

## WHEN HAWKS ARE DOVES AND DOVES ARE HAWKS: DOMESTIC CONDITIONS AND FOREIGN CONFLICTS

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*The theoretical and empirical linkage between domestic attributes and the use of force in international crises is revisited in this study. I integrate two important hypotheses about that linkage: the liberal hypothesis which suggests that domestic constraints reduce the use of violence during international crises and the rally-round-the-flag effect which proposes that domestic enthusiasm encourages such violence. Whereas these perspectives generally are viewed as contradictory, I generate a formal model which unifies them. I provide a composite variable in my model that includes a component for domestic constraints against the use of force and a component for capturing public support for a nation's use of force.*

*The main results show that the relationship between a crisis initiator's hawkish or dovish type and its likelihood of war involvement is not monotonic either in my model or in the experience of European nations involved in crises over the past nearly two hundred years. I find that a "Semi-Dove" initiator is more likely to engage in foreign wars or mutual violence than is a "Semi-Hawk" initiator. The theoretical implications of the model help reconcile the apparent contradictions between the "liberal" school and the rally-round-the-flag effect. The model also suggests avenues for future research and refinement of the hypotheses.*

### 1. INTRODUCTION

A central puzzle in the investigation of international conflict revolves around the effects domestic political characteristics have on national decisions to use force. The presence of democratic constraints, general levels of public support for foreign policy goals, cultural abhorrence of violence, scapegoating strategies, and revolutionary instability of domestic regimes are but some of the internal political factors that have been proposed as causes or contributors to international peace or violence (Benoit, 1996; Bueno de Mesquita and Lalman, 1992; Bueno de Mesquita, Siverson and Woller, 1992; Chan, 1984; Doyle, 1986; Forde, 1986; Gleditsch and Hegre, 1997; James and Oneal, 1991; Levy, 1988; Mansfield and Snyder, 1996; Maoz and Abdolali, 1989; Maoz and Russett, 1992; Morgan and Campbell, 1991; Mueller, 1973; Ostrom and Job, 1986; Rummel, 1979, 1983a, 1983b; Russett, 1990; Russett and Monsen, 1975; Siverson and Starr, 1992; Small and Singer, 1976; Walt, 1992; Weede, 1984). Yet, few investigations have tied empirical results to a general theory that links domestic political attributes to foreign conflict behavior. This study suggests elements of such a theory. I propose to examine linkage politics both formally and empirically.

I assume that there are certain ideal types connected with a nation's propensity to use force in international crises. In particular, I believe that there are two fundamental, generic domestic political elements that shape national responses to the use of force. These two elements are (1) the magnitude of domestic political constraints that militate against the use of force and (2) the level of public support that rallies behind national leaders in times of crisis, possibly mitigating existing constraints. These two factors —

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political constraints and the rallying of public support — are allowed to vary within a game theoretic structure so that I can ascertain how these elements might influence foreign policy behavior. Once the game is designated and its equilibria identified, I turn to an empirical assessment of the key propositions that I deduce.

## 2. CURRENT KNOWLEDGE AND CONVENTIONAL WISDOM

Among those who do not subscribe to a structural realist view of international politics, it has long been supposed that a link exists between domestic political circumstances and foreign policy behavior. The most successful linkage hypothesis concerns the observed regularity that democratic states very rarely engage one another in **violent** conflicts. Indeed, the reluctance of democratic states to fight wars with other democratic states is so strong that Bruce Russett has described the regularity, as the closest observation we have, to a general law of international politics (Russett, 1990). The hypothesis is quite venerable. Perhaps its earliest formulation was proposed by Immanuel Kant (1949) when he suggested the possibility of a pacific union made up of republican states.

Kant's speculation was followed by further philosophical development in the writing of Jeremy Bentham (1843). More recently, Rummel's (1979, 1983a, 1983b), Doyle's (1986), and Gleditsch and Hegres' (1997) empirical studies seem to have reinvigorated confidence in the generalization of democratic pacifism. Although others have disagreed with some of the claims for democratic pacifism (Chan, 1984; Forde, 1986; Morgan and Campbell, 1991; Russett and Monsen, 1975; Small and Singer, 1976; Weede, 1984), the notion that democracies do not fight each other has been sustained (Bremer, 1992; Bueno de Mesquita and Lalman, 1992; Maoz and Abdolali, 1989; Maoz and Russett, 1990; Ray, 1995). What has been shown is that "democracy and war involvement are not consistently and significantly correlated with each other (Weede, 1984: 649)," although it is apparently true that democratic states do not fight **each other**. As Rummel notes, "libertarian systems mutually preclude violence (Rummel, 1983a: 29)." Although I believe this overstates expectations, the tendency for democracies to eschew violence with each other is strong.

Bueno de Mesquita and Lalman (1992) provide a potential theoretical explanation for the pacifism of democracies toward one another that also accounts for the tendency for democratic states to fight with non-democracies just as often as non-democratic states fight one another (Small and Singer, 1976). Their argument and the empirical record support the notion that domestic political constraints against the use of force as a foreign policy instrument help shape national responses to crisis situations (Bueno de Mesquita and Lalman, 1992; Ostrom and Job, 1986; James and Oneal, 1991; Morgan and Campbell, 1991).

A second literature points to a factor that may act to countervail the impact of domestic political constraints against the use of force. While, on the one hand, democratic institutions make it cheap for government opponents to organize and to mobilize opposition to governmental policies, democratic institutions also provide governments with the legitimacy that tends to accompany "popular" sovereignty. That legitimacy may provide leaders with a cushion against the institutional and political constraints that

make using force potentially costly. Most notable among the prospective ways in which legitimacy influences the use of force in crises is the observation of an initial rally-round-the-flag effect (Mueller, 1973; Brody, 1984). When a state is in peril, its population seems to pull together, providing aid and comfort to its embattled leadership.

Two factors, then, seem to be at work in shaping domestic reactions to foreign policy choices. One — the set of political constraints — presumes that the public prefers peaceful resolutions of international crises. This idea forms the foundation of the **liberal hypothesis** often associated with Immanuel Kant. Because democracy may be identified as the regime type that best represents public opinion, a democratic nation is viewed as being less likely to use force internationally. The second factor, the **rally-round-the-flag effect** suggests an inducement for using force; namely, the short-term boost in political support a government might gain when it is involved in a foreign policy crisis (Hess and Orphanides, 1992). This latter perspective is sometimes taken as a rejection of the liberal point of view (Campbell and Cain, 1965; Mueller, 1973; May, 1961; Ostrom and Job, 1986; Stoll, 1984). I believe that constraints and support can be viewed more fruitfully if they are not thought of as a choice between one or the other, but rather as two factors that operate simultaneously.

Probably every society has a segmented population, with some responding negatively to the use of force, imposing a dovish posture on foreign policy elite, and others promoting a more hawkish foreign policy posture. May (1961), for instance, has shown that the American and the Spanish publics urged their reluctant national leaders to engage in the Spanish-American War. Mueller (1973) has noted that politicians enjoy hawkish public support when they use more hard-line policies in international crises. He has shown empirically that the rally-round-the-flag effect holds for at least a short period after the initiation of an international crisis. If the hawkish public sector is presumed to be large, then national leaders may incline toward short foreign policy adventures in part for the attendant domestic political gains (Russett, 1990). As the dovish sector grows in prominence the constraints against the use of force grow, eventually outweighing the inducements of the rally-round-the-flag effect.

Clearly, the liberal, political constraints hypothesis and the rally-round-the-flag hypothesis require a more refined perspective that treats them as contending societal forces rather than thinking of them as alternative, mutually exclusive, states of the world. I propose to consider some of the complicated effects that arise when there are different mixtures of these two domestic attributes. I do so in a context that also recognizes the importance of external, structural features of foreign policy decision making. I construct a game that is attentive to the relative power of nations, the alliance structure and the severity of ongoing international crises, as well as being attentive to the mix of constraints and rally effects.

I choose a game theoretic perspective because such an approach forces us to be attentive to strategic interactions. It is not difficult to imagine that a nation reacts in different ways to the actions of different rivals. I assume that the actions and the reactions of nations are dependent upon their perception of their rivals' intentions. Therefore, I must consider the impact of rally effects and domestic constraints in a context that takes cognizance of the expected reaction of rival states to displays of peacefulness or aggressiveness.

My analysis focuses on two stages implied by the liberal, constraints hypothesis and

the rally-round-the-flag effect. Each hypothesis assumes that there are certain consequential domestic political constraints or inducements for using force as a means of resolving disputes. Each hypothesis also implies that leaders respond to these constraints or inducements, making choices consistent with their local political circumstances. This, of course, is an important departure from neorealist theory which presumes that leaders maximize national security and that such security is reinforced or jeopardized as a consequence of external, usually structural, changes in the international system. My analysis represents a significant departure not only from a structural realist perspective, but also from conventional, liberal hypotheses about linkage politics.

For the moment, let us think of societies as made up of various mixes of dovish and hawkish publics. Then, I might say that a society is more or less hawkish (or dovish) depending on the specific mix. Generally, journalistic treatments of dovish or hawkish sentiments imply a monotonic relationship between the prevalence of one or the other type in a society and the propensity for the government to engage in violent or pacific resolutions of its disputes. Indeed, this intuition seems so strong that I infer from it the following two initial working, or null, hypotheses:

**H1:** The more hawkish the public is, the more likely the government is to use force to resolve international disputes.

**H2:** The more hawkish a nation's public is, the more likely it is to be engaged in war.

H1 addresses the relationship between a nation's type and its likelihood of using force while H2 covers the effects expected when two nations confront one another in a dispute. H2, then, is concerned with the prospects of the mutual use of force by rivals. Each presumes a monotonic relationship between hawkish attitudes and aggressive behavior. In the next section I suggest a game-theoretic model to analyze formally the relationship between nation types and the likelihood of international conflict. My main interest is to see if the conventional, monotonic hypotheses are sustained as equilibria in my simple game. Then, I examine H1 and H2 empirically along with the specific propositions implied by the game. In doing so, I determine whether the historical record substantiates the working hypothesis of a monotonic relationship between hawkish attitudes and aggressive behavior or the specific implications derived from my game structure.

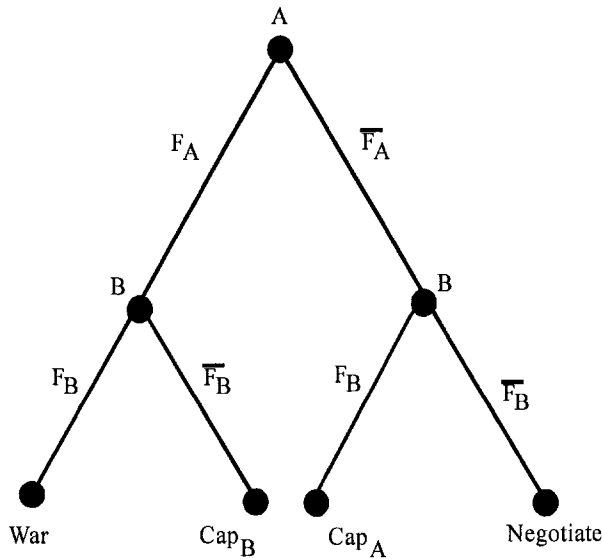
### 3. A MODEL WITH POLITICAL CONSTRAINTS AND RALLY EFFECTS

I design a simple international crisis game which incorporates the arguments of the liberal, political constraints hypothesis and the hypothesis of the rally-round-the-flag effect. I begin with the common assumption that foreign policy choices are made as if by a unitary actor. In my analysis, the decision maker is accountable to the public and so attempts to formulate policies that are responsive to public pressures to avoid, instigate or sustain the use of force. Others have shown empirically that the historical record bears out the notion that foreign policy elite — including authoritarian leaders — are, indeed, accountable to their followers for their foreign policy actions, at least in

the context of decisions related to the waging of war (Bueno de Mesquita, Siverson, and Woller, 1992).

I model crisis decision making as a game with two players. I call the two nations involved in a crisis the initiator  $A$  and the responder  $B$ . My game assumes that the two nations have reached the crisis stage in their interactions. Thus, they are assumed to have already exchanged demands and threats, but have not yet chosen the means by which the crisis will be resolved. The basic structure of their final interactions is depicted in figure 1.

**Figure 1.** International Crisis Decision Making



First, the crisis initiator  $A$  decides either to use force or not to use force. Then, the responder  $B$  also decides either to use force or not to use force in response to  $A$ 's initial action. The moves, then, are sequential, with nature deciding who moves first. There are four possible outcomes to this game:

- (1) If  $A$  decides to use force and  $B$  fights back, *War* is the outcome.
- (2) If  $A$  decides to use force and  $B$  decides not to, then the outcome is a capitulation by  $B$  (denoted as  $Cap_B$ ).
- (3) If  $A$  decides not to use force and  $B$  decides to use force, the outcome is a capitulation by  $A$  (denoted as  $Cap_A$ ).
- (4) If  $A$  decides not to use force and  $B$  also decides not to use force, negotiation (denoted as *Nego*) is the outcome.

I assume each nation chooses to maximize its expected utility. Nation types are classified broadly into Hawk and Dove according to their *ex ante* preferences for using force. The following basic assumptions are essential to characterize the preference

orderings of each nation and each type.<sup>1</sup>

**A1:** Any nation prefers capitulation by the rival to *War*.

**A2:** Any nation prefers negotiation to its own capitulation.

**A3:** Hawk type nations have populations that prefer to force a rival to capitulate rather than to negotiate with the foe.

**A4:** Dove type nations have populations that constrain the leadership to prefer negotiated settlements over forcing the opponent to capitulate.

Assumptions **A1** and **A2** hold for all types of nations. **A1** assumes that each nation does not want to use force beyond the point at which its objectives are achieved. Force is not used, then, for the “pleasure” of doing so. **A2** assumes that any peaceful resolution is a better outcome for a nation than its own capitulation to the rival. These are minimal assumptions that I presume hold in any international crisis. **A3** characterizes hawk-type nations whereas **A4** characterizes doves. The fundamental difference between hawks and doves is assumed to come from the comparison of preferences for reaching negotiated settlements of disputes or for forcing the rival to capitulate. If a negotiated, compromise outcome is preferred to compelling the rival to capitulate, so that the nation is a dove, then negotiation must be the most preferred outcome in the game for that nation, given assumptions **A1** and **A2**. The presumed source of the dove’s preference is that the leader’s domestic base of political support imposes high costs on the leadership for using of force. Conversely, if the domestic population is hawkish, so that the rally-round-the-flag effect is quite strong compared to the effect of constraints, then the nation is a hawk. This means that the leadership prefers forcing the rival to capitulate rather than pursuing a compromise, negotiated settlement. For any hawk  $i$ , a capitulation by any other nation  $j$  is the most preferred outcome of the game.

Knowing that a nation is a hawk does not tell us how it orders the remaining possible outcomes. There are three possible preference orderings for hawkish nations given my assumptions. If a hawk prefers *War* to *Negotiation*, it is defined as a Tough-Hawk, the toughest type of nation. Some have suggested that Germany under Hitler in 1939 was this type — the national leadership wanted war more than peace. Some have also suggested that Frederick the Great was this sort of particularly tough hawk. If a hawkish nation prefers *Negotiation* to *War*, it is defined either as a Normal-Hawk or as a Semi-Hawk depending on the remainder of its preferences. If the nation prefers *War* over capitulating to the opponent then it is a Normal-Hawk. If it should prefer to capitulate itself rather than wage war, then I define it as a Semi-Hawk. One might portray some of the Arab states — perhaps Syria in particular — as a Semi-Hawk with respect to Israel. Certainly the Syrians wish Israel would capitulate to their demands for a return of the Golan Heights. Yet, the Syrians appear to have had a tacit understanding with Israel, especially in the context of their and Israel’s policies in Lebanon. The Syrians have capitulated to Israel in Southern Lebanon, ceding control of that territory to forces sympathetic to the Israelis, rather than wage war. In 1982, even as Israel’s army marched toward Beirut, the Syrians backed off from confronting the Israeli army. These actions by Syria seem to me to be an almost perfect example of

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<sup>1</sup>I should note also that I assume that nations are not indifferent across outcomes.

Semi-Hawk behavior.

The degree of hawkishness reflects the extent to which the rally-round-the-flag effect is presumed to predominate over the constraints effect. As constraints grow in magnitude relative to support for the use of force, a nation becomes a Normal-Hawk or a Semi-Hawk and, eventually, one or another type of dove. Thus the following complete preference orderings are related to each hawk type from the assumptions. I define  $i, j \in \{A, B\}$  and  $i \neq j$ .

Tough-Hawk  $i$ :  $Cap_j > War > Nego > Cap_i$

Normal-Hawk  $i$ :  $Cap_j > Nego > War > Cap_i$

Semi-Hawk  $i$ :  $Cap_j > Nego > Cap_i > War$

A similar typology is proposed for dove nations. If a dove prefers *War* to its own capitulation, it is defined as a Semi-Dove. If a dove prefers its own capitulation to *War*, then it is defined as a Normal-Dove or a Super-Dove, depending on whether it does or does not prefer capitulation by the rival to its own capitulation. Of all types, Super-Doves have the most pacific preference ordering. The complete preference orderings for dove nations are as follows:

Semi-Dove  $i$ :  $Nego > Cap_j > War > Cap_i$

Normal-Dove  $i$ :  $Nego > Cap_j > Cap_i > War$

Super-Dove  $i$ :  $Nego > Cap_i > Cap_j > War$

It is self evident that a Tough-Hawk is the most hawkish nation and that a Super-Dove is the most dovish nation. It is also not difficult to see why a Normal-Hawk is more hawkish than a Semi-Hawk and why a Normal-Dove is more dovish than a Semi-Dove nation. There may, however, be some question as to which is more pacific, a Semi-Hawk or a Semi-Dove nation.

Semi-Hawks prefer to capitulate themselves rather than wage *War*, while Semi-Doves prefer *War* to capitulating themselves. This might suggest that a Semi-Dove is more hawkish. However, two principles argue against this conclusion. First, at the top of their preference ordering, Semi-Doves share with other doves a desire to reach a peaceful accommodation with the adversary; Semi-Hawks prefer to use force. Second, the preference orderings imply that a Semi-Hawk responder can use force even when its rival does not. A Semi-Dove responder, by contrast, can only use force in **retaliation** for its rival's use of force. It does not initiate violence.

To analyze the null, working hypotheses H1 and H2 formally, I find the subgame perfect Nash equilibria of the crisis game under complete information using two lemmas that explain responder *B*'s reactions to initiator *A*'s action.

**Lemma 1:** *If a crisis initiator uses force, a responder of type Tough-Hawk, Normal-Hawk, or Semi-Dove fights back, and a responder of type Semi-Hawk, Normal-Dove, or Super-Dove capitulates.*

**Proof:** By backward induction (subgame perfection) we see that if *A* uses force, *War* and  $Cap_B$  are the only possible outcomes. From the preference orderings, a

responder of Tough-Hawk, Normal-Hawk, or Semi-Dove type prefers *War* to  $Cap_B$ , and a responder of Semi-Hawk, Normal-Dove, or Super-Dove type prefers  $Cap_B$  to *War*.

**Lemma 2:** *If a crisis initiator does not use force, any hawk responder will use force to exploit the initiator and any dove responder will choose to negotiate with the initiator.*

**Proof:** By backward induction (subgame perfection) we see that If  $A$  does not use force, *Negotiation* and  $Cap_A$  are the only possible outcomes. From the preference orderings, any hawk responder prefers  $Cap_A$  to *Negotiation*, and any dove responder prefers *Negotiation* to  $Cap_A$ .

I illustrate the possible equilibrium outcomes of the game as a function of the initiator's types. In doing so, I focus particularly on the outcomes of *War* and *Negotiation*. The complete set of pure strategy equilibrium outcomes associated with each pairing of types is reported in table 1.

**Table 1.** The Equilibrium Outcomes of the Game

$A \setminus B$	Tough-H	Normal-H	Semi-Hawk	Semi-Dove	Normal-D	Super-D
Tough-H	<i>War</i>	<i>War</i>	$Cap_B$	<i>War</i>	$Cap_B$	$Cap_B$
Normal-H	<i>War</i>	<i>War</i>	$Cap_B$	<i>Nego</i>	$Cap_B$	$Cap_B$
Semi-Hawk	$Cap_A$	$Cap_A$	$Cap_B$	<i>Nego</i>	$Cap_B$	$Cap_B$
Semi-Dove	<i>War</i>	<i>War</i>	$Cap_B$	<i>Nego</i>	<i>Nego</i>	<i>Nego</i>
Normal-D	$Cap_A$	$Cap_A$	$Cap_B$	<i>Nego</i>	<i>Nego</i>	<i>Nego</i>
Super-D	$Cap_A$	$Cap_A$	$Cap_A$	<i>Nego</i>	<i>Nego</i>	<i>Nego</i>

**Case 1:** *If the crisis initiator is a Tough-Hawk, War is the equilibrium outcome with responders of type Tough-Hawk, Normal-Hawk, or Semi-Dove. Furthermore, Negotiation is not a possible outcome regardless of the responder's type.*

**Proof:** Both *War* and  $Cap_B$  are preferred to *Negotiation* or  $Cap_A$  by a Tough-Hawk. The initiating nation, being of this type, always uses force. Then, from Lemma 1, if  $B$  is of the type Tough-Hawk, Normal-Hawk or Semi-Dove, then it fights back against  $A$ 's threat, and if  $B$  is of the type Semi-Hawk, Normal-Dove, or Super-Dove, it gives in. Note that *War* is the outcome between a Tough-Hawk initiator and a Semi-Dove responder, and that the Semi-Hawk responder does not engage in *War*.

**Case 2:** *If the crisis initiator is a Normal-Hawk, War is the equilibrium outcome provided  $B$  is of type Tough-Hawk or Normal-Hawk; Negotiation is possible only with a Semi-Dove responder.*

**Proof:** Suppose Normal-Hawk  $A$  does not use force, then any hawk  $B$  will use force



and any Dove  $B$  will not use force from Lemma 2.  $Cap_A$  — the outcome if the initiator is a Normal-Hawk — is a worse outcome for  $A$  than  $War$  or  $Cap_B$ , both of which are available when  $A$  uses force. A Normal-Hawk  $A$  can avoid these inferior outcomes by using force and so does so against any type of hawk responder. If  $A$  uses force,  $B$  of Tough-Hawk or Normal-Hawk will fight back, and Semi-Hawk  $B$  will capitulate as shown in Lemma 1. Suppose  $A$  uses force against a Dove  $B$ , then any Normal-Dove or Super-Dove  $B$  will capitulate to  $A$  and any Semi-Dove will fight back according to Lemma 2. Knowing that, a Normal-Hawk  $A$  uses force against a Normal-Dove or Super-Dove  $B$  to exploit  $B$ , and it does not use force against a Semi-Dove  $B$ . In that case, by not using force,  $A$  is able to induce *Negotiation*, which is a superior outcome to the alternatives. Therefore, for Normal-Hawk initiators *Negotiation* is possible only if the opponent is a Semi-Dove. Note that a Semi-Dove responder engages in war against a Tough-Hawk initiator, but pursues negotiations with a Normal-Hawk initiator.

**Case 3:** *If the crisis initiator is a Semi-Hawk, War is not a possible equilibrium outcome and Negotiation is possible only with a Semi-Dove responder.*

**Proof:** Suppose a Semi-Hawk  $A$  uses force, then  $B$  of Semi-Hawk, Normal-Dove, or Super-Dove type will capitulate in accordance with Lemma 1. This guarantees the best outcome,  $Cap_B$ , for a Semi-Hawk  $A$ . If  $A$  of the same type does not use force against  $B$  of Tough-Hawk, Normal-Hawk, or Semi-Dove type, then  $A$  gets  $Cap_A$  or *Negotiation*, according to Lemma 2, instead of the inferior outcome of *War* which is what would arise if  $A$  uses force. Therefore, *War* is not a possible outcome in this case.

**Case 4:** *If the crisis initiator is a Semi-Dove, War is the equilibrium outcome only against responders of type Tough-Hawk or Normal-Hawk. Negotiation is possible only with a dove responder.*

**Proof:** The initiator  $A$  knows that any responder of type Tough-Hawk or Normal-Hawk uses force. Suppose  $A$  does not use force, then a Tough-Hawk or Normal-Hawk responder exploits  $A$ 's decision, thereby giving  $B$  its most preferred outcome,  $Cap_A$ . This outcome is worse than *War* for a Semi-Dove  $A$ . Consequently,  $A$  uses force against a Tough-Hawk or Normal-Hawk responder, which invokes *War*. Similarly,  $A$  uses force against a Semi-Hawk  $B$  to compel its rival to capitulate ( $Cap_B$ ). If  $B$  is a dove nation,  $A$  does not need to use force because *Negotiation* is the most preferred outcome for both nations.

**Case 5:** *If the crisis initiator is a Normal-Dove or Super-Dove, War is not a possible outcome with any type of responder, and Negotiation is possible only with a dove responder.*

**Proof:** If  $B$  is a dove responder, *Negotiation* is guaranteed when  $A$  does not use force. By lemmas 1 and 2, *Negotiation* is not possible if  $B$  is a Tough-Hawk or Normal-Hawk type. If  $A$  is a Normal-Dove or a Super-Dove, then  $A$  prefers  $Cap_A$  to *War*. Therefore, these types of initiators do not have any incentive to use force against  $B$  of type Tough-Hawk or Normal-Hawk. Similarly, *War* and *Negotiation* are not possible against a Semi-Hawk responder.

Because these cases are based on the assumption of complete information, they

cannot, of course, fully represent reality. Diverse variations of the cases are possible under incomplete information. Still, even with the limitation of complete information, the cases reveal several surprising theoretical implications. To see the most significant implication with regard to crisis initiators, let us assume that the responder types are uniformly distributed. Table 2 shows the likelihood that  $A$  will use force and the probability that it will become embroiled in warfare under this auxiliary condition.

**Table 2.** The Likelihood of Violence by Crisis Initiators  
Assuming Uniformly Distributed Types

Initiator's Type	P (Use of Force)	P (Mutual Violence)
Tough-Hawk	1.00	0.50
Normal-Hawk	0.83	0.33
Semi-Hawk	0.50	0.00
Semi-Dove	0.50	0.33
Normal-Dove	0.17	0.00
Super-Dove	0.00	0.00

From table 2, we can see that working hypothesis H1 — the presumption of a monotonic relationship between hawkishness and the initiation of violence — holds “approximately,” but that H2 is not supported. Table 2 shows that the formal relationship between hawkishness and violence-proneness in my game is weakly monotonic, with Semi-Hawks and Semi-Doves being equally likely to use force, and with all other types being less and less likely to engage in violence as they become more and more dovish.

H2, which addresses the relationship between hawkishness and the likelihood of war, is sharply contradicted by the formally derived predictions in table 2. I find that my game leads to the prediction that a Semi-Hawk crisis initiator is much less likely to be involved in war than is a Semi-Dove crisis initiator. This critical prediction violates the intuition that hawks are increasingly likely to be engaged in warfare.

For responder nations, I do not require the assumption of a uniform distribution of types to make predictions. Responders presumably choose their actions in this crisis game with full knowledge of the action taken by the initiator. They know if they have been attacked or not. Therefore, responders do not need to consider the initiator's type when choosing its action. The game structure also implies that responders do not have as comprehensive a set of possible outcomes when they decide on their actions as initiators have when they make their choices. This makes H2 irrelevant for responders. Lemma 2 shows that H1 holds for  $B$  without  $A$ 's use of force if the three hawk types and the three dove types are grouped together as Hawks and Doves, respectively. The expected monotonicity is weak because the three hawk types are predicted to have the

same chance of using force. That is, more hawkish responders are at least as likely to use force as are less hawkish responders. H1 holds “approximately” for  $B$  without  $A$ ’s initial use of force. However, Lemma 1 predicts that H1 will be contradicted in the case of responders if crisis-initiator  $A$  uses force. According to lemma 1, Semi-Hawk responders are expected to capitulate to  $A$ ’s threat, but Semi-Dove  $B$  would fight back, thereby violating monotonicity. Apparently, Semi-Dove  $B$  will behave more hawkishly in these circumstances than will Semi-Hawk  $B$ . These theoretical results from the crisis game lead to the following new hypotheses:

**H3:** If  $A$  does not use force, then Hawk-type  $B$  is more likely to use force than is Dove-type  $B$ . This is consistent with H1. But, if  $A$  uses force, a Semi-Dove  $B$  is more likely to use force than a Semi-Hawk  $B$ . This contradicts H1.

**H4:** The more hawkish  $A$  is, the more likely it is to use force against  $B$  if there is a uniform distribution of  $B$ ’s types. This is consistent with H1. But, if  $A$  is a Semi-Dove, then  $A$  is more likely to be involved in foreign wars than if  $A$  is a Semi-Hawk. This contradicts H2.

It now remains for me to investigate the empirical relationship between the six types I have identified and the incidence of international violence and war. Note that the theoretical results I just derived do not yet depend explicitly on any special relationship between domestic attributes and national preference orderings. The preference orderings I have addressed simply imply which type of nation is more hawkish or more dovish in a crisis.

#### 4. CONSTRAINTS ON AND INDUCEMENTS FOR USING FORCE: SPECIFICATION OF PAYOFFS FROM THE GAME

Nations  $A$  and  $B$  are assumed to have their own, subjectively estimated probability of success ( $p_A$  and  $p_B$ ). They attach some level of utility to whatever they demand ( $G_A$  and  $G_B$ ). If they are not successful in enforcing their demands, they get the losers’ payoffs ( $L_A$  and  $L_B$ ). The payoffs from negotiation are assumed to equal the expected utility of a fair lottery between success and failure.

The payoffs for the three non-negotiated outcomes of the game include variables that represent the costs or benefits associated with the use of force. The costs include losses in life and property and domestic decisional constraints. The potential benefits involve such increases in public support as might arise from a rally-round-the-flag effect. I assume that the anticipated physical costs involved in using force increase as a nation’s probability of success in the crisis decreases. The terms  $(1 - p_i) \cdot \alpha_i$  and  $(1 - p_i) \cdot \Gamma_i$ ,  $i \in \{A, B\}$ , denote the physical costs expected in the event of war and in the event of the enforcement of the rival’s capitulation respectively. I assume that the expected costs associated with one’s own capitulation increase as the probability of success increases because more powerful nations are likely to experience a greater loss in pride and in the morale of the people as a result of their own capitulation. I denote this by  $p_i \cdot \gamma_i$ .

Besides the above costs of enforcing demands and of having demands enforced upon a nation, I establish the conditions representing domestic constraints or inducements for using force. In this way I specify the assumptions of the liberal hypothesis and the hypothesis of the rally-round-the-flag effect. Most theoretical and empirical studies, as already mentioned, analyze these two domestic conditions separately. To capture the simultaneous pulls and tugs of these two domestic conditions, I incorporate both of them into the calculation of expected utilities. Leaders in more powerful democratic nations are assumed to be subjected to greater domestic structural constraints against the use of force than are their counterparts in weaker democratic states  $(p_i \cdot \theta_i, i \in \{A, B\})$ . Leaders of nondemocratic nations are assumed to have to contend with smaller domestic structural constraints (Bueno de Mesquita and Lalman, 1992). I introduce the public inducements of the rally effect with  $\pi_i$ . I assume  $\pi_i$  is present for both democratic and nondemocratic nations. The composite term  $\Omega_i = (p_i \cdot \theta_i + \pi_i)$  specifies the overall domestic conditions that a leader using force must face. This composite term encapsulates the arguments of the liberal, dovish hypothesis and of the hawkish, rally-round-the-flag hypothesis. With these terms in mind, I construct the fully specified payoffs associated with the outcomes of the game for nations  $A$  and  $B$ . These payoffs can be found in table 3.

**Table 3.** The Crisis Games Payoffs in Expected Utility Terms

	For $A$	For $B$
<i>Nego</i>	$p_A \cdot G_A + (1 - p_A) \cdot L_A$	$p_B \cdot G_B + (1 - p_B) \cdot L_B$
<i>War</i>	$p_A \cdot G_A + (1 - p_A) \cdot L_A - (1 - p_A) \cdot \alpha_A - \Omega_A$	$p_B \cdot G_B + (1 - p_B) \cdot L_B - (1 - p_B) \cdot \alpha_B - \Omega_B$
<i>Cap<sub>A</sub></i>	$L_A - p_A \cdot \gamma_A$	$G_B - (1 - p_B) \cdot \gamma_B - \Omega_B$
<i>Cap<sub>B</sub></i>	$G_A - (1 - p_A) \cdot \gamma_A - \Omega_A$	$L_B - p_B \cdot \gamma_B$

Note:  $\Omega_i = p_i \cdot \theta_i + \pi_i, i \in \{A, B\}$

I follow Bueno de Mesquita and Lalman's (1992: 286-99) method for calculating the expected utilities of the outcomes in my game except for the addition of the composite term that represents my conceptualization of the pulls and tugs inherent in any polity when the use of force is contemplated. I adopt their calculation basically because it is the only available measurement of the expected utilities in international politics not falsified by other empirical studies.

The utilities of expected success and failure ( $G_i$  and  $L_i$ ) are estimated using Kendall's  $Tau_b$  correlation based on patterns of alliance formation across dyads. These coefficients are further adjusted to take risk taking propensities into account (Bueno de Mesquita, 1985; Bueno de Mesquita and Lalman, 1992). First, the Kendall's  $Tau_b$  correlation of alliance portfolios between two nations in disputes is calculated. A 4x4 matrix of alliance portfolios is depicted to generate the score. Each row or column has four elements as follows. Defense pacts are treated as the most costly or strong alliances

because nations under defense pacts are required to promise to wage war in the event of attack from another nation. Nonaggression or neutrality pacts are presumed less costly alliances than defense pacts but more costly than ententes. Ententes require only that nations under them consult with one another before deciding their actions if attacked. The weakest alliance form is, of course, no alliance. Each nation is assumed to have a defense pact with itself because each nation is always ready to defend itself if it is attacked. Each cell of the matrix is occupied by the number of nations belonging to the cases. For example, if there are 4 nations having defense pacts simultaneously with the nations  $A$  and  $B$  in disputes, the first cell has the number 4, etc. When all the nations relevant to the disputes are classified by the matrix, we can have the Kendall's  $Tau_b$  score denoted such as  $K_B^A$ . The correlation of  $A$ 's portfolio with itself is reflected by  $K_A^A = 1.0$ . When all the data fall on the principal diagonal, that is, if  $A$  and  $B$  have identical alliance portfolios (initial  $Tau_b = 1.0$ ),  $K_B^A$  is set 0.999 to reflect the possibility that no matter how alike the revealed preferences of two actors, they can always be still more alike (Bueno de Mesquita and Lalman, 1992: 291).

In the next step, national leaders' preferences of risk-taking attitudes are considered. Although the Kendall's  $Tau_b$  scores represent the implied orderings of preferences across the prospected outcomes, we must incorporate the element of risk-taking in the utility calculation to capture important differences across national leaders in taking risks. For example, for the risk averse national leaders, the difference in utility between the worst outcome and an intermediate outcome is greater than the difference between the best outcome and the intermediate outcome. Bueno de Mesquita (1985) has shown a reliable measure of risk taking propensities. The idea of his measurement is from the assumption that "a national leader's risk acceptance increases as the nation's security score approaches its level of greatest vulnerability, and that his risk aversion increases as its security approaches the level possessed by its safest policy portfolio." I skip the details of calculating the variable  $r_A$  or  $r_B$  ranging between 2 and 0.5, the risk-taking propensity for each nation. As  $r_A$  gets larger,  $A$ 's aversion to risks increases. With these basic elements  $K_j^i$  and  $r_i$ , the values of  $G_A$  and  $L_A$  are determined as follows.<sup>2</sup>

$$G_A = 2 - 4 \left[ \frac{2 - (1 - K_B^A)}{4} \right]^{r_A}$$

$$L_A = 2 - 4 \left[ \frac{2 - (K_B^A - 1)}{4} \right]^{r_A}$$

The subjective probability of success of actor  $A$  ( $p_A$ ) is assumed as a function of its capabilities and the capabilities of its prospective supporters. It is not merely the sum of the capabilities of  $A$ 's bloc divided by the capabilities of  $B$ 's bloc. It is estimated from nations' capabilities and the supporters' possibilities of joining the disputes. Let's say we have the sum of the capabilities of all states that prefer  $A$ 's objectives to  $B$ 's,

<sup>2</sup>The 2's and 4's are simply ratchet operators to preserve scale without roots of negative values (Bueno de Mesquita and Lalman, 1992: 293).

discounted by  $A$ 's estimate of the intensity of their preferences.  $p_A$  is derived from the ratio of this sum over the discounted sum of all capabilities available in the dispute. For example, if  $A$  estimates that all other third parties are willing to support its action, it is very likely to get a high value of  $p_A$ . The capabilities of nations are estimated from the composite capability scores of the Correlates of War Project (Small and Singer, 1982).

The expected utility of the outcome *Negotiation* comes from the lottery between possible gaining demands and possible yielding to the rival's demands. For  $A$ , it is composed of the sum of  $G_A$  discounted by  $p_A$  and  $L_A$  discounted by  $(1 - p_A)$ . If  $A$  is involved in war against  $B$ , its expected utility is the lottery minus cost terms. When  $A$  makes  $B$  capitulate to its demands, it can get all  $G_A$ . Thus,  $A$ 's expected utility for  $Cap_B$  is composed of  $G_A$  minus cost terms. But  $A$  gets the loser's entire payoff  $L_A$  when it is capitulated.  $A$ 's expected utility for  $Cap_A$  is  $L_A$  minus the cost of being attacked.

My model has supposed two domestic conditions of nations' using force. To delineate the conditions, I operationalize the domestic condition term  $\Omega$ .  $\Omega$  is composed of  $p \cdot \theta$  and  $\pi$ . I assign the value 1 and 0 to  $\theta$  for democratic nations and nondemocratic nations respectively. This assumption, regrettably, does not distinguish among the diverse structural constraints found across different democratic (or nondemocratic) regimes (Morgan and Campbell, 1991). Although it is not an ideal operationalization, it does specifically incorporate the main argument of the liberal, Kantian school that claims that democratic (or republican) governments face greater domestic pressure against waging war than do non-democratic states.

Another auxiliary assumption that I make is that public support decreases as a nation's utility for the status quo rises. Of course, it would be preferable to estimate the value of  $\pi$  by assembling data on the expected level of public support for the foreign policies of a given nation in each specific international crisis. Such information, alas, is not generally available. It is possible to get data on **actual** — rather than expected — constraints or inducements for some crises. For instance, the approval rating of the president's foreign policy behavior during crises is readily available through public opinion polls in the United States. But such data are not readily available for many other nations over a long time period. And, such data are, in any event, **ex post** assessments and not the **ex ante** indicators that my theory requires. So I replace  $\pi$  with a proxy variable, the expected utility of the status quo. The proxy implies that the public is less supportive of the use of force when the nation is more satisfied with the status quo than when it is more dissatisfied.

I have three physical cost terms of attacking ( $\alpha$  for *War* and  $\Gamma$  for making the rival capitulate) or being attacked ( $\gamma$ ). Because it is impossible to get their specific *ex ante* valued. I assume that they have the same value 1. Although it is almost certain that they have different values theoretically, the constraints of available data compelled me to do so. Still, the limitations of my data compel us to interpret the empirical results cautiously.

## 5. EVALUATING THE HYPOTHESES

To test the working hypotheses (H1 and H2) and the game-theoretic hypotheses (H3 and H4), I rely on data concerning 437 dyadic cases of European international crises between 1816 and 1974. These data are the European component of the militarized international dispute data set of the Correlates of War project. The presence of an international crisis is determined by the existence of demands by a pair of nations in accordance with the procedures delineated in Bueno de Mesquita and Lalman (1992).<sup>3</sup> To classify a nation as democratic or not, Doyle's coding decisions (1986) are adopted without modification. Among the 437 observations in the data set, 144 initiators and 133 responders are democratic nations. The 71 cases satisfying Singer and Small's criteria for an interstate war are defined as *WAR*. The 169 cases with any reciprocal use of force — of which the 71 Singer and Small wars are a subset — are denoted by *CONFLICT*. The 273 cases in which the initiator used force — whether reciprocated or not — are denoted as *FORCE<sub>A</sub>*; the 195 cases in which the responder used force — again, whether the initiator did or did not — are called *FORCE<sub>B</sub>*. And the 81 cases in which the initiator used force satisfying Singer and Small's criteria are denoted by *BigFORCE<sub>A</sub>*.

Using the expected utility calculation of outcomes, delineated at the previous section, I determine the types of nations. For example, if a nation has the calculated expected utility,  $U(Cap_i) > U(War) > U(Nego) > U(Cap_j)$ , then it belongs the group of Tough-Hawk nations. In this data set more nations satisfy the conditions for being hawks (279 hawk crisis initiators and 335 hawk responders) than for being dove types (158 dove initiators and 102 dove responders). Of the seventy-one instances of Singer and Small wars in the data set, forty-six involve a pair of hawks and two involve a pair of doves. Table 4 reports the distribution of cases for *FORCE<sub>A</sub>*, *BigFORCE<sub>A</sub>*, *CONFLICT*, and *WAR* according to the initiator's type.

**Table 4.** Distribution of Crisis Initiators and Violence

Type <sub>A</sub>	<i>FORCE<sub>A</sub></i>	<i>BigFORCE<sub>A</sub></i>	<i>CONFLICT</i>	<i>WAR</i>	TOTAL
Tough-H	40(0.80)	21(0.42)	27(0.54)	17(0.34)	50(1.00)
Normal-H	105(0.61)	32(0.19)	66(0.38)	29(0.17)	173(1.00)
Semi-Hawk	34(0.61)	7(0.16)	19(0.34)	6(0.11)	56(1.00)
Semi-Dove	81(0.62)	20(0.15)	52(0.40)	19(0.15)	130(1.00)
Normal-D	5(0.42)	1(0.08)	0(0.00)	0(0.00)	12(1.00)
Super-D	8(0.50)	0(0.00)	5(31.25)	0(0.00)	16(1.00)

<sup>3</sup>There are 469 cases satisfying the criteria of international crisis all together. Among them, 32 cases do not satisfy my assumption  $G_i > L_i$ . The cases are assumed to have the same expected utilities of winners and losers, due to the lack of enough data. So I treat them as missing cases.

Figures 2 through 7, based on table 4, help us to compare visually the actual and the predicted patterns of violence. Figures 2, 3, 4 focus on the use of force, whether it is reciprocated or not, while figures 5, 6, and 7 examine the cases involving *CONFLICT* or *WAR*. Figures 3 and 6 — in which a big scale of using force involved — show that the actual crisis data are very similar to the patterns predicted with the game (figures 2 and 5). They provide a perfect support for H4. When I expand the data set to any scale of using force (figures 4 and 7), initiators satisfying the criteria for being a Super-Dove turn out to be more violent than expected in the model. Generally, Normal-Doves are the most nonviolent nations according to the evidence. In fact, Normal-Dove crisis initiators have never been involved in any reciprocal use of force. This result with the fact that Super-Doves have never experienced *WAR*, predicted by the game, is in accord with H4.

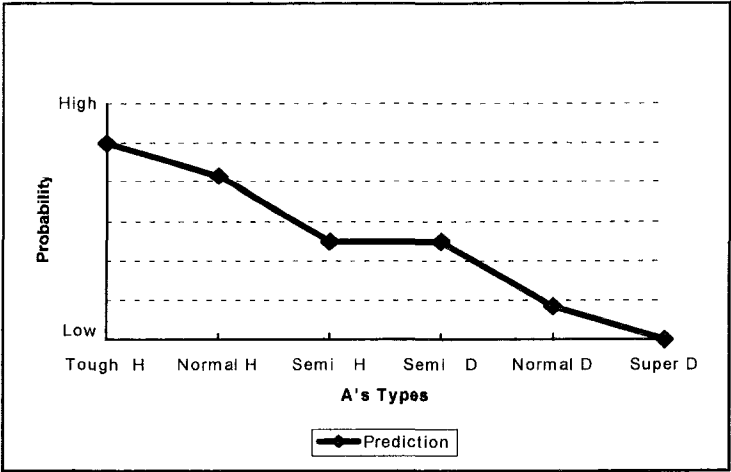


Figure 2. Initiator's Type and Use of Force: Prediction

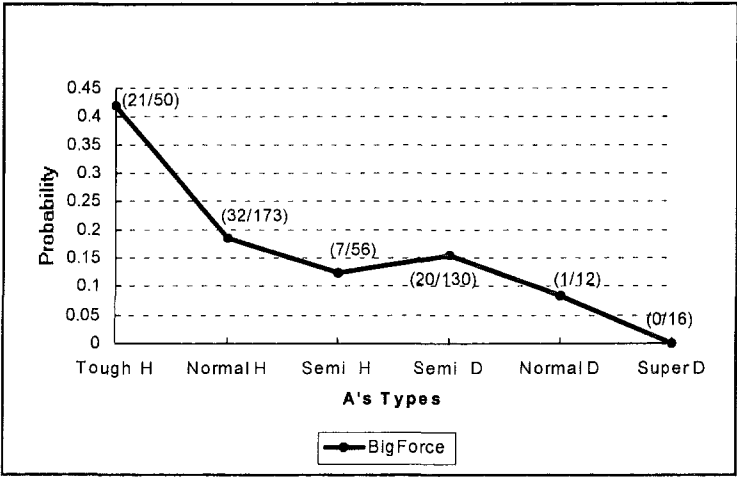


Figure 3. Initiator's Use of Force: Big Scale



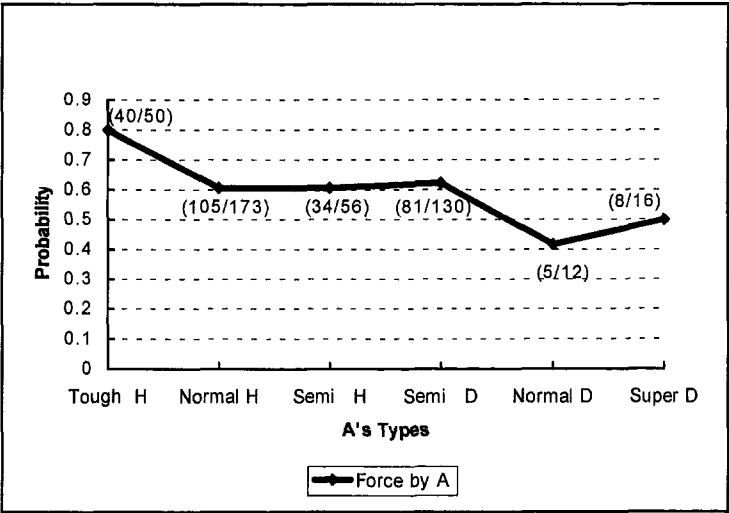


Figure 4. Initiator's Use of Force: Any Scale

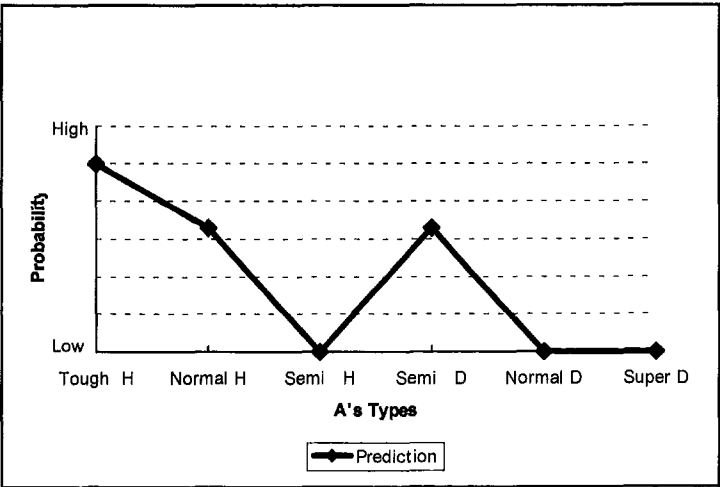


Figure 5. Initiator's Type and Mutual Violence: Prediction

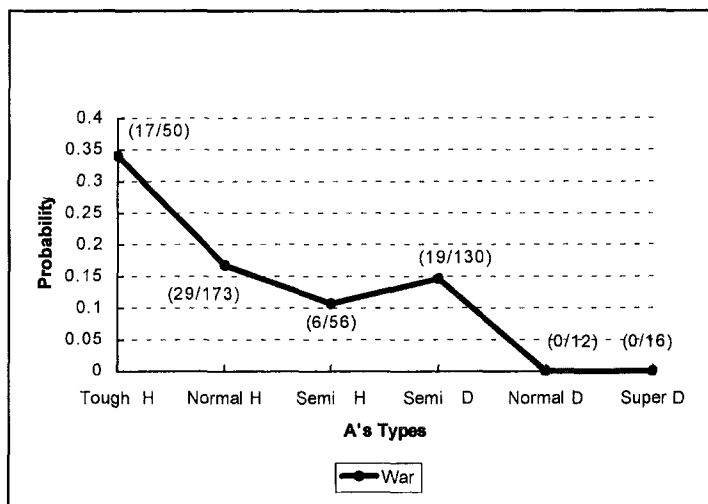


Figure 6. Initiator's Type and War

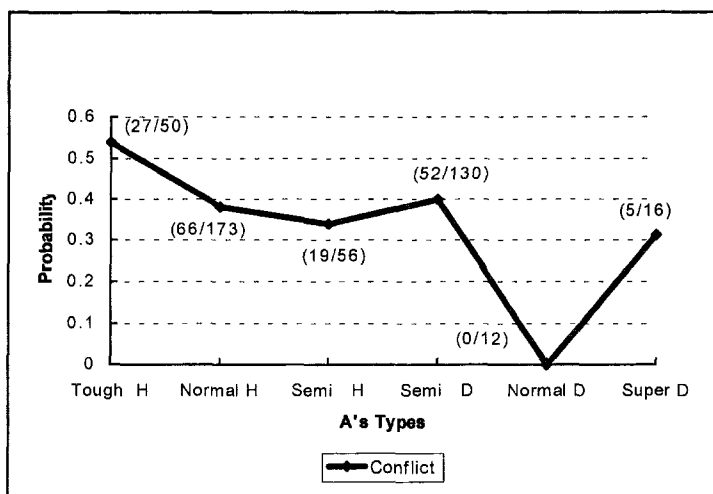


Figure 7. Initiator's Type and Mutual Violence

Tough Hawks, as expected, are the most hawkish nations in action as well as in theory. Tough-Hawk initiators the most frequently (80 percent) used force against their rivals. Sixty-eight percent of the 40 cases of  $FORCE_A$  for Tough-Hawks led to the outcome *CONFLICT*, with 17 cases (43 percent) having culminated in the outcome denoted as *WAR*.

Recall that the formal analysis (H4) led us to predict different patterns of behavior for Semi-Hawk *A* and Semi-Dove *A* in linking *A*'s type to *WAR* or to *CONFLICT*. The theory also led us to predict the same pattern for these two types with regard to

$FORCE_A$  (as depicted in table 2). Figures 3, 4, 6, and 7 conform with the game-theoretic predictions. In figures 3 and 4, which partially supports H1, the percentage of Semi-Hawk initiators' using force (61 percent in any scale and 16 percent in big scale) is essentially the same as that for Semi-Dove initiators (62 percent in any scale and 15 percent in big scale). This pattern stands in sharp contrast to the results reflected in figure 6 and 7. In figures 6 and 7, which provide a basis for rejecting H2 and for supporting H4, we see that the percentages of Semi-Hawk nations' engaged in *CONFLICT* or *WAR* (34 percent and 11 percent respectively) is much lower than the percentages for Semi-Dove nations (40 percent and 15 percent respectively). Therefore, the data support the prediction from the formal analysis that nations of the type Semi-Dove  $A$  are more likely to be involved in reciprocal conflicts than are nations like Semi-Hawk  $A$ . At the same time, the data also reflect the theoretical expectation that a Semi-Dove initiator is as likely to use force as is a Semi-Hawk initiator. For crisis initiators it appears that we may reject H2, the conventional working hypothesis.

Whether we can reject H1 or not for  $A$ , unfortunately, is a little problematic. Two different empirical evaluations of H1 are possible for initiators. If any scale of using force, instead of *BigFORCE*, is applied to the test, H1 might be rejected on the grounds that Super-Dove initiators, contrary to the expectations from the null hypothesis, engage in more violent behaviors than do Normal-Dove initiators. Normal-Hawk initiators use force as often as Semi-Hawks or Semi-Doves — which is not expected either in the hypothesis. But all the other types follow the predicted pattern "approximately" (see figure 4).

H1 could also be said to be supported for  $A$  as predicted in H4. If the Singer and Small's criteria of using force are applied, H1 is supported by the fact that the slope of the graph at figure 3 is decreasing weakly. Except that Semi-Dove initiators tended to use force slightly more (by 1 percent) than Semi-Hawk initiators, the graph matches the theoretical prediction at figure 2 very well. The logit analysis reported in table 5, for instance, shows that a Semi-Hawk or Semi-Dove initiator is much less (more) likely to use force than a Tough-Hawk (Normal-Dove)  $A$ , respectively. In that sense, H1 is partially supported empirically.

**Table 5.** Initiator's Type and the Incidence of Violence

Dependent	$FORCE_A$				$BigFORCE_A$			
Independent	Coefficient	S.E.	t	p*	Coefficient	S.E.	t	p*
$HAWK1_A$	0.95	0.39	2.46	0.01	1.16	0.35	3.34	0.00
$SEMI_A$	0.05	0.22	0.22	0.41	-0.29	0.26	-1.02	0.15
$DOVE_A$	-0.58	0.41	-1.41	0.08	-1.81	1.04	-1.75	0.04
$N$	437				437			
$Chi-square$	10.42				22.58			

\* One-tailed test.

The dummy variable  $FORCE_A$  and  $BigFORCE_A$ , according to the scale of using force, in the logit analysis is coded as 1 for the cases involving the use of force by  $A$  and is coded as 0 if  $A$  did not use force. For the purposes of my empirical assessment I grouped Semi-Hawk and Semi-Dove types together as  $SEMI_A$  (1 = Semi-Hawk or Semi-Dove and 0 = all other types for  $A$ ). This grouping is justified on theoretical grounds. The formal analysis leads to the expectation that these two types have the same probability of using force, as can be seen in table 2. This prediction turns out also to be supported by the data. The variable  $HAWK1_A$  ( $DOVE_A$ ) is coded as 1 for any nation that, according to my evaluation of the payoffs from the game, is a Tough-Hawk (Normal-Dove or Super-Dove) initiator and is coded as 0 for all the other cases.<sup>4</sup> Both models in the logit analysis, one using  $FORCE_A$  and another using  $BigFORCE_A$  as a dependent variable, show that the coefficients of  $HAWK1_A$  (0.95 and 1.16) have higher value than those of  $SEMI_A$  and  $DOVE_A$ . And the coefficients of  $DOVE_A$  (-0.58 and -1.81) are lower than those of the other two variables. Therefore, I can see H1 supported by grouping the types of nations.

As I stated in the analysis of the formal model, H2 is not relevant for crisis responders because of the truncated choices they face once  $A$  has acted. Consequently, I focus on testing H1 (which suggests a monotonic relationship between hawkishness and the use of force) empirically for all nations  $B$ . The empirical distribution of the use of force by nation type for responders is found in table 6.

**Table 6.** The Use of Force by Responder Conditioned by Initiator's Decision

Type <sub>B</sub>	$FORCE_B$ if $FORCE_A = \text{Yes}$	$FORCE_B$ if $FORCE_A = \text{No}$	Total
Tough-Hawk	26/34 (0.76)	3/11 (0.27)	29/45 (0.64)
Normal-Hawk	67/104 (0.64)	14/79 (0.18)	81/183 (0.44)
Semi-Hawk	42/72 (0.58)	4/35 (0.11)	46/107 (0.43)
Semi-Dove	23/45 (0.51)	3/29 (0.10)	26/74 (0.35)
Normal-Dove	6/9 (0.67)	1/4 (0.25)	7/13 (0.54)
Super-Dove	5/9 (0.56)	1/6 (0.17)	6/15 (0.40)

I can aggregate all of the dovish responders as “Doves” and all of the hawklike responders as “Hawks” under the contingency that the initiator did not use force. Under that contingency, the game-theoretic model contends that all hawks will act violently by definition and all doves will eschew violence (Lemma 2). I observe that about 17 percent of the hawks used force, whereas about 13 percent of doves used force. Because the doves used force slightly less than the hawks, this does not provide enough

<sup>4</sup>I do not include Normal-Hawk in the variable  $HAWK1_A$  to avoid the collinearity problem.

support for H1 and H3 with respect to nation *B* under the contingency that the initiator did not use force. The results deviate markedly from the model-based predictions although the difference in the incidence of violence is in the predicted direction.

Table 6 shows that H1 and H3 cannot be supported for *B* under the contingency that *A* used force. The figure also deviates from the prediction of the formal analysis. Recall that the model prediction is that Normal-Dove, Super-Dove, and Semi-Hawk would not use force in response to *A*'s use of force (Lemma 1). Yet, the evidence indicates that these types of responder nations were at least as violent as other types.

Why do I observe this deviation between responder behavior and the predictions from the game? This might seem especially puzzling since the formal model has done very well in accounting for initiator actions. Recall that there is a fundamental difference between initiators and responders in the game structure. In the game, initiating nations decide to use or not use force according to their own type **and their conjecture about the responding nations' type**. In my full information evaluation of the model, the responders have not observed choices by the initiator during the game from which they can learn anything new about the responder's type. In contrast, responding nations in reality consider their actions after observing the initiators action and after having the opportunity to *learn* from observed behavior. It is highly probable that responders change their expectations about the payoffs at the terminal nodes of the game based on the updated information they obtain *after A's* action. Their subjective probability estimates or their cost estimates, for instance, may be altered by the observed magnitude of force used by the initiator. The preference orderings calculated in this study are based on *ex ante* beliefs about the payoffs associated with alternative actions, while the actual estimates are surely made with additional information at hand. Such a difference is likely to lead to erroneous predictions about responders.

## 6. CONCLUSION

In this study, I have tried to reformulate two important hypotheses about the linkage between domestic attributes and international conflict: the liberal hypothesis and the hypothesis of the rally-round-the-flag effect. I have generated a formal model which combines these seemingly contradictory arguments and helps reconcile their impact on behavior. The model has generated a theoretical evaluation of the working hypotheses that hawkish types are more likely to use force and to wage war than are dovish types. The empirical assessments, based on an expected utility analysis, support most of the implications from the model. H1 has been supported partially. In the cases of initiators' using force in big scale, the data set shows similar pattern predicted from my model. At the level of any use of force, except that Super-Dove initiators are much more hawkish than expected in the model, other initiators are more likely or as likely as to use force as they become more hawkish.

The dove responders turn out to be more violent than anticipated if they are attacked — which apparently contradicts H3. Probably, those who suffer an attack immediately recalculate their expected utility associated with the use of force, taking newly available information into account. I have not captured these updated calculations in my empirical tests, nor have I evaluated this updating theoretically in my full-

information treatment of the game.

H4 — a striking prediction from the game-theoretic modeling — is generally well supported by the evidence with regard to crisis initiators' evoking international warfare. The most important formal and empirical finding is that a Semi-Dove initiator is more likely to be involved in reciprocal violence than is a Semi-Hawk initiator. This non-monotonic relationship provides the foundation for rejecting the conventional wisdom encapsulated in H2. Through the distinctions made between types, this study begins to provide an explanation of why the liberal hypothesis and the rally-round-the-flag hypothesis have not succeeded in achieving the status of general propositions. At the same time, this study also suggests the basis for a probable renaissance of these seemingly contradictory perspectives. By dividing nations in international crises into initiators and responders and by refining the specification of nation types, I was able to separate the conditions under which each of these perspectives seems to hold. The condition under which each perspective is expected to predominate according to the formal model has been largely borne out by the evidence drawn from European crises during the past two centuries. I have also shown that the relationship between a nation's type and its likelihood of using force is different from the likelihood that it will engage in conflicts involving reciprocal violence.

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