hypotheses provides little information beyond one particular parameter alone. In addition, separately testing multiple predictions increases the probability of a Type I error. Each additional test inflates the chance of a rare event, thereby increasing the possibility of incorrectly rejecting a null hypothesis. Furthermore, informally combining the results of independently tested hypotheses into one conclusion does not account for the degree of dependence among the component tests.

Thus, to test multiple implications that are derived from a formal model, I use the NPC method. Based on permutations, NPC first generates p-values for the component tests. Then, it uses a formal function to combine the independent p-values to derive one global p-value, accounting for the dependence across the constituent tests via the permutation's resampling methods (Caughey, Dafoe and Seawright 2017, Corain and Salmaso 2015, Pesarin 2001, Salmaso 2015). With the right specification of a combining function (e.g., Fisher's product function[6]), the NPC method can empirically test a theory with many predictions without over-punishing the test in case evidence for one prediction is weak while rewarding the test for finding support for several predictions (Caughey, Dafoe and Seawright 2017). Moreover, NPC's closed testing procedures can also address the increased chance of Type I error (by adjusting for a family-wise error rate (FWER)). Lastly, recall that the hypotheses make directional predictions. Because NPC can test null hypotheses against one-sided alternative hypotheses, it has an advantage over other non-directional methods such as the F-test to analyze this project's predictions. Therefore, responses from crossover

[6]It is called a "product" function since the function, $\psi_{\Pi} = -2\sum_{j=1}^{J} log_(p_j)$ where test $j \in (1, ..., J)$, is permutationally equivalent to $-\prod_{j=1}^{J} p_j$.

experiments will be independently tested and then combined with the NPC framework to yield p-value for each hypothesis as well as the overarching theory.

3.4 Results

3.4.1 Crossover Experiment Analysis with NPC

I launched an online survey experiment in March 2018 on a national American sample of 3450 respondents recruited through the Amazon Mechanical Turk (mTurk) platform. Compensation of $ .60 was offered per respondent for completing the survey which took about ten minutes on average. To ensure the anonymity of the respondents, those who agreed to take the survey were forwarded to an external survey linked to Qualtrics and were given a randomized code to submit to Amazon for their compensation. The descriptive statistics can be found in the Appendix.

While NPC does not require modeling assumptions, given that NPC is based on permutations, responses from the 14 tests have to be exchangeable (Caughey, Dafoe and Seawright 2017, Pesarin and Salmaso 2010). That is, two sets of observations $\{\mathbf{x}_i\}_{i\in[n_x]}$ and $\{\mathbf{y}_i\}_{i\in[n_y]}$ are exchangeable under the global null hypothesis if their joint distribution does not change even after swapping some x_i with y_i. Because a national American sample of respondents is randomly assigned to 14 sequences of treatment conditions, responses from these sequences are exchangeable. Despite the two different contexts—conflict and trade—of the experiment, there is no reason to believe that joint distribution is affected by who is assigned to which vignette under the null

hypothesis. Moreover, I ensure that the survey subjects were randomly assigned to experiment conditions by using ordered logistic regression to predict subjects' assignments to different treatment assignments as a function of respondents' demographic variables, party identification, and dispositional characteristics such as military assertiveness, international trust, and trade openness. All variables are jointly insignificant (the likelihood ratio test statistic χ^2 is 22.84 with 22 degrees of freedom, resulting in p-value of .3555). Therefore, the null hypothesis that all variables are jointly 0 (i.e. treatments are randomly assigned) is not rejected, confirming that responses from the 14 tests are exchangeable.

Table 3.3: The NPC Analysis of Crossover Experiments

	Vignette sequence		Leader Action					
	Period 1	Period 2	Follow through (%)		Diff. (p-value)	Back Down (%)		Diff. (p-value)	**NPC** (p-value)
H1	Minimal casualty (α)	Substantial casualty (α^+)	65.9	40.1	**-22.2 (<.0001)**	51.0	72.5	**21.8 (<.0001)**	
	Substantial casualty (α^+)	Minimal casualty (α)	30.2	66.0	**35.8 (<.0001)**	67.5	46.9	**-20.6 (.0001)**	**<.0001**
H2	Reports over/under-estimated (high $\bar{\epsilon}$)	Reports estimated (low $\bar{\epsilon}$)	44.0	33.2	**-10.8 (.0001)**	51.5	46.7	**-4.8 (.025)**	
	Reports estimated (low $\bar{\epsilon}$)	Reports under/over-estimated (high $\bar{\epsilon}$)	40.0	40.0	0.0 (.65)	38.3	47.5	**9.2 (.0064)**	**<.0001**
H3	Dairy import (s high)	Pollock import (s low)	33.6	26.8	**-5.8 (.004)**	57.4	59.1	1.7 (.76)	
	Pollock import (s low)	Dairy import (s high)	31.1	29.3	-1.8 (.81)	58.4	62.9	**4.5 (.06)**	**.02**
H4	L's 1st term (high V_p)	L's 2nd term (low V_p)	-	-	-	56.4	55.4	-1.0 (.32)	
	L's 2nd term (low V_p)	L's 1st term (high V_p)	-	-	-	57.5	56.8	-.7 (.70)	.52
Global p-value with NPC									**.0001**

Table 3.3 presents the results of both independent tests and the NPC method for each of four hypotheses as well as the overall theory. Given that hypotheses are directional, I conduct one-sided tests of the mean difference and combine them to test a directional global alternative hypothesis. The column "**Diff**" shows the difference in approval ratings as a parameter of interest changes its value given the leader's

respective actions. In the same column, p-value for each hypothesis test is presented in the parenthesis below. If a cell is NOT highlighted, it signifies that the resultant difference is not consistent with the predicted direction of change in approval. In all hypotheses except Hypothesis 4, the impact of a parameter of interest is hypothesized with respect to both backing down and following through. Moreover, regarding each parameter, there are two possible sequences of a treatment to be tested. Therefore, as shown in Table 3.3, four test results are presented in each of the first three hypotheses, and two results for Hypothesis 4 that only pertains to backing down. The rightmost column presents the NPC global p-value for each hypothesis as well as the overall theory.

The four test results regarding the casualty estimates support Hypothesis 1 that the consequence of the leader's action conditions voters' approval. When the casualty estimates increase, approval for the leader who follows through decreases by 22.2% while that for the leader who backs down increases by 21.8%. When the casualty estimates decrease, approval for following through increases by 35.8% while that for backing down decreases by 20.6 %. These four test results are statistically significant. When the NPC is used to combine all four results to draw an overall conclusion for the impact of the value of the bargaining consequence, the method results in p-value of .001, yielding strong support for Hypothesis 1.

Results pertaining to issue complexity also support Hypothesis 2 that citizens tend to defer more to the leader if a given issue becomes more complex to them. As it becomes easier for respondents to know casualty estimates (i.e., decreased issue complexity), approval for the leader decreases by 10.8% for following through and

4.8% for backing down. When it becomes harder for respondents to know casualty estimates (i.e. increased issue complexity), approval for the leader increases by 9.2% for backing down. These three results are statistically significant When the NPC combines all four results, it results in p-value of .0001, collectively supporting Hypothesis 2.

Tests regarding the impact of issue salience bring mixed results. Hypothesis 3a and Hypothesis 3b each has support from one of the two sequences tests. As shown in Table 3.3, approval for the leader who backed down does not increase when issue becomes less salient, and approval for the leader who followed through does not decrease when issue becomes more salient. Nevertheless, neither results is statistically significant. When an issue becomes less salient, respondents become less supportive of the leader who followed through (i.e. approval decreases by 5.8%). When an issue becomes more salient, the support increases for the leader who backed down by 4.5%. Both are statistically significant at 95% and at 90% confidence levels respectively. It might be that the impact of issue salience is indeed less than that of the benefits from bargaining outcomes or issue complexity. However, it is also possible that the parameter has not been operationalized in an optimal way. Although the use of Alaska pollock and dairy products helps clearly distinguish the impact of issue salience from that of the benefit of bargaining outcome, they are already in the context of the same issue area: international trade. Therefore, the salience gap with respect to the different types of products may have been too little to capture the impact of issue salience, if any, on public approval of the leader. When the mixed results from the four tests are combined with the NPC, it yields global p-value of 0.02 and supports

Hypothesis 3.

Lastly, the leader's political punishment cost rarely has an impact on approval for the leader who backed down. As the leader's cost reduces, approval decreases for the leader's backing down by 1%. However, the change in approval is not statistically significant. Once again, it is possible that the voter's strategies are not contingent on how much the leader cares about his or her political survival. However, theoretically, if voters do not consider how much their leader cares about political survival when they decide how to evaluate their leader, they may have no incentive to punish or reward the leader for her international bargaining choices in the first place. Therefore, alternatively, it is also possible that the survey wording of "the leader's term," which was intended to capture the leader's political punishment cost, has not primed the respondents in the right way.

Given individual results, I use the NPC method to combine all four hypotheses with both strong and relatively weak evidence to draw a global conclusion about the model as a whole. The NPC results in a p-value of .0001 and yields strong support for the overarching theory from which the four hypotheses derived.

3.4.2 Robustness Check

To check the robustness of the main empirical results, I perform two additional analyses. First, I once again analyze responses from the crossover experiment with the NPC framework, but this time controlling for the FWER. The NPC adjusts for the FWER by applying a combining function to every intersection hypothesis and adjust-

ing the component p-values "up to the maximum of all intersection tests" that include the hypothesis of interest (Caughey, Dafoe and Seawright 2017, Pesarin and Salmaso 2010). By doing so, it in a way tests all potential intersections of the hypotheses of interest and reject one hypothesis only if all intersection hypotheses that include it are statistically significant (Caughey, Dafoe and Seawright 2017, Marcus, Peritz and Gabriel 1976). The outcome of this NPC test that controls for the FWER is generally more powerful than other methods such as the Bonferroni correction (Caughey, Dafoe and Seawright 2017). Table 3.4 presents the results from the NPC test adjusting for the FWER. Results show that this robustness test yields more conservative p-values for sub-tests. Two of four tests for issue complexity (H2) and one out of four tests regarding issue salience (H3) are now statistically significant. However, the collective p-value for each of the first three hypotheses and the global p-value (.0001) for the overall theory still remain robust.

Table 3.4: The NPC Analysis of Crossover Experiments - FWER Adjusted

	Vignette sequence		Leader Action					
	Period 1	Period 2	Follow through (%)		Diff. (p-value)	Back Down (%)		Diff. (p-value)	**NPC** (p-value)
H1	Minimal casualty (α)	Substantial casualty (α^+)	65.9	40.1	**-22.2 (<.0001)**	51.0	72.5	**21.8 (<.0001)**	
	Substantial casualty (α^+)	Minimal casualty (α)	30.2	66.0	**35.8 (<.0001)**	67.5	46.9	**-20.6 (.0007)**	**<.0001**
H2	Reports over/under-estimated (high $\bar{\epsilon}$)	Reports estimated (low $\bar{\epsilon}$)	44.0	33.2	**-10.8 (.0007)**	51.5	46.7	-4.8 (.13)	
	Reports estimated (low $\bar{\epsilon}$)	Reports under/over-estimated (high $\bar{\epsilon}$)	40.0	40.0	0.0 (.97)	38.3	47.5	**9.2 (.04)**	**<.0001**
H3	Dairy import (s high)	Pollock import (s low)	33.6	26.8	**-5.8 (.03)**	57.4	59.1	1.7 (.76)	
	Pollock import (s low)	Dairy import (s high)	31.1	29.3	-1.8 (.97)	58.4	62.9	4.5 (.26)	**.02**
H4	L's 1st term (high V_p)	L's 2nd term (low V_p)	-	-	-	56.4	55.4	-1.0 (.85)	
	L's 2nd term (low V_p)	L's 1st term (high V_p)	-	-	-	57.5	56.8	-.7 (.96)	.52
Global p-value with NPC									**.0001**

Second, I present empirical results from a canonical between-subject experimen-

tal design. As Table 3.5 shows, both component tests and the NPC p-value support Hypotheses 1. While the impact of issue complexity on approval is not statistically significant for following through, the NPC global p-value (.047) yield suppor for Hypothesis 2. Since the between-subject design allows less room for respondents to update their beliefs, the test results for relatively weaker treatments of issue salience (H3) and the leader's punishment cost (H4) are not statistically significant. However, once again, when all the tests of both strong and weak evidence are combined together, the NPC test yields the global p-value of .0001, supporting the theory as a whole. In sum, the formally developed theory, which generates the seven hypotheses with respect to four parameters, has strong empirical support. Although some sub-tests yield stronger evidence than others, they collectively corroborate the theory.

Table 3.5: The NPC Analysis of Between-Subject Experiments

H		Treatment	Follow through (%)		**Diff.** (p-value)	Back Down (%)		**Diff.** (p-value)	**NPC p-value**
H1	$\hat{\alpha}$ increases	Casualty estimates increase from Minimal to Substantial	65.9	40.1	**-25.8 (.0001)**	44.7	67.4	**22.7 (.0001)**	**.001**
H2	$\bar{\epsilon}$ increases	Uncertainty around casualty estimates increases	40.1	44.0	3.9 (.19)	44.7	51.5	**6.8 (.05)**	**.047**
H3	s decreases	Imports subject to trade barriers change from dairy to pollock	33.7	31.1	-2.6 (.26)	57.4	58.4	1.0 (.67)	.44
H4	V_p decreases	The leader's term changes from the first to the second	-	-	-	56.4	57.5	1.1 (.63)	.63
								NPC global p-value	**.0001**

3.5 Discussion

Recall that this study separately hypothesizes and analyzes approval for backing down and that for following through. Despite not being a part of the study's hypotheses, it is worth noting some interesting survey results in relation to previous experiments

on punishments for backing down (i.e. audience costs). Most experiments that have measured audience costs by comparing approval for backing down to that for staying out have found consistent support for the existence of audience costs. For instance, Tomz has shown that disapproval for a leader who backs down is consistently higher than that for a leader who decides not to commit at all (Tomz 2007). Levendusky and Horowitz (2012) also show approval ratings from eight out of nine backing down vignettes under different conditions (e.g., with elite/party support or a president justifying his decision to back down) are lower than approval from the "staying out" vignette. [7] While these results show how a leader can face greater repercussions for backing down than for staying out, such findings do not necessarily signify that backing down is always punished. Because most results do not consider the leader's (dis)approval ratings for following through, it is hard to understand whether the odds of punishments for backing down are indeed high enough to lock leaders into following through.

Although the hypotheses mainly pertain to difference in approval due to changes in relative parameters for a given action, in this section, I highlight that approval for backing down is sometimes critically higher than that for following through. For instance, when casualty estimates are substantial, approval is 30.2% or 40.1% for the leader who followed through while that is 67.5% or 72.5% for the leader who backed down. Furthermore, although the empirical evidence for the tests regarding issue salience is not strong, consider approval ratings from the relevant vignettes. Recall

[7] Moreover, in Trager and Vavreck (2011), even approval for an unsuccessful war (40%) is still greater than that for a leader's backing down (24%).

that in the context of issue salience, the values of bargaining outcomes favor backing down since it costs some U.S. industries $ 20 million per year if the leader followed through on the commitment to remove trade barriers. Given the policy value that does not favor the outcome of honoring the commitment, approval ratings in the four back-down vignettes (57.4%, 591.%, 58.4%, and 62.9%) are all higher than those for the four follow-through vignettes (33.6%, 26.8%, 31.1%, and 29.3%). When the respondents evaluate their leaders for following through as well as backing down under various conditions, empirical evidence infers that the political punishment for backing down is *not always* greater than that for following through. In other words, along with the NPC results, approval responses from the survey experiment demonstrate that the political punishment that leaders face for backing down—which can not only change but also be less than that for following through—does not always tie the leaders' hands in inter-state dynamics.

3.6 Conclusion

While extant survey experiments have paid more attention to domestic actors than formal-model works in studying international bargaining, they also have understudied what really underlies citizens's behavior and preferences. Although scholars have begun to address the value of conseqeunces of the leader's actions in experiments on citizens' punishment for backing down (Chaudoin 2014, Kertzer and Brutger 2015), their focus is individuals' policy predispositions. While these studies have shed light citizens in the bargaining literature, voters' underlying preferences are not equivalent

to the impact of what consequence the leader's bargaining decision brings. Ex-ante beliefs or psychological political biases are pre-existing conditions citizens have before they form preferences based on actual consequence of the leader's actions. Therefore, similar to its theoretical contribution, this dissertation's empirical analysis adds to the literature by operationalizing, and thereby empirically integrating, the value of the leader's bargaining decision into an experiment on the domestic model of international bargaining.

The study is also innovative in its analytic method. I have derived seven hypotheses regarding the observed bargaining outcome value ($\hat{\alpha}$), issue complexity, issue salience, and the leader's political punishment cost. While these components can be individually tested, since they have been derived from one overarching theory, I needed to derive an inference about the theory based on the results from all seven tests. To account for dependence among all component tests while correcting for the increased probability of Type I error, I analyzed the survey results with the permutation-based NPC method that formally puts together multiple tests with a combining function. when the NPC framework is conducted to combine all the relevant predictions with strong and weak evidence, NPC tests yield a global p-value of 0.0001, which offers strong evidence for the theory overall. Moreover, unlike previous studies, the survey responses of this chapter show that sometimes approval for backing down is greater than that for following through. Therefore, this empirical analysis confirms the theoretical suggestion that a leader's public statements do not always credibly tie the his or her hands, especially in complex high-stake settings.

Chapter 4

Model Extension - International Level

4.1 Introduction

In Chapters 2 and 3, I presented and tested a domestic model of international bargaining with several key results. First, unlike conventional wisdom, the main model shows that citizens can both support their leader for backing down and punish him or her for following through. Consequently, the leader's commitment does not always lock the leader into following through. Furthermore, citizens become increasingly likely to defer more to a leader when a given issue becomes more salient or complex to them.

From these results, interesting implications have been derived regarding inter-state dynamics in bargaining. First, while it has been understood that the leader's public commitments matter in complex high-stake settings such as international crises, this

model suggests that these are the very situations in which the leader's commitment is unlikely to effectively tie a leader's hands. Second, the model suggests that a leader's public commitment might not always help states overcome asymmetric information in international bargaining to avoid unnecessary conflict.

In this chapter, I extend the main model to examine these implications at the international level. Given that a leader may back down and also follow through in equilibrium, I investigate how a leader's commitment affects state behaviors and bargaining outcomes in an international setting. More specifically, given that a public commitment does not necessarily lock a leader into following through at Home, I examine under which conditions a leader decides to publicly commit once challenged, and when such a commitment credibly deters a foreign challenger (hereinafter referred to as "Foreign") from continuing a crisis. In the next section, I explain the features and set up of the model extension. Then, I present the extension's equilibria and comparative statics results. Finally, I conclude with the extended model's implications.

4.2 The Model

4.2.1 Novel Features

The extended model is also a finite horizon signaling model that embeds the main model as one subgame in an international setting. In addition to citizens (V) and a leader (L) at Home, the model extension adds Foreign (F), for which its leader

and the state itself are unitary. Recall the two novel assumptions made for the main model in Chapter 2. The first assumption regards the leader's alternative action to issuing a public commitment. As previously explained, most bargaining models in the existing literature have characterized the alternative move to making commitments as "staying out"(Fearon 1994, Ramsay and Ashworth 2017, Schultz 2001, Smith 1998, Tomz 2007, Trager and Vavreck 2011). In these models, if a leader at Home decides not to commit, the game ends with the leader making immediate concessions to Foreign. After that, voters do not play any role; they neither punish nor support the leader's staying out. However, states do not always make immediate concessions when they decide not to make commitments. Moreover, as noted by Baum (2004) and Chen (2016), leaders sometimes deliberately choose not to issue any public threat to make their actions effective [1]. Building on existing models, in this chapter's extension, a leader who has not committed will be allowed not only to concede (i.e., stay out), but also choose to fight. Furthermore, after the leader decides whether to take action or not, citizens will choose whether to politically punish or support their leader. As a result, the domestic subgames after both not committing and committing will feature the same actors and action profiles. The only difference between these two subgames is that the leader's concession (i.e., backing down) in the domestic subgame after committing—as in the main model in Chapter 2—involves the leader's inconsistency between his or her words and actions.

Second, another innovative feature of the main model relates to the need to distin-

[1] or, as noted by (Levy et al. 2015), sometimes they still take military actions even after committing not to fight.

guish decisions made at the commitment stage and those made at the action stage. In addition to the time lag between these two stages, I noted that the two decisions can become conditionally independent if there is an external shock to the value of the consequence of the leader's action in between the two stages. The main model adopted the distinction between the commitment and action stages by having Nature draw the size of α, or the consequence of backing down as opposed to following through. In that same vein, in this extended model, I allow Nature to draw Home's cost of fighting (C_H) once Foreign decides to continue challenging. Instead of α, Home's cost of fighting will be the variable that induces information asymmetry between the leader and the voter.

4.2.2 Order and Payoffs

This extension will assume that Foreign has militarily challenged Home, thereby involving the two states international crisis bargaining. The game starts with Nature drawing Foreign's cost of fighting ($C_F \sim \mathrm{U}(0, \overline{C}_F)$). This is private information to Foreign, but the leader knows its distribution. Then, the leader decides whether to publicly threaten to use force if Foreign continues (commitment) or stay silent (non-commitment). After the leader's move, Foreign decides whether to stop or continue the crisis. If Foreign stops, the game ends. If Foreign continues, Nature then draws the actual value of C_H. While Foreign only knows the distribution of C_H, as in the main model regarding α, the voter makes a noisy observation of $\hat{C_H} = C_H + \epsilon$ such that his or her posterior belief of $\hat{C_H}$ is uniformly distributed on the range betwewn

-$\bar{\epsilon}$ and $\overline{C}_H + \bar{\epsilon}$. The leader then decides whether to fight back (i.e., following through given the commitment) against Foreign or concede (i.e., backing down given the commitment). After the leader's decision to fight or concede, voters in both domestic subgames decide whether to politically punish or support the leader.

Because the model extension includes Foreign, the main model's α is further specified to capture Foreign's payoffs in relation to the leader's in all possible subgames. Therefore α is unpacked with three parameters. First, a will stand for the full gain of bargaining at stake (or the value of the object in disputes), and p will stand for the probability that Home will win in the case a military conflict occurs between the two states. As previously mentioned, C_F is Foreign's cost of fighting and is private information to Foreign. Similarly, C_H is Home's cost of fighting and is private information to the leader.

Without loss of generality, this model extension assumes that, in the status quo prior to bargaining, Home owns the value of a while Foreign has nothing. Therefore, if Foreign stops after the leader either commits or not, Foreign still has nothing while Home maintains a since the status quo has not changed. One illustrative example of such a type of inter-state bargaining is a territorial dispute during which a state possesses a piece of land while a challenging state ex ante owns nothing. If Foreign continues to challenge and the leader at Home concedes, Foreign will obtain the full value of bargain a, while Home loses a and gets 0. However, if Home fights back and a conflict occurs, Foreign will get nothing with the probability of p (i.e., the probability that Home wins and Foreign loses) and retain a with the probability of $1 - p$. In either scenario, Foreign pays for its own war cost.

If the leader at Home concedes, (s)he will lose a and get nothing for having made concessions to Foreign without resisting. If the leader fights back, (s)he will lose nothing and maintain the status quo with the probability of p but will lose a and gets nothing with the probability of $1 - p$. Once again, either way, Home suffers the war cost C_H in the event of a military conflict. If the leader's fight or concession is politically punished by citizens, the leader also suffers V_p. Table 4.1 summarizes Foreign's and the leader's payoffs at the international level.

Table 4.1: Foreign's and the Leader's Payoffs

	Stop	No Action ($\sim$ BD)	Action ($\sim$ FT)
Foreign	0	a	$(1-p)a - C_F$
Leader	a	0 - γV_p	$pa - C_H - \gamma V_p$

$*$where γ =0 if supported and 1 if punished.

Now, I turn to the voter's payoff. Given that the consequence of the leader's fighting ($\approx$ following through) or concession ($\approx$ backing down) is characterized by p, a, and C_H, the voter's payoffs defined in Chapter 2 are also redefined with these parameters. Consistent with the main model, I maintain the assumption that the voter retrospectively evaluates the leader. If the leader does not publicly commit, there is no inconsistency involved. Therefore, to evaluate the leader's decision to fight or concede, the voter only weighs which of the leader's decision results in greater benefits. If the leader publicly commits, the voter will support the leader's following through as long as fighting is more favorable (brings more benefits) than concession but punish otherwise. However, when it comes to backing down, the voter will additionally con-

sider whether the benefit from concession is great enough to offset his or her dislike of the leader's inconsistency.

Given the aforementioned retrospective voting behavior and the voter's preference ordering, I now parametrize the voter's payoffs. Recall that Home gets $pa - C_H$ if the leader fights and 0 if the leader concedes. Therefore, the greater the net value of $pa - C_H$, the greater the leader's incentive to favor fighting and punish concession. In the event that the leader commits, the voter additionally has an incentive to punish the leader for being inconsistent (C_v) if the leader backs down (i.e., conceding). Thus, the voter weighs between the potential net utility from fighting, $pa - C_H$ vs. the net utility from $0 - C_v$. The lemma below formally characterizes the voters' calculus:

Lemma 4.

a) Suppose the leader has NOT committed. Then,

the voter supports the leader's decision to fight ($\approx$ FT) iff:

$$\mathbb{E}[pa - C_H|\hat{C}_H, \mathscr{L}^{nc}] \geqslant 0$$

AND
the voter supports the leader's decision to concede ($\approx$ BD) iff:

$$\mathbb{E}[pa - C_H|\hat{C}_H, \mathscr{L}^{nc}] \leqslant 0.$$

b) Suppose the leader has committed. Then,

the voter supports the leader's decision to fight ($\approx$ FT) iff:

$$\mathbb{E}[pa - C_H|\hat{C}_H, \mathscr{L}^{c}] \geqslant 0$$

AND
the voter supports the leader's decision to concede ($\approx$ BD) iff:

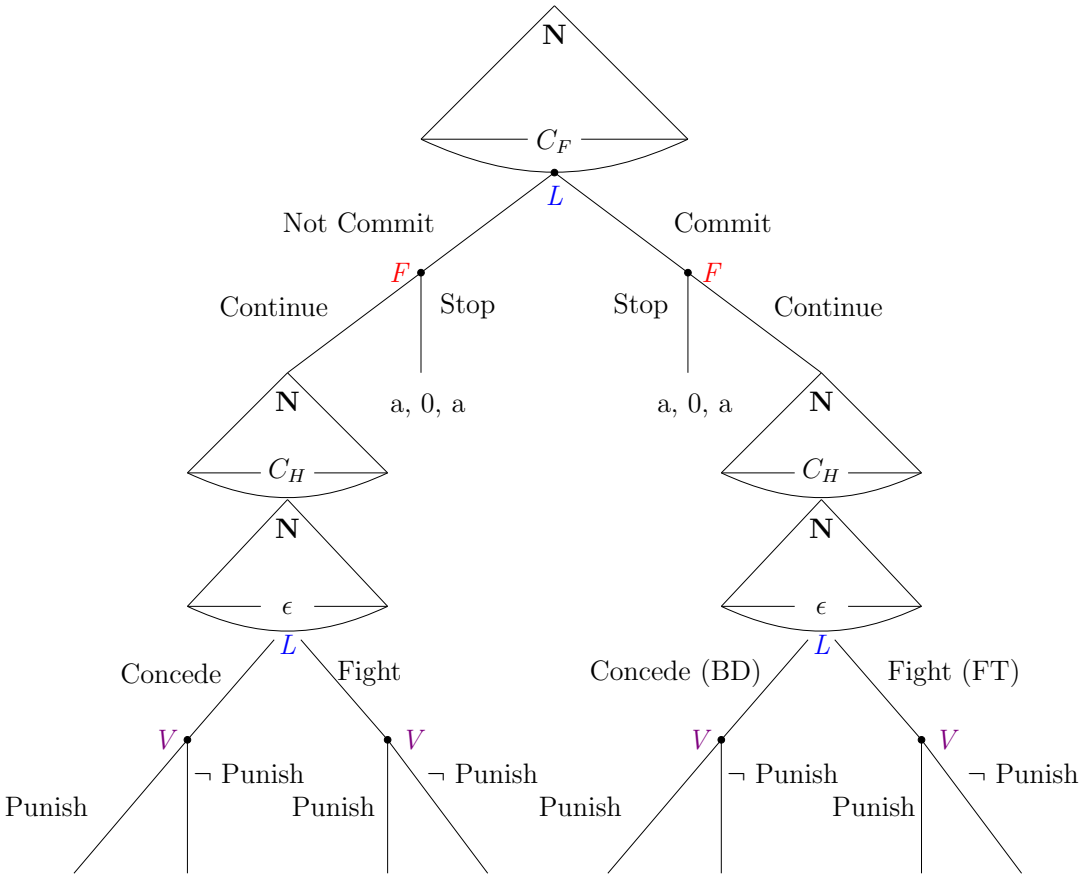
$$\mathbb{E}[pa - C_H|\hat{C}_H, \mathscr{L}^{c}] \leqslant 0 - \frac{C_v}{s}$$

The voter will forgive BD if the cost of fight is greater than not only pa, but also the utility loss from the leader's inconsistency.

As for fighting, I define the voter's payoff for punishing as 0 and supporting as $s(pa - C_H)$, with s standing for how salient the issue is to the voter. Then, the voter supports the leader's decision to fight if the benefit of fighting ($s(pa - C_H)$) is greater than that of concession (0) but punishes otherwise. In the case of the leader's concession, I define the voter's payoff for supporting as 0 and punishing as s($pa - C_H$). Once again, the greater $pa - C_H$, the greater the incentive to favor fighting. Therefore, in the case of no commitment, the voter will support the leader's decision to concede if the benefit of concession (0) is greater than that of fighting ($s(pa - C_H)$) but punishes otherwise.

If the leader commits, C_v is added to the voter's payoff for supporting concesssion. Then, the voter only wants to forgive (i.e., support) the leader's inconsistency if making concessions and suffering -C_v is less costly than the net loss from fighting ($pa - C_H$) but punish otherwise.[2] The game tree graphically presents the model in Figure 4.1, and the notations are summarized in Table 4.2.

[2]An alternative explanation of voter payoffs: In the event of politically punishing the leader, it can be assumed that the voter anticipates that the future leader—be it the incumbent or a challenger—will choose an alternative action that brings a greater benefit than the current leader's decision does. Thus, the voter gets the benefit from the leader's current action if (s)he decides to support. However, if the voter punishes the leader, (s)he receives the benefit of the action alternative to the leader's decision.



$L:$	$0 - V_p$	0	$pa - C_H - V_p$	$pa - C_H$	$0 - V_p$	0	$pa - C_H - V_p$	$pa - C_H$
$F:$	a	a	$(1-p)a - C_F$	$(1-p)a - C_F$	a	a	$(1-p)a - C_F$	$(1-p)a - C_F$
$V:$	$s(pa - C_H)$	0	0	$s(pa - C_H)$	$s(pa - C_H)$	$-C_v$	0	$s(pa - C_H)$

Figure 4.1: Game Tree Presentation of the Model Extension

Table 4.2: Model Notations

a	full gain at stake for bargain (the value of the object in disputes)
p	probability that Home will win war
C_F	Foreign's cost of war ($C_F \sim U(0, \overline{C}_F)$)
C_H	Home's cost of war ($C_H \sim U(0, \overline{C}_H)$)
$\epsilon \sim U(-\bar{\epsilon}, \bar{\epsilon})$	uncertainty over the Home's cost of war due to issue complexity
C_v	inconsistency cost; $C_v \geqslant 0$
	the voter's utility loss from leader's inconsistency between words and actions
V_p	the leader's cost from political punishment; $V_p \geqslant 0$
$s \in \mathbb{R}_{\geqslant 1}$	issue salience to the voter

4.3 Results

The model extension has a perfect Bayesian equilibrium (pBE) in which players with incomplete information play cutpoint strategies. At the international level, the leader decision regards whether to commit or not, and Foreign chooses whether to continue or stop a crisis given the leader's commitment decision. Then, there are two potential domestic subgames in which the leader decides whether to fight or concede followed by the voter's decision whether to punish or support the leader. I first present the leader's and voter's equilibrium strategies in the two domestic subgames and then zoom out to the inter-state level.

4.3.1 Domestic Subgame without a Commitment

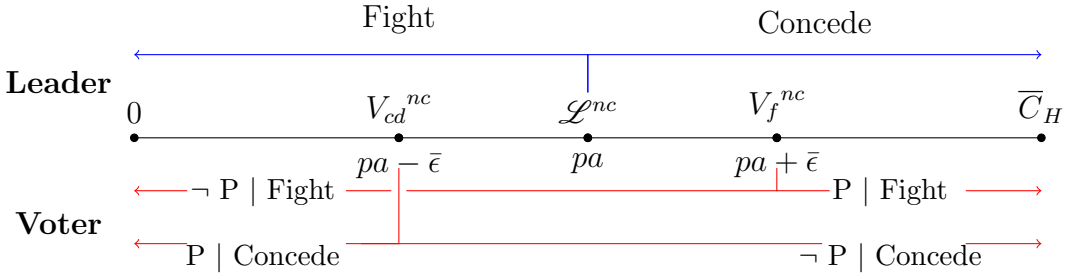


Figure 4.2: Domestic Subgame without a Commitment

Figure 4.2 graphically presents the equilibrium in the domestic subgame after the leader decides not to publicly commit. If the leader does not commit, ${V_f}^{nc}$ and ${V_{cd}}^{nc}$ are the voter's cutpoints regarding fighting and concession respectively while $\mathscr{L}^{nc}$ is the leader's cutpoint. Recall that the figure of the main model's equilibria in Chapter 2 has been with respect to α. Similarly, I present the extension model's equilibrium on one dimension, but in terms of Home's cost of fighting (C_H), holding uncertainty (ϵ) fixed. This extension's difference from the main model is that the voter's payoffs from the leader's actions are not defined in relative terms. Instead, the leader and the voter aim to determine whether fighting ($pa - C_H$) is more favorable than making concessions and retaining nothing (0).

If the leader does not commit, there is no inconsistency involved. Therefore, the voter approves the leader's action as long as that action is more favorable than the alternative. Since the voter does not know the actual cost of fighting, his or her cutpoints allow for this uncertainty regarding both fighting and concession. As a result, the voter supports the leader who fights if and only if (s)he concludes from the noisy observation ($\hat{C_H}$) that the true cost to fight is small enough to make fighting more favorable than conceding. Likewise, the voter supports the leader who concedes if and only if (s)he estimates from the observed fighting cost ($\hat{C_H}$) that the actual fighting cost (C_H) is so great that it is less costly to concede than to fight.

Given the voter's strategies, the leader also chooses the action that brings a more favorable outcome. If the cost of fighting (C_H) is less than the potential benefit of fighting (pa), the leader decides to fight because he concludes it is less costly to fight

than to concede a to Foreign. However, if C_H is so great that it is less costly to concede than to fight, the leader will concede and lose a. Since the leader's and the voter's preferences are the same, the voter puts more weight on the leader's decision as a credible signal of the true cost of fighting. Therefore, if there is even a slight possibility that the true cost of fighting based on the noisy observation is less than the benefit of fighting (pa), the voter will approve of the leader's decision to fight (${V_f}^{nc} = pa + \bar{\epsilon}$). Similarly if there is even a small chance that the true fighting cost based on the noisy observation is greater than the benefit of fighting (pa), the voter will endorse the leader who concedes (${V_{cd}}^{nc} = pa - \bar{\epsilon}$). As a result, despite the uncertainty, the leader always chooses the action the voter likes, and the voter never punishes the leader. The equilibrium of the domestic subgame without a commitment is summarized in the following proposition, and proof is provided in the Appendix.

Proposition 6.

If the leader does not publicly commit,

$$\text{the leader} \begin{cases} \text{fights} & \text{if } C_H \leqslant \mathscr{L}^{nc} \equiv pa \\ \text{concedes} & \text{otherwise} \end{cases}$$

$$\text{and the voter} \begin{cases} \text{supports fighting} & \text{if } \hat{C_H} \leqslant {V_f}^{nc} \equiv pa + \bar{\epsilon} \\ \text{punishes fighting} & \text{otherwise} \\ \\ \text{supports conceding} & \text{if } \hat{C_H} \geqslant V_{cd}^{nc} \equiv pa - \bar{\epsilon} \\ \text{punishes conceding} & \text{otherwise} \end{cases}$$

$\therefore$ The voter and the leader at Home prefer the same decisions, and the leader is always supported in equilibrium.

4.3.2 Domestic Subgame after a Commitment

Before going further, I present the following Lemmas:

Lemma 5. *If $\hat{C_H} \in [-\bar{\epsilon}, pa - \bar{\epsilon})$, the voter knows with certainty that C_H is less than pa and always supports the leader who fights and punishes the leader who concedes.*

Lemma 6. *If $\hat{C_H} \in [pa + \frac{C_v}{s} + \bar{\epsilon}, \overline{C}_H + \bar{\epsilon})$, the voter knows with certainty that C_H is greater than pa and always supports the leader who concedes and punishes the leader who fights.*

Given $\hat{C_H}$ in the ranges specified in the Lemmas above, despite informational disadvantage, the voter can learn with certainty which action—fighting vs. conceding—is more favorable and consequently deserves support. For any cost of fighting in this range, the voter will always have a dominant strategy without updating belief about C_H. Thus, as in Chapter 2, in this domestic subgame after a commitment, I focus on the case in which the model's pBEs pertain to $\hat{C_H} \in [pa - \bar{\epsilon}, pa + \frac{C_v}{s} + \bar{\epsilon}]$.

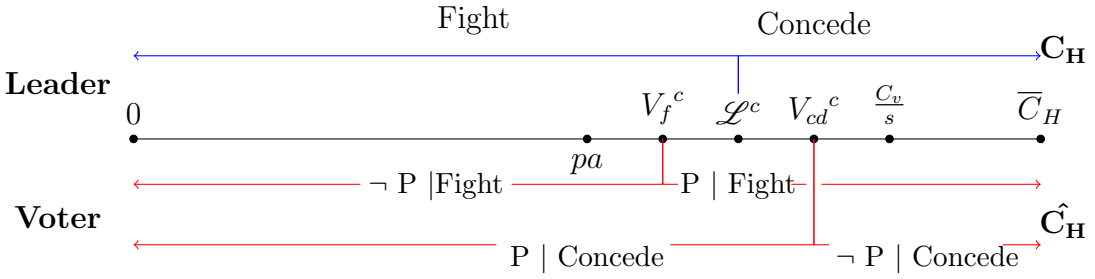


Figure 4.3: Domestic Subgame after a Commitment

As Figure 4.3 shows, the equilibrium of the domestic subgame after a commitment is consistent with that of the main model in Chapter 2. The extension is different

in that the marginal policy benefit of backing down relative to that of following through (α) from the main model has been further specified with other parameters; and actions are labeled with different terms. The voter's strategy regarding the leader's decision to fight is the same as that in the subgame without a commitment. The voter supports the leader as long as the observed fighting cost seems to be small enough to make fighting more favorable than conceding and punishes otherwise. However, in this subgame, the voter's calculus for the leader's decision to concede involves the voter's incentive to punish the leader for being inconsistent since the leader publicly committed to use force in the case of Foreign's continued challenge. Given that the voter does not have complete information on the fighting cost, when it is hard for the voter to tell whether the war cost (C_H) is greater or less than the benefit from fighting (pa), the leader has an incentive to deviate to honor the commitment and fight to avoid punishment for reneging by making concessions. Once again, however, such deviation in turn increases the odds of punishment for honoring the commitment. The result from this domestic subgame is summarized in the proposition below, and proof is provided in the Appendix:

Proposition 7.

If the leader publicly commits,

$$\text{the leader} \begin{cases} \text{fights} & \text{if } C_H \leqslant \mathscr{L}^c \equiv pa + \Delta \\ \text{concedes} & \text{otherwise} \end{cases}$$

$$\text{and the voter} \begin{cases} \text{supports fighting} & \text{if } \hat{C_H} \leqslant {V_f}^c \equiv pa + \bar{\epsilon} - \Delta \\ \text{punishes fighting} & \text{otherwise} \\ \\ \text{supports conceding} & \text{if } \hat{C_H} \geqslant V_{cd}^c \equiv pa + \frac{2C_v}{s} - \bar{\epsilon} - \Delta \\ \text{punishes conceding} & \text{otherwise} \end{cases}$$

where $\Delta = \frac{C_v V_p}{s(2V_p + \bar{\epsilon})}$

$\therefore$ The voter and the leader at Home do not always prefer the same decisions, and the leader is sometimes punished in equilibrium.

Put together, the domestic subgames show that, when the voter cannot tell whether the fighting cost is greater or less than the potential benefit of fighting to retain the object of disputes ($pa < C_H < \frac{C_v}{s}$), the odds of punishment for not carrying out the commitment can persuade the leader to honor the promise to fight. As shown in Figure 4.4 below, the leader's cutpoint given the commitment ($\mathscr{L}^c$) is greater than that without a commitment ($\mathscr{L}^{nc}$). That is, when Nature draws Home's fighting cost such that $\mathscr{L}^{nc} < C_H < \mathscr{L}^c$, the equilibria of the extension's subgames are consistent with conventional wisdom that domestic condemnation for breaking the commitment to fight persuades the leader to follow through with it.

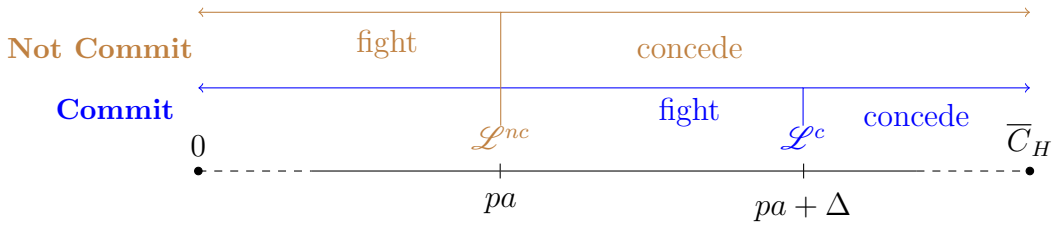


Figure 4.4: The Leader's Cutpoints from the Two Domestic Subgames

However, both subgames also emphasize that the consequences of the leader's action (i.e., the expected utilities of both fighting and concessions) affect the decisions

of both the leader and the voter. Depending on the net benefit of fighting compared to making concessions, the leader sometimes chooses to fight and other times decides to concede. While the voter may dislike the inconsistency of the leader who has committed, the voter is still willing to forgive the leader who concedes if the net loss of fighting is higher than surrendering the object of the dispute without fighting. This thus confirms the result of the main model that the leader's commitment does not always tie the leader into following through.

4.3.3 International Level

At the international level, Foreign does not know Home's fighting cost. With its prior belief on how Home's fighting can be distributed, Foreign calculates its own cutpoints—$\mathscr{F}^{nc}$ given no commitment and $\mathscr{F}^{c}$ given a commitment—based on the voter's and the leader's strategies at Home. Therefore, Foreign will continue if the maximum value that Home's fighting cost can take is sufficiently high such that it is likely for Home to concede once Foreign continues to challenge. However, Foreign will stop if the maximum value of Home's fighting cost is sufficiently low and makes it likely that Home will fight if the crisis continues.

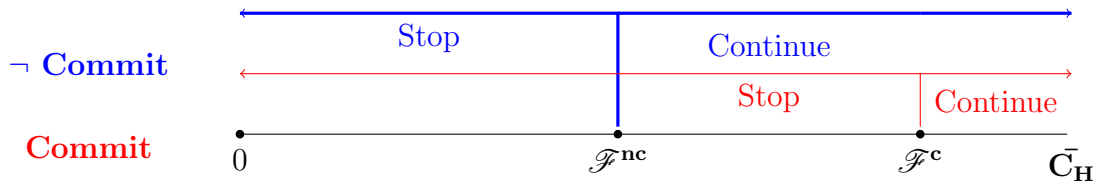


Figure 4.5: Foreign's Equilibrium Strategies with respect to $\overline{C}_H$

Recall from the previous subsection that the leader's cutpoint in a domestic subgame after a commitment is greater than that with no commitment. That is, the fighting cost threshold up to which the leader will find fighting more favorable than conceding is greater when the leader commits than when (s)he does not. Anticipating that it is more likely for the leader to fight back if (s)he commits, Foreign will be more conservative and consequently continue less often if the leader commits than if (s)he does not, as shown in Figure 4.5. Foreign's strategies are summarized in the following proposition, and proof is provided in the Appendix.

Proposition 8.

Let $\mathscr{F}^{nc}$ and $\mathscr{F}^{c}$ denote Foreign's cutpoints given the leader's non-commitment and commitment respectively.

If the leader does not commit, Foreign

$$\begin{cases} \text{continues if} & \overline{C}_H > \mathscr{F}^{nc} \equiv \frac{pa(pa+C_F)}{a} \\ \text{is indifferent if} & \overline{C}_H = \mathscr{F}^{nc} \\ \text{stops if} & \overline{C}_H < \mathscr{F}^{nc} \end{cases}$$

If the leader commits, Foreign

$$\begin{cases} \text{continues if} & \overline{C}_H > \mathscr{F}^{c} \equiv \frac{pa(pa+C_F)+\Delta(pa+C_F)}{a} \\ \text{is indifferent if} & \overline{C}_H = \mathscr{F}^{c} \\ \text{stops if} & \overline{C}_H < \mathscr{F}^{c} \end{cases}$$

Now consider the leader's decision whether to commit or not, given Foreign's strategies. When the leader's expected utilities in the two domestic subgames are compared, the leader's gains are always greater if the leader does not commit than if he does. This is because the leader is never punished in the subgame without a commitment. However, recall that Foreign is persuaded to stop a crisis more often when the leader commits than when (s)he does not. Therefore, when the leader commits, the leader trades off the risk of political punishments (for both fighting and conceding) for a greater chance to stop Foreign from continuing its challenge.

Recall that when the leader decides whether to commit or not, (s)he knows neither his/her own fighting cost nor Foreign's. The leader uses the prior belief on how Home's and Foreign's fighting costs are distributed to estimate when to commit. Based on Foreign's two cutpoints, the leader calculates the two different probabilities that Foreign will continue or stop the crisis in the two domestic subgames. With the probabilities, the leader estimates its expected utilities to be gained from committing and from not committing, which then results in the leader's cutpoint ($\mathscr{L}_I$) with respect to Home's maximum fighting cost ($\bar{C_H}$). The leader will commit if the maximum value to which Home's actual fighting cost can range is small enough. That is, if Home's expected fighting cost is small enough to make fighting a likely outcome in case Foreign continues, the leader will risk the odds of punishments by committing and take a chance to use commitments to deter Foreign from continuing its challenge. However, if Home's maximum fighting cost ($\bar{C_H}$) is high enough to make conceding a likely outcome once the crisis continues, the leader will not anticipate the commitment

to stop Foreign's challenge. Thus, (s)he will avoid the odds of political punishments by foregoing public statements. The leader's strategies are summarized in the following proposition, and proofs can be found in the Appendix:

Proposition 9.

Let $\mathscr{L}_I$ denote the leader's cutpoint with respect to the decision whether to commit or not. Then, the leader

$$\begin{cases} \text{commits if} & \overline{C}_H < \mathscr{L}_I \equiv \frac{p^2\Gamma(pa+\Delta)}{p\Gamma+p^2a\Delta-2\Delta} \text{ and} \\ \text{does not commit} & \text{otherwise} \end{cases}$$

where $\Gamma = 4V_p(\frac{C_v}{s} - \bar{\epsilon}) + \frac{(C_vV_p)^2}{s^2(2V_p+\bar{\epsilon})^2}$, and $\Delta = \frac{C_vV_p}{s(2V_p+\bar{\epsilon})}$

Given that Foreign will always stop challenging for any $\overline{C}_H < \mathscr{F}^c$; and the leader commits whenever $\overline{C}_H < \mathscr{L}_I$, there can be two different conditions depending on the relative values of the two players' cutpoints. First, Foreign's cutpoint can be greater than the leader's ($\mathscr{L}_I < \mathscr{F}^c$). In this case, because the leader always commits in the range within which Foreign stops the crisis, Foreign always gets deterred from continuing the crisis whenever the leader commits. This case occurs when Foreign's privately known fighting cost C_F is large enough to make Foreign prefer stopping the challenge to continuing the crisis.

Second, the leader's cutpoint $\mathscr{L}_I$ can greater than $\mathscr{F}^c$ ($\mathscr{F}^c < \mathscr{L}_I$). This case occurs when Foreign's privately known fighting cost C_F is sufficiently small such taht Foreign finds it more favorable to keep challenging to win the object of the dispute than to stop the crisis. In this event, the leader's commitment does not always deter

Foreign. If the maximum value of Home's fighting cost ($\overline{C}_H$) is such that $\overline{C}_H < \mathscr{F}^c$, the leader's commitment stops Foreign's challenge. However, if $\mathscr{F}^c < \overline{C}_H < \mathscr{L}_I$, the leader's commitment does not effectively stop Foreign from continuing a crisis. Put together, these conditions suggest that, all else held equal, the commitment is more likely to deter Foreign when Foreign is less willing to fight (less resolved) ex ante (e.g., Foreign's cost of fighting is high (C_F)). Corollary 2 formally specifies the conditions under which the leader's commitment effectively stops Foreign. Proof is provided in the Appendix.

Corollary 2. *Suppose the leader has committed.*

If $C_F > \frac{(2a-p^2a)(p\Delta)}{p\Gamma-2\Delta+p^2a\Delta}$ *(i.e.,* $\mathscr{L}_I < \mathscr{F}^c$*), Foreign always stops.*
If $C_F < \frac{(2a-p^2a)(p\Delta)}{p\Gamma-2\Delta+p^2a\Delta}$ *(i.e.,* $\mathscr{F}^c < \mathscr{L}_I$*),*

$$\begin{cases} \textit{Foreign stops for} & \overline{C}_H < \mathscr{F}^c \\ \textit{Foreign continues for} & \mathscr{F}^c < \overline{C}_H < \mathscr{L}_I \end{cases}$$

The conditions under which the leader's commitment to use force effectively deters Foreign are graphically shown in Figures 4.6 and 4.7. When $\mathscr{L}_I < \mathscr{F}^c$, the leader's commitment always deters Foreign while non-commitment is always followed by Foreign's continued challenge. This characterizes the commonly assumed type of the international bargaining situation in which the commitment effectively stops Foreign from challenging further. However, when $\mathscr{F}^c < \mathscr{L}^I$, Foreign sometimes continues despite the leader's commitment. In the next section, I further analyze Foreign's and the leader's equilibrium behaviors by examining comparative statics outcomes.

Figure 4.6: Foreign's and Leader's Strategies together when $\mathscr{F}^c > \mathscr{L}_I$

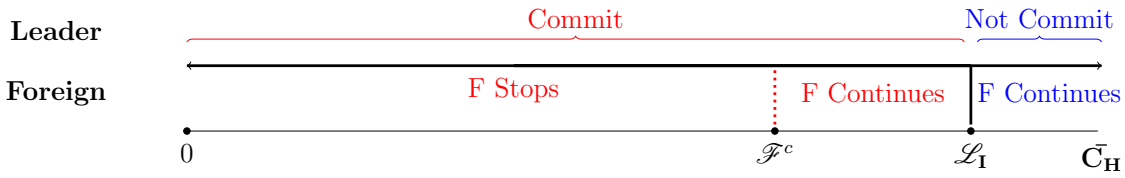


Figure 4.7: Foreign's and Leader's Strategies together when $\mathscr{F}^c < \mathscr{L}_I$

4.4 Analysis

4.4.1 Potential Gains of Fighting (pa)

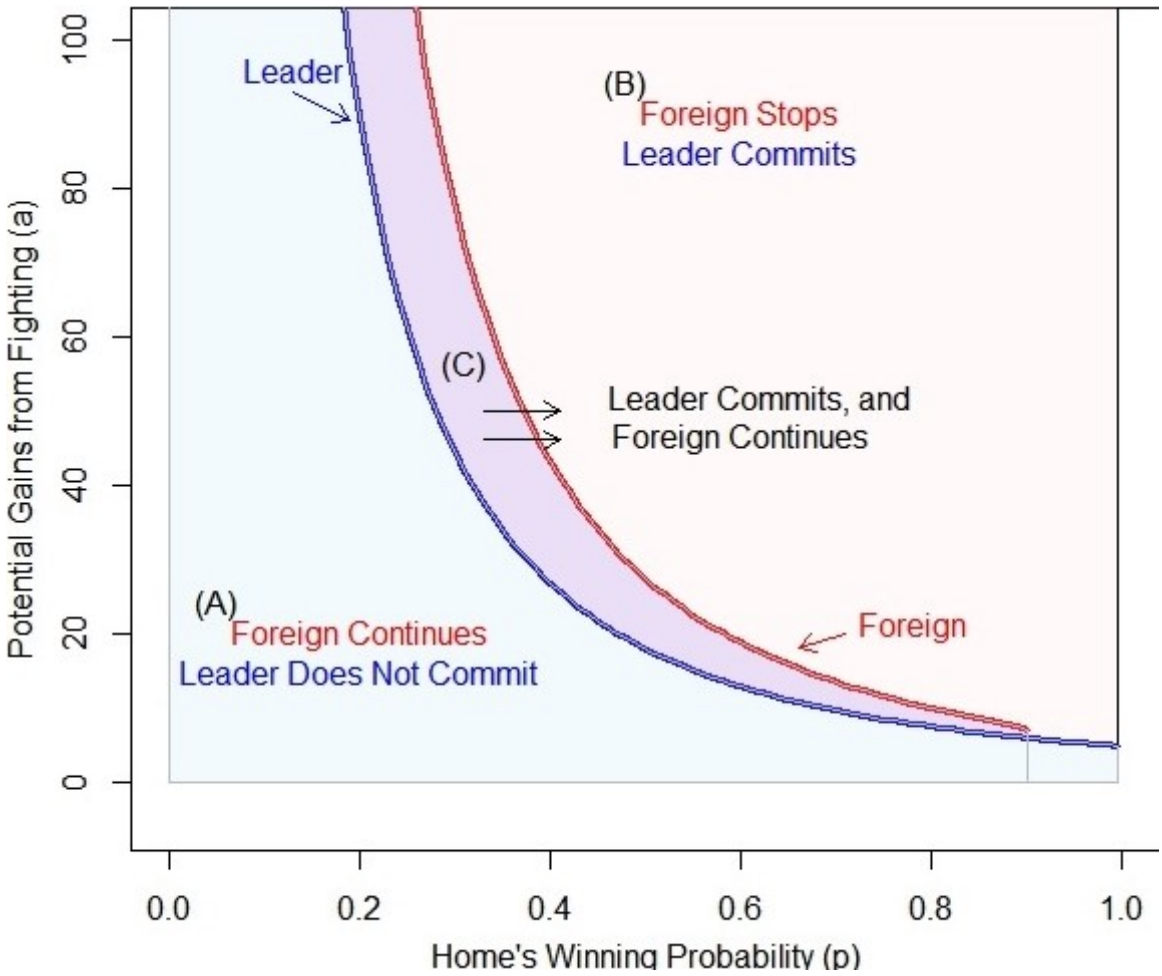
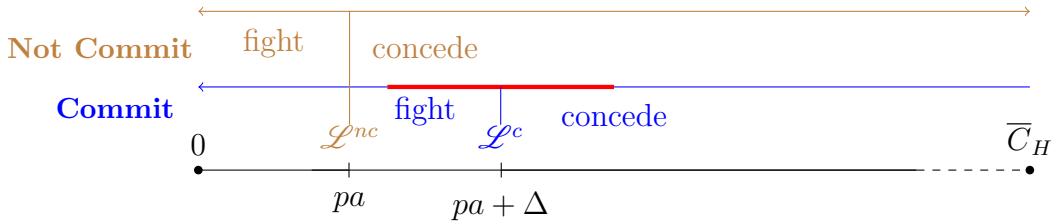


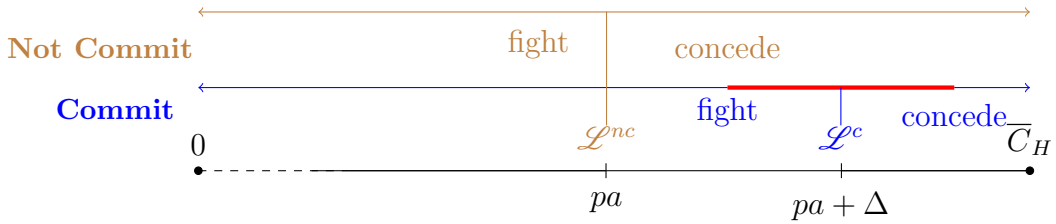
Figure 4.8: Foreign's and the Leader's Decisions as a Function of Potential Gains from Fighting (pa)

First, consider the winning probability of Home in case of conflict (p) and the full gain at stake for bargain (a). These parameters together exert an influence on the players' calculation of how likely it is for the leader to fight or concede if Foreign continues. Therefore, instead of presenting two separate comparative statics results, I analyze the change in players' decisions in an equilibrium space with respect to the potential

gains from fighting (pa) as shown in Figure 4.8. Note that this is a case where the leader's cutpoint $\mathscr{L}_I$ is greater than Foreign's cutpoint after the commitment, $\mathscr{F}^c$, such that there rises a case in which Foreign continues a challenge despite the commitment. The horizontal axis stands for the probability of winning (p) while the vertical one represents the full value of the object in the dispute (a). The lower-left line (in blue) shows the leader's cutpoint ($\mathscr{L}_I$) regarding whether to commit or not, and the upper-right line (in red) is Foreign's cutpoint given the leader's commitment ($\mathscr{F}^c$). The leader commits if the potential gain from fighting is higher than his or her cutpoint (i.e., the area above the lower-left line) and does not commit otherwise (i.e., the area below the lower-left line). Foreign stops if Home's potential gain from fighting is higher than its cutpoint (i.e., the area above the upper-right line) and continues otherwise (i.e., the area below the upper-right line).



a. The Leader's Cutpoints with Low pa



The range in red is where the leader is punished.

b. The Leader's Cutpoints with High pa

Figure 4.9: Domestic Decisions and Potential Gains from Fighting (pa)

Zone (A) on the lower left area shows that when Home's potential gain from fighting (pa) is low, there is a good chance that the leader will concede. Therefore, Foreign is more likely to continue a challenge regardless of the leader's public threat[3]. Since a public statement is unlikely to deter Foreign, and conceding seems a likely outcome, the leader chooses not to commit anything. The domestic dynamics corresponding to this case are shown in Figure 4.9(a). If Home's potential gains from fighting are low, in both domestic subgames, the range of Home's fighting cost in which fighting in fact turns out to be less costly than conceding is small. As a result, it becomes more likely that the voter will support concessions in both subgames if Foreign continues.

Conversely, Zone (B) on the upper right area shows that when Home's potential gain from fighting (pa) is high, it is likely that Home will risk a fight if Foreign continues the crisis. Therefore, Foreign is more likely to stop challenging given the leader's commitment. Because a public statement is more likely to deter Foreign, the leader is more likely to commit. The domestic players' equilibrium behaviors corresponding to this condition are depicted in Figure 4.9(b). If Home's potential gains from fighting increase, the range of Home's fighting cost that makes conceding more preferable to fighting gets reduced. While the leader's decision to concede can still be supported, it becomes more likely for the voter to support fighting in both subgames if Foreign continues the challenge.

Lastly, when the value of Home's potential gains is intermediate, the leader commits but Foreign continues challenging as shown in Zone (3) between the players' two

[3]From Prosposition 8, recall that Foreign's cutpoint given the commitment is greater than that given no commitment. Therefore, whenever Foreign would continue given a commitment, Foreign would always continue given no commitment.

cutpoint lines. When neither Foreign nor the leader dominantly prevails ex ante, a situation rises in which the leader has to decide whether to honor or renege on the commitment to use force. The domestic subgames relevant to the condition specified by Zone (3) are shown in Figures 4.2 and 4.3, which have been presented in the Results section.

The impact of Home's potential gains on the players' strategies at the international level is partly consistent with some studies on public statements in international bargaining: if a state is ex ante highly willing to fight vis-á-vis its calculation of expected gains from war, the state is more likely to commit (Fearon 1994, 1995, Schultz 2001, Weeks 2008). However, unlike these studies which further state that those who commit always follow through due to high punishment for backing down, this extension results in a different conclusion. As shown in Zone (3) of Figure 4.9(c), potential gains from war (pa) are such that no players can predict a clear victor based on common priors. In this case, the distribution of Home's fighting cost is ex ante relatively centered around the potential gains of fighting (as shown in Figure 4.3) such that both fighting and conceding are an equally probable outcome. In this subgame, we already know there is no dominant strategy for the leader: the leader can choose to honor the commitment but still face punishment *and* also choose to renege but receive support. Moreover, even in a case in which backing down is not favored (i.e., pa is high), the leader can sometimes back down and still receive support for such a decision as shown in Figure 4.9(b). I continue to analyze the extension's results by examining Foreign's and the leader's decisions in a complex high-stake crisis, or the type of conflict on which the international bargaining literature focuses.

4.4.2 Commitments in a High-Stake Bargaining Crisis

One of the key implications from the main model is that the leader's public statements do not effectively bind him or her to follow through especially in complex high-stake bargaining situations. In this subsection, based on comparative statics results for issue complexity and issue salience, I examine whether and how states' equilibrium behaviors at the international level change when they are in a high-stake foreign policy crisis.

a. Issue Complexity

Consider the equilibrium behaviors in the domestic subgame without a leader's commitment. If the voter finds a given issue more complex, (s)he will account for this increased range of uncertainty and defer more to the leader. Therefore, for instance, for a given value of Home's fighting cost (C_H), the voter knows that (s)he can encounter a greater range of the observed fighting cost ($\hat{C_H}$). As a result, the range of the observed fighting costs for which the voter supports the leader's action increases. However, since the voter and the leader prefer the same action in this subgame, the players' strategies substantively stay the same; the leader chooses the action that results in a more favorable outcome, and the voter always supports the leader. Therefore, in this subsection, the impact of issue complexity on the leader's and Foreign's equilibrium strategies will be explained with respect to the changes in equilibrium behaviors in the domestic subgame after the leader's commitment.

The impact of issue complexity on the equilibrium behaviors in the subgame after the commitment is the same as it is in the main model in Chapter 2. If the issue at

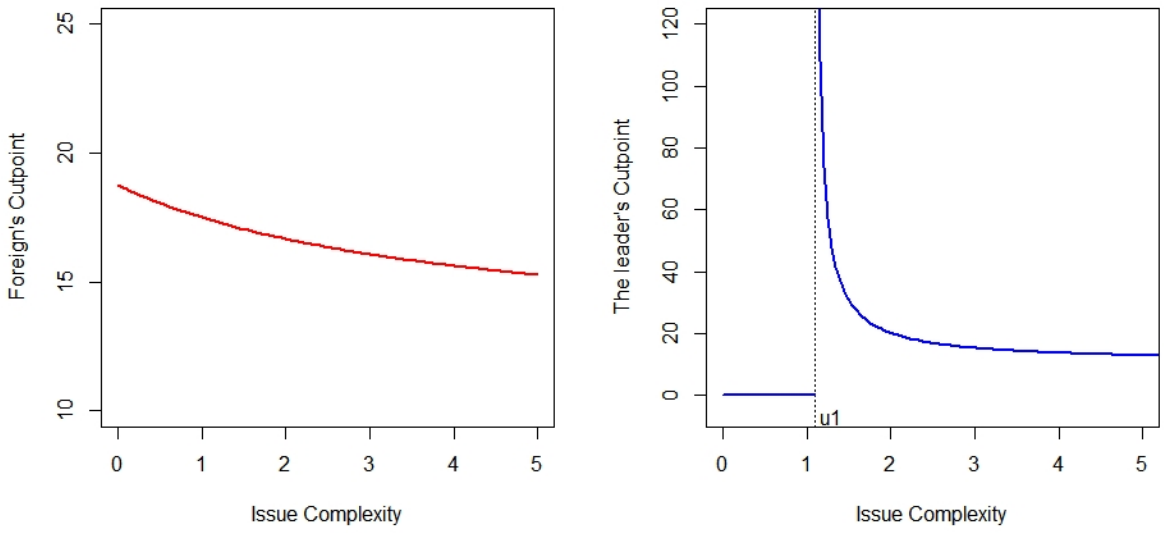


Figure 4.10: The Impact of Issue Complexity on the Player's Strategies

hand becomes more complex, the voter defers more to the leader and becomes more supportive of the leader's fighting as well as conceding. With less odds of punishments for both actions, the leader's decisions are motivated mainly by policy. Therefore, when it is less costly to concede than to fight, the leader deviates less often to fighting if the given issue is more complex for citizens.

Foreign anticipates that an increase in issue complexity makes the leader, who now faces less risk of punishment, back down more often. Since the probability that the leader will fight decreases, the leader's commitment deters Foreign from continuing less often. Now consider the leader's international strategy when the issue becomes more complex to the voter. Because the commitment is less effective in deterring Foreign from continuing a crisis, the commitment becomes a less attractive option for the leader. As a result, the leader commits less often.

The impact of issue complexity on the strategies of Foreign and the leader graphi-

cally presented in Figure 4.10. The vertical axis represents the value that the player's cutpoints can take as a function of issue complexity ($\bar{\epsilon}$), shown on the horizontal axis. The left graph shows that Foreign's cutpoint $\mathscr{F}^c$ decreases as an issue at hand becomes more complex and confirms that Foreign continues more often. The right graph is with respect to the leader. At point u_1, the denominator of the value of the cutpoint is undefined. As for values of issue complexity $\bar{\epsilon} < u_1$, $\mathscr{L}$ is less than 0. Therefore when issue complexity is such that $\bar{\epsilon} \leqslant u_1$, the leader's cutpoint is characterized by a boundary solution of $\mathscr{L} = 0$ (i.e., the leader always does not commit) with issue complexity exerting no impact on the leader's strategy. When the leader's cutpoint takes an interior value, the increased issue complexity decreases the leader's cutpoint $\mathscr{L}$ and makes the leader commit less often. Proposition below summarizes how issue complexity affects the players' equilibrium behaviors at the international level:

Proposition 10. *Suppose, all else being equal, that an issue at stake becomes more complex to the voter. Then, the leader commits less often, and Foreign continues the challenge more often given the leader's commitment.*

b. Issue Salience

The voter's and the leader's strategies in the domestic subgame without a commitment do not pertain to issue salience and consequently are not affected by the change in salience. Therefore, as in issue complexity, the impact of issue salience on the players' equilibrium behaviors at the international level will be explained with the changes in the domestic subgame with a commitment.

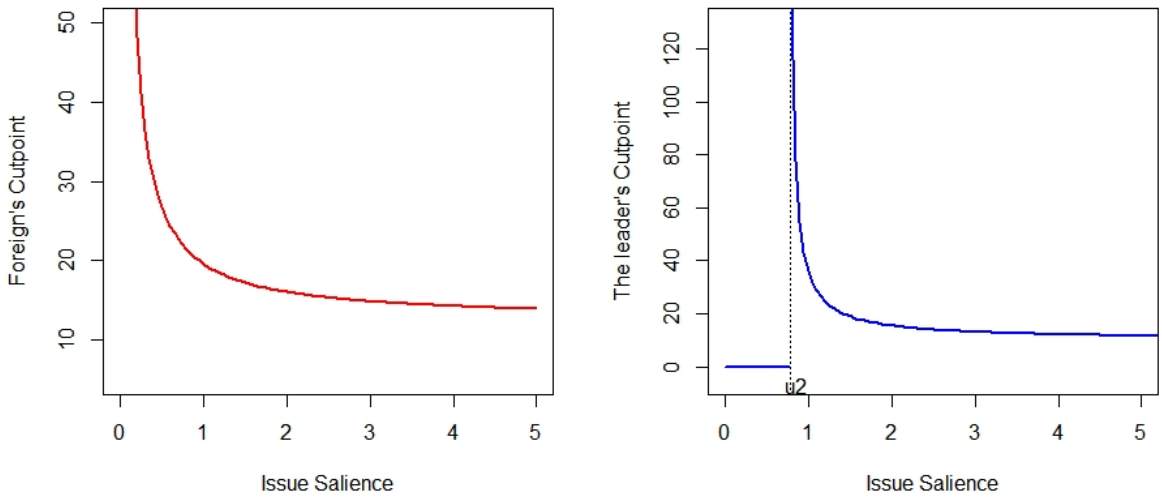


Figure 4.11: The Impact of Issue Salience on the Player's Strategies

The impact of issue salience in the subgame with a commitment is also the same as it is in the main model. If the issue at hand becomes more salient to the voter, the voter becomes more supportive of the leader's decisions. The leader feels less incentive to deviate to fighting when it is in fact more favorable to concede. As a result, the leader concedes (backs down) more often. Since the leader breaks the commitment to use force more often if an issue becomes more salient to the voter, the commitment deters Foreign less often. Because Foreign continues the challenge more often given the commitment, the commitment becomes a less effective tool to the leader to stop Foreign. Therefore, the leader commits less often.

The impact of issue salience on the strategies of Foreign and the leader are graphically presented in Figure 4.11. As in Figure 4.10, the vertical axis represents the player's cutpoints while the horizontal axis stands for issue salience. The monotonically decreasing function, Foreign's cutpoint ($\mathscr{F}^c$), in the graph on the left confirms

that Foreign is deterred less often as an issue becomes more salient to the voter. The right graph is with respect to the leader. Where the leader's cutpoint takes an interior value, the leader's cutpoint $\mathscr{L}$ is monotonically decreasing, signifying that the leader commits less often as the voter finds a given issue more salient than before.[4] The proposition below summarizes how issue salience affects the players' equilibrium behaviors at the international level:

Proposition 11. *Suppose, all else being equal, that an issue at stake becomes more salient to the voter. Then, the leader commits less often, and Foreign continues the challenge more often given the leader's commitment.*

Put together, if an issue becomes complex or salient, the leader commits less. And if the leader commits in this case, it ties the leader's hands at Home less often (i.e., the leader concedes more often) and becomes less likely to deter Foreign's challenge. In other words, results from this extended model confirms the main model's implication that a leader's commitment does not affect the behaviors of the leader or Foreign in a complex high-stake bargaining setting, the very situation in which public statements have been assumed to exert a great influence.

4.5 Illustrative Example - Revisiting Red Line

Having developed the main and the extension models, I briefly revisit Obama's red line ultimatum. Why did al-Assad continue after Obama's two red-line threats? Not

[4] At the point u_2, the denominator of the value of the cutpoint is undefined. If $s < u_2$, $\mathscr{L}$ is less than 0. In this case, the leader's cutpoint is characterized with a boundary solution of $\mathscr{L} = 0$ (i.e., the leader always does not commit) with issue salience exerting no impact on the leader's strategy.

only that, why did Obama choose not to carry out his ultimatum even after al-Assad clearly crossed the red line by using chemical weapons? Not knowing the actual Syria's cost of fighting (C_F), Obama could have thought that his public threat would effectively deter al-Assad from using chemical weapons. However, Syria's true cost of fighting might have been indeed low enough for it to risk fighting. After all, Russia was steadily increasing its influence on Syria since 2011 and openly blamed anti-government rebels in Syria. Its Russian ally's capabilities could have reduced Syria's calculation of its own cost of fighting. Given its own ally and based on its information on the U.S. cost of fighting, al-Assad might have concluded that the U.S. concession was likely and consequently did not find Obama's threat credible.

Given the continued challenge, Obama's backing down could be due to the decrease in the political punishment cost (V_p) that he perceived. Obama issued the red line ultimatum during his first term, caring highly about his office and public support facing the 2012 presidential election. However, he was already re-elected with no possibility to renew his term in future when it was time for him to decided whether to carry out his ultimatum.

Another possibility is that the given issue became complex and/or salient enough for citizens to defer more to their leader who then decided to back down and attempted to justify his decision. Indeed, as the time went by, it became hard for the public to follow which rebel groups were involved in the Syrian civil conflict and why they were fighting. But at the same time, the issue of Syrian civil war became more salient to more people. Although it was believed to be as one sub-case of Arab Spring, soon the Syrian civil war began to pertain to the religious interest of Muslims and Christians,

the ethnic theme of Kurds, a mass influx of refugees, and regional influence Russia has in the middle east. As a result, it is likely that the issue has become more salient to more domestic constituents in the U.S.

Lastly it might have been that there was a shock to the bargaining outcome and it was less costly to take no action than to fight. In fact, when Obama tossed the decision to follow through to Congress, Republican-controlled House was already against the U.S. military engagement in Syria. Other external factors also could have affected the consequence of fighting. For example, while it remains still unclear, the prospect of Iranian deal that was about to be negotiated around that time in late 2013 might have affected Obama's calculation of expected cost for honoring his threat to use force against Syria (Solomon 2016).

4.6 Conclusion

The model's extension partly confirms the existing wisdom.The extension shows that the leader faces greater odds of punishments when (s)he commits and consequently honors its commitment to fight more often when (s)he actually commits. Anticipating this, Foreign is more likely to stop given the commitment than given no-commitment. However, the leader's public commitments do not always effectively stop Foreign's challenge. The leader still can back down even after having committed. Therefore, based on available information, if Foreign concludes that the leader is likely to concede in the case of a continued crisis, the commitment is less likely to credibly convince Foreign of the leader's true willingness to fight. Moreover, if Foreign ex ante is more

likely to afford fighting (e.g., its own fighting cost is low), the commitment is less likely to effectively stop Foreign's challenge.

Furthermore, the extension shows that the leader's commitment is less likely to deter Foreign's challenge as an issue at hand becomes more complex or salient. Therefore, the extension confirms the main model's implication that the leader's commitments do not help states avoid conflict especially in a complex high-stake international bargaining settings—the very setting in which the existing literature has expected such commitments to be highly binding.

Moreover, since the commitment does not effectively deter a crisis, it implies that states may end up facing an undesirable outcome. If the commitment fails to stop Foreign's challenge, recall that the leader sometimes fights when a better bargaining choice is to concede ($pa < C_H < pa + \frac{C_v}{s}$). By doing so, the leader increases the risk of punishments for fighting. Therefore, instead of stopping Foreign—which is an optimal outcome—the leader's commitment can result in a decision that is suboptimal in terms of not only bargaining but also the prospect of political survival.

Lastly, because the odds of punishments do not always lock the leader into following through or deter a foreign's challenge, it is unclear whether the leader's commitment effectively explains the phenomenon of peace among democratic states or democratic states' advantage in avoiding conflict. Therefore, contrary to claims of some scholars (Fearon 1994, Gartzke and Lupu 2012, Gelpi and Griesdorf 2001, Gibler and Hutchison 2013, Potter and Baum 2010, Schultz 2001), this extension suggests that audience costs might not be the answer that can explain the phenomenon of democratic peace or prevalence.

Chapter 5

Conclusion

In this dissertation, I examined the impact of domestic constituents on their leader's and a foreign counterpart's bargaining decisions at the international level. Many studies in the literature have assumed that citizens always punish backing down and support following through if their leader backs down after making a public foreign policy commitment. Since the foreign counterpart anticipates such punishment for reneging, it finds the leader's commitment credible, thereby stopping the challenge.

Relaxing the assumption of automatic punishment for backing down, I have developed formal models that fully invite domestic constituents to evaluate their leader for his or her international bargaining decisions. Instead of assuming that citizens *always* punish backing down and support following through, I offered formal models which first focused on domestic subgames and then the inter-state bargaining dynamics. In the main model, I explored under which conditions citizens punish the leader's backing down as well as following through and when the leader backs down. Analyzing a crossover experiment with the NPC method, I empirically confirmed the

main model's implications that the odds of punishments for backing down decrease as there is an increase in i) the value of a bargaining outcome, ii) issue compexity, or iii) issue salience. When tests with both strong and weak support are combined to produce the global NPC p-value, the result yields strong support for the overall theory that derived the implications. Given the understanding of domestic dynamics, I extended the model to the international level and examined when the leader commits and when such commitments effectively deter a foreign counterpart.

Put together, this dissertation's models and empirical findings have shown that when citizens are allowed to evaluate their leader's international bargaining outcome, the leader can get punished sometimes for backing down and other times for following through. If the leader and citizens at Home and a foreign counterpart are allowed to care about bargaining outcomes in addition to whether the leader's actions matches his or her words, sometimes it is more desirable to renege on the commitment and concede than to honor it and fight. As a result, the leader's public commitment does not always tie the leader's hands to honor the commitment.

Because the leader sometimes does choose to back donw even after having committed, it consequently does not always deter the foreign counterpart. While the foreign state is more likely to stop given a commitment, if Foreign concludes that the leader is likely to concede in the case of a continued challenge, the commitment does not effectively stop Foreign's challenge. Moreover, if the issue at hand becomes more complex or salient, citizens become more supportive of their leader, who then becomes more likely to concede. Because concession becomes more likely, the leader's commitment is less likely to deter Foreign from continuing its challenge. Therefore, it suggests that

that the leader's commitment does not efffectively help states avoid a costly war in a complex high-stake international bargaining situations, or the very cases in which the literature has believed the commitment to matter the most. As highlighted at the end of Chapter 4, because the commitment does not always stop a foreign state's challenge, the commitment may in fact direct the leader to a consequence suboptimal in terms of bargaining and political survival. If the commitment fails to persuade the leader to stop challenging, the leader may end up fighting when it is in fact better to concede, and even get punished for doing so. Since the commitment is less effective than it has been understood in the literature in terms of helping states avoid conflict, this dissertation also implies that doemstic punishments for backing down may not be an adequate answer that explains democratic peace or prevalence.

The model invites many future research directions. First, it will be interesting to see how players' equilibrium behaviors change as the leader and/or citizens have prior biases or predispositions regarding which bargaining outcome to favor. Such a direction may account for potential rent-seeking behaviors of the leader, partisanship, or diversionary tactics of an unpopular leader. Another extension will be to think about how these fully specified models can be applied to nondemocratic states where, as Weeks (2008) points out, there still are domestic constituents that matter to the leader. Such future works will also contribute to understanding the impact of domestic dynamics and the citizens on states' behaviors, bridging the gap between international relations and other subfields of political science.

Appendix A

Chapter 2

A.1 Proposition 2

1. The Voters First Cutpoint $\hat{\alpha_1}$: The voter will punish the leader for following through iff

$$\mathbb{E}[\alpha \mid \hat{\alpha}, \mathscr{L}] \geqslant 0.$$

Given the leader's cutpoint $\mathscr{L}$ and the noisy signal $\hat{\alpha}$, the voter will punish the leader if and only if (s)he concludes that the true value of α is greater than 0. Therefore, at a cutpoint regarding the leader's follow through, the voter has to be indifferent between punishing or supporting the leader. The above can be re-written with respect to the voter's utility as the following:

$$U_v(\neg P \mid \hat{\alpha}, FT) \leqslant U_v(P \mid \hat{\alpha}, FT)$$

$$\int_{\hat{\alpha}-\bar{\epsilon}}^{\mathscr{L}} 0 \, \mathrm{d}\alpha \leqslant \int_{\hat{\alpha}-\bar{\epsilon}}^{\mathscr{L}} s\alpha \, (\frac{1}{2\bar{\alpha}}) \, \mathrm{d}\alpha \tag{A.1}$$

where $\alpha \sim U(-\bar{\alpha}, \bar{\alpha})$, and $\frac{1}{2\bar{\alpha}}$ is the probability density function.

Solve for $\hat{\alpha}$,

$$\hat{\alpha} \leqslant \bar{\epsilon} \pm \mathscr{L}$$

Definition 2. *$\hat{\alpha}_1$ is the voter's first cutpoint regarding following through. The voter will support the leader who follows through for any $\hat{\alpha} \leqslant \hat{\alpha}_1$ and punish for any $\hat{\alpha} \geqslant \hat{\alpha}_1$.*

Note that there are two potential values for $\hat{\alpha}_1$ above. Suppose that $\hat{\alpha}_1 = \bar{\epsilon} + \mathscr{L}$. Since $\hat{\alpha} = \alpha + \epsilon$ which rearranges to $\alpha = \hat{\alpha} - \epsilon$ where $\epsilon \sim U(-\bar{\epsilon}, \bar{\epsilon})$, the minimum value that α can take when $\hat{\alpha} = \hat{\alpha}_1$ is $\mathscr{L}$[1]. Because $\mathscr{L}$ is always nonnegative, at $\hat{\alpha}_1 = \bar{\epsilon} + \mathscr{L}$, the voter knows that α is certainly equal to or greater than 0 and prefers to punish the leader's following through. Since the voter is not indifferent at this cutpoint, $\hat{\alpha}_1$ cannot be $\bar{\epsilon} + \mathscr{L}$. Therefore,

$$\text{The voter} \begin{cases} \text{punishes FT} & \text{if } \hat{\alpha} \geqslant \hat{\alpha}_1 = \hat{\epsilon} - \mathscr{L} \\ \text{supports FT} & \text{otherwise} \end{cases}$$

2. The Voters Second Cutpoint $\hat{\alpha_2}$ The voter will punish the leader for backing down iff

$$\mathbb{E}[\alpha \mid \hat{\alpha}, \mathscr{L}] \leqslant \frac{C_v}{s}.$$

Given the leader's cutpoint $\mathscr{L}$ and the noisy signal $\hat{\alpha}$, the voter will punish the leader if and only if (s)he concludes that the true value of α is less than $\frac{C_v}{s}$. Therefore, at a cutpoint regarding the leader's backing down, the voter has to be indifferent between

[1] Suppose $\hat{\alpha}_1 = \bar{\epsilon} + \mathscr{L}$. Then, $\hat{\alpha}_1 - \bar{\epsilon} = (\bar{\epsilon} + \mathscr{L}) - \bar{\epsilon} = \mathscr{L}$.

punishing or supporting the leader. The above can be re-written with respect to the voter's utility as the following:

$$U_v(P \mid \hat{\alpha}, BD) \geqslant U_v(\neg P \mid \hat{\alpha}, BD)$$

$$\int_{\mathscr{L}}^{\hat{\alpha}+\bar{\epsilon}} 0 \, \mathrm{d}\alpha \geqslant \int_{\mathscr{L}}^{\hat{\alpha}+\bar{\epsilon}} s\alpha - C_v \, (\frac{1}{2\bar{\alpha}}) \, \mathrm{d}\alpha \tag{A.2}$$

Solve for $\hat{\alpha}$,

$$\hat{\alpha} \leqslant \frac{-(s\bar{\epsilon} - C_v) \pm (C_v - s\mathscr{L})}{s}$$

Definition 3. *$\hat{\alpha}_2$ is the voter's second cutpoint regarding backing down. The voter will punish the leader who backs down for any $\hat{\alpha} \leqslant \hat{\alpha}_2$ and support for any $\hat{\alpha} \geqslant \hat{\alpha}_2$.*

Note that there are two potential values for $\hat{\alpha}_2$ above. If the two values are simplified further, one is $\mathscr{L} - \bar{\epsilon}$ and the other is $\frac{2C_v}{s} - (\mathscr{L} + \bar{\epsilon})$. As it will be proven in the later (A1.4.), if $\hat{\alpha_2} = \mathscr{L} - \bar{\epsilon}$, the voter knows that α is certainly less than $\frac{C_v}{s}$ and prefers to punish the leader's backing down. Since the voter is not indifferent at this point, $\hat{\alpha}_2$ cannot be $\mathscr{L} - \bar{\epsilon}$. Therefore,

$$\text{The voter} \begin{cases} \text{punishes BD} & \text{if } \hat{\alpha} \leqslant \hat{\alpha}_2 = \frac{2C_v}{s} - (\mathscr{L} + \bar{\epsilon}) \\ \text{supports BD} & \text{otherwise} \end{cases}$$

3. The Leaders Cutpoint $\mathscr{L}$ Recall from Equation (1) that the leader backs down iff

$$\frac{\alpha}{V_p} \geqslant Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha) - Pr(\hat{\alpha} \geqslant \hat{\alpha}_1 \mid \alpha)$$

Treating α as the signal of the voter's noisy observation $\hat{\alpha}$, the leader balances the two risks of the punishments. Therefore, at a cutpoint, the leader is indifferent between following through and backing down. The above can be re-written with respect to the leader's utility, given the voter's cutpoint strategies, as the following:

$$U_L(FT \mid \hat{\alpha_1}, \hat{\alpha_2}) \leqslant U_L(BD \mid \hat{\alpha_1}, \hat{\alpha_2})$$

$$(0 * Pr(FT \mid \neg P)) + (-V_p * Pr(FT \mid P)) \leqslant (\alpha - V_p * Pr(BD \mid P)) + (\alpha * Pr(BD \mid \neg P))$$

$$\int_{\alpha-\bar{\epsilon}}^{\hat{\alpha}_1} 0 \ \mathrm{d}\epsilon + \int_{\hat{\alpha}_1}^{\alpha+\bar{\epsilon}} -V_p \ (\frac{1}{2\bar{\epsilon}}) \ \mathrm{d}\epsilon \leqslant \int_{\alpha-\bar{\epsilon}}^{\hat{\alpha}_2} \alpha - V_p \ \ (\frac{1}{2\bar{\epsilon}}) \ \mathrm{d}\epsilon + \int_{\hat{\alpha}_2}^{\alpha+\bar{\epsilon}} \alpha \ (\frac{1}{2\bar{\epsilon}}) \ \mathrm{d}\epsilon \qquad \text{(A.3)}$$

Plug in $\hat{\alpha}_1 (= \mathscr{L} - \bar{\epsilon})$ and $\hat{\alpha}_2 (= \frac{2C_v}{s} - (\mathscr{L} + \bar{\epsilon}))$ and solve for α,

$$\alpha \geqslant \frac{C_v V_p}{s(2V_p + \bar{\epsilon})}.$$

The smallest α at which the leader backs down is $\frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, and it serves as the threshold above and below which the leader chooses different actions.

Definition 4. *$\mathscr{L}$ is the leader's cutpoint. The leader will follow through for any $\alpha \leqslant \mathscr{L}$ and back down for any $\alpha \geqslant \mathscr{L}$.*

Therefore,

$$\text{The leader} \begin{cases} \text{backs down} & \text{if } \alpha \geqslant \mathscr{L} = \frac{C_v V_p}{s(2V_p + \bar{\epsilon})} \\ \text{follows through} & \text{otherwise} \end{cases}$$

4. Revisit the Condition for the Voter's Second Cutpoint ($\hat{\alpha}_2$) I use α and $\mathscr{L}$ interchangeably since $\mathscr{L}$ is the value of α at which the leader is indifferent between following through or backing down, given the voter's strategy. Suppose $\hat{\alpha}_2 = \mathscr{L} - \bar{\epsilon}$. Then,

$$\int_{\alpha-\bar{\epsilon}}^{\hat{\alpha}_1} 0 \, \mathrm{d}\epsilon + \int_{\hat{\alpha}_1}^{\alpha+\bar{\epsilon}} -V_p \, (\frac{1}{2\bar{\epsilon}}) \, \mathrm{d}\epsilon \leqslant \int_{\alpha-\bar{\epsilon}}^{\hat{\alpha}_2} \alpha - V_p \;\; (\frac{1}{2\bar{\epsilon}}) \, \mathrm{d}\epsilon + \int_{\hat{\alpha}_2}^{\alpha+\bar{\epsilon}} \alpha \, (\frac{1}{2\bar{\epsilon}}) \, \mathrm{d}\epsilon$$

$$-V_p(\alpha + \bar{\epsilon}) + Vp(\bar{\epsilon} - \alpha) \leqslant (\alpha - V_p)(\alpha - \bar{\epsilon}) - (\alpha - V_p)(\alpha - \bar{\epsilon}) + (\alpha + \bar{\epsilon})\alpha - (\alpha - \bar{\epsilon})\alpha$$

$$\Rightarrow \mathscr{L} = 0, \hat{\alpha}_1 = \bar{\epsilon}, \text{and } \hat{\alpha}_2 = -\bar{\epsilon}$$

.

When $\hat{\alpha}_2 = -\bar{\epsilon}$, the maximum value α can be given $\hat{\alpha_2}$ is $-\bar{\epsilon} + \bar{\epsilon} = 0$. This is clearly less than $\frac{C_v}{s}$ and makes the voter not indifferent but prefer punishing the leader with certainty. Thus, $\hat{\alpha}_2$ cannot be $\mathscr{L} - \bar{\epsilon}$.

5. Conditions for Interior Solutions

1) Interior condition for the voter's first cutpoint α_1: $\max(\alpha \mid \alpha_1) > 0$.

The maximum value of true α given the voter's first cutpoint $\hat{\alpha}_1$ has to be greater

than 0. Otherwise, the voter knows that the true value of α is negative for sure and is willing to support following through at $\hat{\alpha}_1$.

$$\bar{\epsilon} - \mathscr{L} + \bar{\epsilon} > 0$$

Solve for C_v,

$$C_v \leqslant \frac{2\bar{\epsilon}s(2V_p + \bar{\epsilon})}{V_p}$$

2) Interior condition for the voter's second cutpoint α_2: $\min(\alpha \mid \alpha_2) < \frac{C_v}{s}$.

The minimum value of true α given the voter's second cutpoint $\hat{\alpha}_2$ has to be less than $\frac{C_v}{s}$.

$$\frac{2C_v}{s} - \mathscr{L} - \bar{\epsilon} - \bar{\epsilon} > \frac{C_v}{s}$$

Solve for C_v,

$$C_v \leqslant \frac{2\bar{\epsilon}s(2V_p + \bar{\epsilon})}{V_p + \bar{\epsilon}}$$

3-a) Interior condition for the leader's cutpoint $\mathscr{L}$: $\min(\hat{\alpha} \mid \mathscr{L})$

The minimum value of $\hat{\alpha}$ given the leader's cutpoint $\mathscr{L}$ has to be less than 0.

$$\mathscr{L} - \bar{\epsilon} < 0$$

Solve for C_v,

$$C_v \leqslant \frac{\bar{\epsilon}s(2V_p + \bar{\epsilon})}{V_p}$$

3-b) Interior condition for the leader's cutpoint $\mathscr{L}$: $\mathscr{L} > 0$

The leader's cutpoint cannot be negative. If $\mathscr{L} < 0$, the leader is better off to follow through and consequently is not indifferent at the cutpoint.

$$\mathscr{L} < 0$$
$$2V_p > \bar{\epsilon}$$

A.2 Definition 1

The size of audience costs in this study is as below:

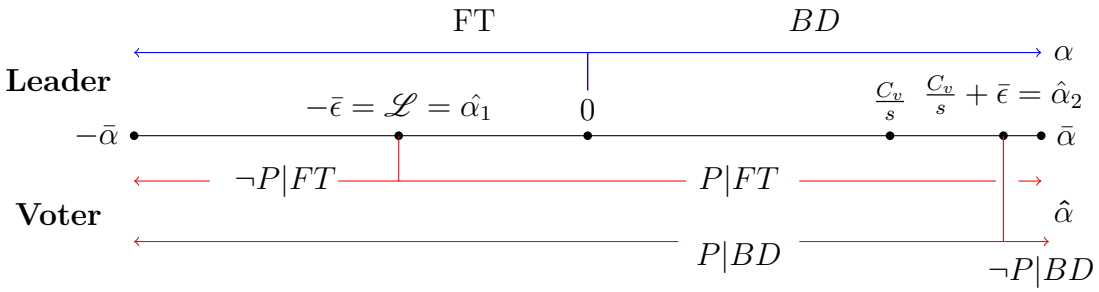
$$V_p * Pr(\hat{\alpha} \leqslant \hat{\alpha}_2 \mid \alpha)$$

$$V_p * \frac{\hat{\alpha}_2 - (\mathscr{L} - \bar{\epsilon})}{2\bar{\epsilon}}$$

$$V_p * \left(\frac{(\frac{2C_v}{s} - \mathscr{L} - \bar{\epsilon}) - (\mathscr{L} - \bar{\epsilon})}{2\bar{\epsilon}}\right)$$

Therefore, The size of audience cost in this dissertation is $V_p * \left(\frac{C_v(V_p+\bar{\epsilon})}{\bar{\epsilon}s(2V_p+\bar{\epsilon})}\right)$

A.3 Boundary Solution



(b) Boundary Solutions ($\mathscr{L} = 0, \hat{\alpha}_1 = -\bar{\epsilon}$, and $\hat{\alpha}_2 = \frac{C_v}{s} + \bar{\epsilon}$)

Figure A.1: Full Model - Boundary Solutions ($\mathscr{L} = 0, \hat{\alpha}_1 = -\bar{\epsilon}$, and $\hat{\alpha}_2 = \frac{C_v}{s} + \bar{\epsilon}$)

Various combinations are possible since there are three cutpoints that characterize the equilibrium. One example in which all the cutpoints are at boundary is presented in Figure 4(b). Recall from Lemmas 1 and 2 that if $\hat{\alpha} < -\bar{\epsilon}$ or $\hat{\alpha} > \frac{C_v}{s} + \bar{\epsilon}$, the voter can learn that the true value of α is either negative or greater than $\frac{C_v}{s}$, respectively. Therefore, the boundary solutions for the voter's cutpoints are $\hat{\alpha}_1 = -\bar{\epsilon}$ and $\hat{\alpha}_2 = \frac{C_v}{s} + \bar{\epsilon}$. When $\hat{\alpha}_1$ is boundary, the voter does not find the leader's actions as credible signals. Therefore, the voter will punish following through even if there is a slight chance that backing down is in fact a better outcome (α¿0). Likewise, when $\hat{\alpha}_2$ is boundary at $\frac{C_v}{s} + \bar{\epsilon}$, the voter will punish backing down given even a slight probability that benefits of backing down are actually not sufficient to forgive the leader's inconsistency ($\alpha < \frac{C_v}{s}$).

The boundary solution for the leader's cutpoint is $\mathscr{L} = 0$. $\mathscr{L}$ can never be negative since the leader always has an incentive to deviate from backing down to following through for any negative α to improve his utility.[2]

A.4 Comparative statics

1. Proposition 4 Recall that interior cutpoints in the full model's equilibrium are $\hat{\alpha}_1 = \bar{\epsilon} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$, $\hat{\alpha}_2 = \frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p+\bar{\epsilon})} - \bar{\epsilon}$, and $\mathscr{L} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$. Then, the first order conditions with respect to issue complexity ($\bar{\epsilon}$) are:

[2]Given $\alpha < 0$, even if the leader follows through and gets punished ($-V_p$), his or her payoff is greater than it would be for backing down and getting punished ($\alpha - V_p$).

$$\frac{\partial \hat{\alpha}_1}{\partial \bar{\epsilon}} = 1 + \frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2}.$$

$$\frac{\partial \hat{\alpha}_2}{\partial \bar{\epsilon}} = \frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2} - 1.$$

$$\frac{\partial \mathscr{L}}{\partial \bar{\epsilon}} = -\frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2}.$$

Since C_v and V_p are nonnegative, $(2V_p + \bar{\epsilon})^2$ is always positive. Thus, $\frac{\partial \hat{\alpha}_1}{\partial \bar{\epsilon}}$ is positive, and $\frac{\partial \mathscr{L}}{\partial \bar{\epsilon}}$ is negative.

$$\therefore \frac{\partial \hat{\alpha}_1}{\partial \bar{\epsilon}} = 1 + \frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2} > 0$$

.

$$\frac{\partial \mathscr{L}}{\partial \bar{\epsilon}} = -\frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2} < 0$$

. $\frac{\partial \hat{\alpha}_2}{\partial \bar{\epsilon}} < 0$ if $\frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2} - 1 < 0$. Therefore, prove below:

$$\frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2} - 1 < 0$$

Rearranges to

$$C_v < \frac{s(2V_p + \bar{\epsilon})^2}{V_p} \tag{A.4}$$

For an interior solution, $\hat{\alpha}_2$ cannot be greater than $\frac{C_v}{s} + \bar{\epsilon}$. Therefore,

$$\hat{\alpha}_2 \leqslant \frac{C_v}{s} + \bar{\epsilon}$$

$$\frac{2C_v}{s} - \frac{C_v V_p}{s(2V_p + \bar{\epsilon})} - \bar{\epsilon} \leqslant \frac{C_v}{s} + \bar{\epsilon}$$

Rearranges to:

$$C_v \leqslant \frac{2\bar{\epsilon}s(2V_p + \bar{\epsilon})}{V_p + \bar{\epsilon}}.$$

To prove (5), show that $\frac{s(2V_p+\bar{\epsilon})^2}{V_p} > \frac{2\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p+\bar{\epsilon}}$:

$$\frac{s(2V_p + \bar{\epsilon})^2}{V_p} - \frac{2\bar{\epsilon}s(2V_p + \bar{\epsilon})}{V_p + \bar{\epsilon}}$$

Expands to':

$$\frac{(4V_p^2 s + 4V_p\bar{\epsilon}s + \bar{\epsilon}^2 s)(V_p + \bar{\epsilon})}{V_p(V_p + \bar{\epsilon})} - \frac{(2V_p\bar{\epsilon}s + \bar{\epsilon}^2 s)V_p}{(V_p + \bar{\epsilon})V_p} =$$

$$\frac{4sV_p^3 + 6\bar{\epsilon}sV_p^2 + 4\bar{\epsilon}^2 sV_p + \bar{\epsilon}^3 s}{V_p(V_p + \bar{\epsilon})} > 0$$

$$\therefore \frac{s(2V_p + \bar{\epsilon})^2}{V_p} > \frac{2\bar{\epsilon}s(2V_p + \bar{\epsilon})}{V_p + \bar{\epsilon}}$$

Since $C_v \leqslant \frac{2\bar{\epsilon}s(2V_p+\bar{\epsilon})}{V_p+\bar{\epsilon}}$, $C_v < \frac{s(2V_p+\bar{\epsilon})^2}{V_p}$.

$$\therefore \frac{\partial\hat{\alpha}_2}{\partial\bar{\epsilon}} = \frac{C_v V_p}{s(2V_p + \bar{\epsilon})^2} - 1 < 0$$

$\therefore$ As an issue becomes more complex, $\hat{\alpha}_1$ increases, $\hat{\alpha}_2$ decreases, and $\mathscr{L}$ decreases. Substantively, the voter defers more to the leader, and the leader backs down more often.

2. Proposition 5 Given that C_v and V_p are nonnegative, the first order conditions with respect to issue salience (s) are:

$$\frac{\partial \hat{\alpha}_1}{\partial s} = 0 + \frac{C_v V_p (2V_p + \bar{\epsilon})}{s^2(2V_p + \bar{\epsilon})} = \frac{C_v V_p}{s^2(2V_p + \bar{\epsilon})} > 0$$

$$\frac{\partial \hat{\alpha}_2}{\partial s} = \frac{-2C_v}{s^2} + \frac{C_v V_p}{s^2(2V_p + \bar{\epsilon})} = \frac{-3C_v V_p - 2C_v \bar{\epsilon}}{s^2(2V_p + \bar{\epsilon})} < 0.$$

$$\frac{\partial \mathscr{L}}{\partial s} = \frac{-C_v V_p}{s^2(2V_p + \bar{\epsilon})} < 0.$$

$\therefore$ As an issue becomes more salient, $\hat{\alpha}_1$ increases, $\hat{\alpha}_2$ decreases, and $\mathscr{L}$ decreases. Substantively, the voter support the leader more often, and the leader backs down more often.

3. Remark 1 (C_v) Given that C_v and V_p are nonnegative, the first order conditions with respect to inconsistency cost (C_v) are:

$$\frac{\partial \hat{\alpha}_1}{\partial C_v} = -\frac{V_p}{s(2V_p + \bar{\epsilon})} < 0.$$

$$\frac{\partial \hat{\alpha}_2}{\partial C_v} = \frac{2}{s} - \frac{V_p}{s(2V_p + \bar{\epsilon})} = \frac{3V_p + 2\bar{\epsilon}}{s^2(2V_p + \bar{\epsilon})} > 0.$$

$$\frac{\partial \mathscr{L}}{\partial C_v} = \frac{V_p}{s(2V_p + \bar{\epsilon})} > 0.$$

$\therefore$ As the voter's inconsistency costs increases, $\hat{\alpha}_1$ decreases, $\hat{\alpha}_2$ increases, and $\mathscr{L}$ increases. Substantively, the voter becomes more punishing of the leader's decisions, and the leader follows through more often.

Moreover because $\frac{\partial \hat{\alpha}_2}{\partial C_v} - \frac{\partial \hat{\alpha}_1}{\partial C_v} > \frac{2}{s} > 0$, the impact of C_v is greater on the voter's second

cutpoint. As a result when the C_v affects both of the voter's cutpoints, overall, the increase in the odds of punishments for backing down affects the leader's strategy more than that for following through, thereby persuading the leader to follow through more often.

4. Remark 2 (No punishment for FT) With no punishment for following through, the leader will back down iff:

$$U_L(FT \mid \hat{\alpha_1}, \hat{\alpha_2}) \leqslant U_L(BD \mid \hat{\alpha_1}, \hat{\alpha_2})$$

$$(0 * Pr(FT|\neg P)) \leqslant (\alpha - V_p * Pr(BD|P)) + (\alpha * Pr(BD|\neg P))$$

$$0 \leqslant \int_{\alpha-\bar{\epsilon}}^{\hat{\alpha}_2} \alpha - V_p \ \ (\frac{1}{2\bar{\epsilon}})\ \mathrm{d}\epsilon + \int_{\hat{\alpha}_2}^{\alpha+\bar{\epsilon}} \alpha\ (\frac{1}{2\bar{\epsilon}})\ \mathrm{d}\epsilon \tag{A.5}$$

Plug in $\hat{\alpha}_1 (= \mathscr{L} - \bar{\epsilon})$ and $\hat{\alpha}_2 (= \frac{2C_v}{s} - (\mathscr{L} + \bar{\epsilon}))$ and solve for α,

$$\alpha \geq \frac{C_v V_p}{s(V_p + \bar{\epsilon})}.$$

Let $\mathscr{L}'$ be the leader's cutpoint in this model without the punishment for following through.

$$\text{The leader} \begin{cases} \text{backs down} & \text{if } \alpha \geqslant \mathscr{L}' = \frac{C_v V_p}{s(V_p + \bar{\epsilon})} \\ \text{follows through} & \text{otherwise} \end{cases}$$

Recall that the leader's cutpoint in the full model's equilibrium is $\mathscr{L} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$.

$$\frac{C_v V_p}{s(V_p+\bar{\epsilon})} > \frac{C_v V_p}{s(2V_p+\bar{\epsilon})}$$

$$\therefore \mathscr{L}' > \mathscr{L}$$

Let $\hat{\alpha'}_2$ be the voter's cutpoint in this model without the punishment for following through.

$$\hat{\alpha'}_2 = \frac{2C_v}{s} - (\mathscr{L} + \bar{\epsilon}) = \frac{2C_v}{s} - (\frac{C_v V_p}{s(V_p+\bar{\epsilon})} + \bar{\epsilon})$$

$$\therefore \hat{\alpha'}_2 < \hat{\alpha}_2$$

Thus, when the model assumes no punishment for following through, audience costs exert greater influence on the leader; the leader follows through more often. The voter becomes more supportive of the leader's backing down.

5. Leader's punishment cost (V_p) - Not included in Chapter 2 Given that C_v and V_p are nonnegative, the first order conditions with respect to the leader's political punishment cost (V_p) are:

$$\frac{\partial \hat{\alpha}_1}{\partial V_p} = \frac{-C_v}{s(2V_p+\bar{\epsilon})} + \frac{2C_v V_p}{s(2V_p+\bar{\epsilon})^2} = \frac{-C_v\bar{\epsilon}}{s(2V_p+\bar{\epsilon})^2} < 0.$$

$$\frac{\partial \hat{\alpha}_2}{\partial V_p} = \frac{-C_v\bar{\epsilon}}{s(2V_p+\bar{\epsilon})^2} < 0.$$

$$\frac{\partial \mathscr{L}}{\partial V_p} = \frac{C_v\bar{\epsilon}}{s(2V_p+\bar{\epsilon})^2} > 0.$$

$\therefore$ As the political cost the leader perceives increases, $\hat{\alpha}_1$ decreases, $\hat{\alpha}_2$ decreases, and $\mathscr{L}$ increases. Substantively, the leader follows through more often, and the voter becomes more punishing of the leader's following through (i.e. it becomes a less credible signal of α), but more supportive of the leader's backing down (i.e. it becomes a more credible signal of α).

6. The velocity of Issue Complexity and Issue Salience - Not included in Chapter 2 Recall that:

$\frac{\partial \hat{\alpha}_1}{\partial \bar{\epsilon}} = 1 + \frac{C_v V_p}{s(2V_p+\bar{\epsilon})^2} > 0.$

$\frac{\partial \hat{\alpha}_2}{\partial \bar{\epsilon}} = \frac{C_v V_p}{s(2V_p+\bar{\epsilon})^2} - 1 < 0.$

$\frac{\partial \hat{\alpha}_1}{\partial s} = 0 + \frac{C_v V_p(2V_p+\bar{\epsilon})}{s^2(2V_p+\bar{\epsilon})} = \frac{C_v V_p}{s^2(2V_p+\bar{\epsilon})} > 0.$

$\frac{\partial \hat{\alpha}_2}{\partial s} = \frac{-2C_v}{s^2} + \frac{C_v V_p}{s^2(2V_p+\bar{\epsilon})} = \frac{-3C_v V_p - 2C_v\bar{\epsilon}}{s^2(2V_p+\bar{\epsilon})} < 0.$

By comparing slopes of the first order conditions (FOCs) with respect to ϵ and s for each cutpoint, we can determine which parameter has a greater impact on the respective cutpoints. To compare the slopes, I first get the absolute values of FOCs.

The voter's first cutpoint $(\hat{\alpha_1})$

$$|\frac{\partial \hat{\alpha}_1}{\partial \bar{\epsilon}}| - |\frac{\partial \hat{\alpha}_1}{\partial s}| = 1 + \frac{C_v V_p}{s(2V_p+\bar{\epsilon})^2} - \frac{C_v V_p}{s^2(2V_p+\bar{\epsilon})}$$

$$= \frac{s^2(2V_p+\bar{\epsilon})^2 + C_v s V_p - C_v V_p(2V_p+\bar{\epsilon})}{s^2(2V_p+\bar{\epsilon})^2}$$

$$= \frac{4s^2V_p + 2\bar{\epsilon}s^2V_p + 2\bar{\epsilon}s^2V_p + \bar{\epsilon}^2s^2 + C_vsV_p - 2C_vV_p^2 - C_v\bar{\epsilon}V_p}{s^2(2V_p+\bar{\epsilon})^2}$$

$$= \frac{2s^sV_p(2V_p+\bar{\epsilon}) + \bar{\epsilon}s^2(2V_p+\bar{\epsilon}) + C_vsV_p - C_vV_p(2V_p+\bar{\epsilon})}{s^2(2V_p+\bar{\epsilon})^2}$$

$$= \frac{(2V_p+\bar{\epsilon})(2s^sV_p + \bar{\epsilon}s^2 - C_vV_p) + C_vsV_p}{s^2(2V_p+\bar{\epsilon})^2}$$

From above, we can see that $|\frac{\partial\hat{\alpha}_1}{\partial\bar{\epsilon}}| > |\frac{\partial\hat{\alpha}_1}{\partial s}|$ if $2s^sV_p + \bar{\epsilon}s^2 - C_vV_p > 0$.

Therefore,

$$\begin{cases} |\frac{\partial\hat{\alpha}_1}{\partial\bar{\epsilon}}| > |\frac{\partial\hat{\alpha}_1}{\partial s}| & \text{if } C_v < \frac{s^2(2V_p+\bar{\epsilon})}{V_p} \\ |\frac{\partial\hat{\alpha}_1}{\partial\bar{\epsilon}}| < |\frac{\partial\hat{\alpha}_1}{\partial s}| & \text{if } C_v > \frac{s^2(2V_p+\bar{\epsilon})}{V_p} \end{cases}$$

The voter's second cutpoint $(\hat{\alpha_2})^3$

$$|\frac{\partial\hat{\alpha}_2}{\partial s}| - |\frac{\partial\hat{\alpha}_2}{\partial\bar{\epsilon}}| = \frac{3C_vV_p + 2C_v\bar{\epsilon}}{s^2(2V_p+\bar{\epsilon})} - (1 - \frac{C_vV_p}{s(2V_p+\bar{\epsilon})^2})$$

$$= \frac{(3C_vV_p + 2C_v\bar{\epsilon})(2V_p+\bar{\epsilon}) - s^2(2V_p+\bar{\epsilon})^2 + C_vsV_p}{s^2(2V_p+\bar{\epsilon})^2}$$

$$= \frac{6C_vV_p^2 + 3C_v\bar{\epsilon}V_p + 4C_v\bar{\epsilon}V_p + 2C_v\bar{\epsilon}^2 - 4s^2V_p^2 - 2\bar{\epsilon}s^2V_p - 2\bar{\epsilon}s^2V_p - \bar{\epsilon}^2s^2 + C_vsV_p}{s^2(2V_p+\bar{\epsilon})^2}$$

$$= \frac{3C_vV_p(2V_p+\bar{\epsilon}) + 2C_v\bar{\epsilon}(2V_p+\bar{\epsilon}) - 2s^2V_p(2V_p+\bar{\epsilon}) - \bar{\epsilon}s^2(2V_p+\bar{\epsilon}) + C_vsV_p}{s^2(2V_p+\bar{\epsilon})^2}$$

$$= \frac{(2V_p+\bar{\epsilon})(3C_vV_p + 2C_v\bar{} - 2s^2V_p - \bar{\epsilon}s^2) + C_vsV_p}{s^2(2V_p+\bar{\epsilon})^2}$$

From above, we can see that $|\frac{\partial\hat{\alpha}_2}{\partial s}| > |\frac{\partial\hat{\alpha}_2}{\partial\bar{\epsilon}}|$ if $(3C_vV_p + 2C_v\bar{} - 2s^2V_p - \bar{\epsilon}s^2) > 0$.

Therefore,

[3] Since $\frac{C_vV_p}{s(2V_p+\bar{\epsilon})^2} - 1 < 0, |\frac{\partial\hat{\alpha}_2}{\partial\bar{\epsilon}}|$ can be expressed as $1 - \frac{C_vV_p}{s(2V_p+\bar{\epsilon})^2}$.

$$\begin{cases} |\frac{\partial \hat{\alpha}_2}{\partial s}| < |\frac{\partial \hat{\alpha}_2}{\partial \bar{\epsilon}}| & \text{if } C_v < \frac{s^2(2V_p+\bar{\epsilon})}{3V_p+\bar{\epsilon}} \\ |\frac{\partial \hat{\alpha}_2}{\partial s}| > |\frac{\partial \hat{\alpha}_2}{\partial \bar{\epsilon}}| & \text{if } C_v > \frac{s^2(2V_p+\bar{\epsilon})}{3V_p+\bar{\epsilon}} \end{cases}$$

Overall, the impact of issue salience is greater on the voter's cutpoints if C_v is sufficiently large, but the impact of issue complexity is greater otherwise.

Table A.1: Summary of Full Comparative Statics

Exogenous Parameter	$\mathscr{L}$	$\hat{\alpha}_1$	$\hat{\alpha}_2$
Maximum Uncertainty ($\bar{\epsilon}$)	-	+	-
Issue Salience (s)	-	+	-
Inconsistency Cost (C_v)	+	-	+
The Leader's Political Punishment Cost (V_p)	+	-	-

Appendix B

Chapter 3

Table B.1: Descriptive Statistics

Gender	%
Female	47.57
Male	52.43
Age	
18-29	31.99
30-44	46.19
45-64	18.21
65+	3.61
Education	
Did not complete high school	0.47
High school graduate	9.13
Some college or associate degree	31.08
College degree	44.64
Postgraduate study	14.68
Ethnicity/Race	
White	75.33
African American	7.57
Hispanic/Latino	5.85
Asian	8.75
Income	
Less than $20.000	21.32
$20,000 - 35,000	21.21
$35,000 - 50,000	19.67
$50,000 - 75,000	21.73
$ 75,000 - 100,000	9.43
More than $100,000$	6.64

Appendix C

Chapter 4

C.1 Propositions 6 and 7

1. The Voters First Cutpoint V_f: Given the leader's action X $\in$ {Not Commit (NC), Commit(C)}, the voter will punish the leader who fights iff

$$U_v(\neg P \mid \hat{C_H}, Fight) \leqslant U_v(P \mid \hat{C_H}, Fight)$$
$$\int_{\hat{C_H}-\bar{\epsilon}}^{\mathscr{L}^x} s(pa - C_H)\ \mathrm{d}C_H \leqslant \int_{\hat{C_H}-\bar{\epsilon}}^{\mathscr{L}^x} 0\ \mathrm{d}C_H$$

Solve for $\hat{C_H}$, the voter punishes the leader for fighting iff

$$\hat{C_H} \geqslant V_f^x \equiv 2pa + \bar{\epsilon} - \mathscr{L}^x$$

2. The Voters Second Cutpoint V_{cd}: Given the leader's action X $\in$ {Not Commit (NC), Commit(C)},the voter will punish the leader who concedes iff

$$U_v(\neg P \mid \hat{C_H}, Concede) \leqslant U_v(P \mid \hat{C_H}, Concede)$$
$$\int_{\mathscr{L}^x}^{\hat{C_H}+\bar{\epsilon}} (0 - \mathrm{C_v}\pi)\ \mathrm{d}C_H \leqslant \int_{\mathscr{L}^x}^{\hat{C_H}+\bar{\epsilon}} (s(pa - C_H))\ \mathrm{d}C_H$$

where $\pi = 1$ if the leader has committed and $\pi = 0$ if the leader has not. Then, the voter punishes the leader for conceding iff

$$\hat{C_H} \geqslant {V_{cd}}^x \equiv 2pa + \frac{C_v \pi}{s} - \bar{\epsilon} - \mathscr{L}^x$$

3. The Leaders Cutpoint $\mathscr{L}^c$ and $\mathscr{L}^{nc}$: Given the leader's action X $\in$ {Not Commit(NC), Commit (C)}, the leader concedes iff

$$U_{LX}(Fight \mid V_f, V_{cd}) \leqslant U_{LX}(Concede \mid V_f, V_{cd})$$
$$((pa - C_H) * Pr(Fight \mid \neg P)) + ((pa - C_H - V_p) * Pr(Fight \mid P)) \leqslant$$
$$(0 - V_p * Pr(Concede \mid P)) + (0 * Pr(Concede \mid \neg P))$$
$$(\frac{1}{2\bar{\epsilon}}) \int_{C_H - \bar{\epsilon}}^{V_f} (\mathrm{pa} - \mathrm{C_H})\ \mathrm{d}\epsilon + \int_{V_f}^{C_H + \bar{\epsilon}} (\mathrm{pa} - \mathrm{C_H} - \mathrm{V_p})\ \mathrm{d}\epsilon \leqslant (\frac{1}{2\bar{\epsilon}}) \int_{C_H - \bar{\epsilon}}^{V_{cd}} (0 - V_p)\ \mathrm{d}\epsilon + 0$$

Plug in the voter's cutpoints V_f and V_{cd} and solving for C_H. The leader concedes iff

$$C_H \geqslant pa + \pi(\frac{C_v V_p}{s(2V_p + \bar{\epsilon})})$$

where $\pi = 0$ if the leader has not committed and 1 if the leader has committed.

C.2 Foreign's strategies ($\mathscr{F}$) - Proposition 8

FOREIGN

If F observes COMMIT,

Foreign continues iff

$$\mathbb{E}_F[\text{Stop}|\text{Commit}] \leqslant \mathbb{E}_F[\text{Continue}|\text{Commit}]$$
$$0 \leqslant pr(\text{Fight}|\text{Commit}) * ((1-p)a - C_F) + pr(\text{Concede}|\text{Commit}) * a$$
$$0 \leqslant \int_0^{\mathscr{L}^c} ((1-p)a - C_F)\ \ \mathrm{d}C_H + \int_{\mathscr{L}^c}^{\bar{C_H}} a\ \ \mathrm{d}C_H$$

If F observes NO COMMIT,

Foreign continues iff

$$\mathbb{E}_F[\text{Stop}|\text{No Commit}] \leqslant \mathbb{E}_F[\text{Continue}|\text{No Commit}]$$
$$0 \leqslant pr(\text{Fight}|\text{No Commit}) * ((1-p)a - C_F) + pr(\text{Concede}|\text{No Commit}) * a$$
$$0 \leqslant \int_0^{\mathscr{L}^{nc}} ((1-p)a - C_F) \ \mathrm{d}C_H + \int_{\mathscr{L}^{nc}}^{\bar{C_H}} a \ \mathrm{d}C_H$$

Therefore

$\mathscr{F}^{nc} = \frac{pa(pa+C_F)}{a}$ and $\mathscr{F}^{c} = \frac{pa(pa+C_F)+\Delta(pa+C_F)}{a}$

C.3 Leader's strategies ($\mathscr{L}_I$) - Proposition 9

I. **FOREIGN**

Solve Foreign's cutpoints, $\mathscr{F}^c$ and $\mathscr{F}^{nc}$, for C_F. Let C_F^c and C_F^{nc} denote Foreign's cutpoints with respect to C_F given commitment and no-commitment respectively.

If F observes COMMIT, Foreign continues iff

$$\mathbb{E}_F[\text{Stop}|\text{Commit}] \leqslant \mathbb{E}_F[\text{Continue}|\text{Commit}]$$
$$0 \leqslant pr(\text{Concede}|\text{Commit}) * a + pr(\text{Fight}|\text{Commit}) * ((1-p)a - C_F)$$

Therefore, given Commit, Foreign

$$\begin{cases} \text{continues if } C_F < C_F^c \equiv \frac{\bar{C_H}a}{pa+\Delta} - pa \\ \text{is indifferent if } C_F = C_F^c \\ \text{stops if } C_F > C_F^c \end{cases}$$

Likewise, given No Commit,

Foreign

$$\begin{cases}\text{continues if } C_F < C_F^{nc} \equiv \frac{C_H}{p} - pa \\ \text{is indifferent if } C_F = C_F^{nc} \\ \text{stops if } C_F > C_F^{nc}\end{cases}$$

II. **LEADER**

Given the Foreign's strategy, the leader commits iff

$$\mathbb{E}_L(\text{Not Commit (NC) }) < \mathbb{E}_L(\text{Commit (C)})$$

$$\text{pr(F stops; NC)} \cdot\ a + \text{ pr(F continues; NC) } \cdot (\mathbb{E}_L(\text{Fight}|\text{NC}) + (\mathbb{E}_L(\text{Concede}|\text{NC}))) \leqslant$$

$$\text{pr(F stops; C) } \cdot\ a + \text{ pr(F continues; C)} \cdot (\mathbb{E}_L(\text{Fight}|\text{C}) + (\mathbb{E}_L(\text{Concede}|\text{C})))$$

$$\frac{\bar{C_F}}{2}\Big(\int_0^{C_F^{nc}} \Big(\frac{\bar{C_H}}{2}\int_0^{\mathscr{L}^{nc}} (pa - C_H)\ \ dC_H\Big)\ dC_F + \int_{C_F^{nc}}^{\bar{C_F}} a\ dC_F\Big) \leqslant$$

$$\frac{\bar{C_F}}{2}\Big(\int_0^{C_F^c} \Big(\frac{\bar{C_H}}{2}\int_0^{V_f^c} (pa - C_H)\ dC_H + \int_{V_f^c}^{\mathscr{L}^c} (pa - C_H - V_p)\ dC_H + \int_{\mathscr{L}}^{V_{nd}^c} -V_p\ dC_H + \int_{V_{nd}^c}^{\bar{C_H}} 0\ dC_H\Big)\ dC_F$$

$$+ \int_{C_F^c}^{\bar{C_F}} a\ \ dC_F\Big)$$

$$\int_0^{C_F^{nc}} -\Pi\ \ dC_F < \int_0^{C_F^c} -\Pi - (4V_p(\frac{C_v}{s} - \bar{\epsilon}) + \Delta^2)\ \ dC_F$$

where $\Pi = 2a - p^2a^2$

Let Γ be $4V_p(\frac{C_v}{s} - \bar{\epsilon}) + \Delta^2$. Then

$$0 < (C_F^{nc} - C_F^c)\Pi - C_F^c\Gamma$$

$$0 < \frac{a(\bar{C_H}\Delta)(2 - p^2a)}{p(pa + \Delta)} - \frac{ap(\bar{C_H} - p^2a - p\Delta)}{p(pa + \Delta)}\Gamma$$

Solve this inequality for $\bar{C_H}$ and let $\mathscr{L}_I$ denote the leader's cutpoint at the commitment stage. Then,

$$\text{Leader } \begin{cases}\text{commits if } \bar{C_H} < \mathscr{L}_I \equiv \frac{p^2\Gamma(pa+\Delta)}{p\Gamma + p^2a\Delta - 2\Delta} \text{ and} \\ \text{does not commit otherwise}\end{cases}$$

C.4 Corollary 2

Condition for $\mathscr{F}^c < \mathscr{L}_I$

$$\mathscr{F}^c < \mathscr{L}_I$$
$$\frac{pa(C_F + pa) + \Delta(C_F + pa)}{a} < \frac{p^2\Gamma(pa + \Delta)}{p\Gamma + p^2a\Delta - 2\Delta}$$

Solve for C_F and get

$$C_F < \frac{(2a - p^2a)(p\Delta)}{p\Gamma - 2\Delta + p^2a\Delta}$$

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