Knowing the Unknown

EXECUTIVE EVALUATION AND INTERNATIONAL CRISIS OUTCOMES

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When voters evaluate their executive's policies, they often possess information that was previously unknown to policy makers. Should voters use such ex post information? The author presents a model of executive evaluation following an international crisis. Using ex post information can be welfare enhancing for the voter when contrasted with naive retrospection, in which voters compare pre- and postconflict utility. However, the welfare implications of using ex post information are not clear-cut when contrasted to sophisticated retrospective voting. While the latter voting rule leads to situations in which an executive is overly aggressive in crises, using ex post information can induce executive behavior that is insufficiently aggressive. Voters must balance the relative desirability of unwanted wars against unwanted passivity when deciding how to evaluate leaders. In opening up the black box of domestic politics, assumptions about voter behavior can affect substantive and normative findings.

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1. INTRODUCTION

In late May 2004, a member of the editorial staff of *The Economist* asked the magazine's readers to "[r]emind me how I got here." The writer was referring to Iraq. *The Economist*, which had supported the U.S.-led war against Iraq, editorialized, "This paper backed the war because, like Mr. Bush and Mr. Blair, and their intelligence agencies, we felt sure that Saddam Hussein had kept some weapons of mass destruction and was seeking an atom bomb. Had we known the unknown, . . . we would have done better" (Remind me 2004, 11-2).

Questioning past decisions made under uncertainty is not the exclusive province of editorial writers. Political discourse during the 2004 U.S. presidential election was

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heavily influenced by the reevaluation of foreign policy decisions made on the basis of perceived threats, which were in turn shaped by noisy signals. However, the lessons and dilemmas of Iraq are by no means unique. After international outcomes occur, voters often learn new information that was unknown to the leaders themselves at the time that key foreign policy decisions were previously made. What is unclear is whether voters should use such information when evaluating the performance of their executive.

Consider the dilemma a typical U.S. voter faced in the last presidential election when evaluating George W. Bush's decision to invade Iraq. Retrospective voting, a commonly accepted mode of executive evaluation, suggests that our voter should simply compare his or her utility before the invasion with his or her utility on election day. However, the U.S. public has learned new information since the invasion took place. We now know the unknown: weapons of mass destruction were not lying in wait, many Iraqi civilians have resisted the United States's actions, and democratization is proving to be a very difficult task.

Should voters use such ex post information, which was previously unknown to leaders, when evaluating decisions made under uncertainty? This article argues that when contrasted with naive retrospective voting, in which voters simply compare utility before and after a crisis, the use of ex post information can be welfare enhancing for the voter. However, the welfare implications of using ex post information are not so clear-cut when contrasted to a more sophisticated form of retrospective voting, in which voters reward leaders who successfully eliminate security threats via warfare. While the latter voting rule leads to situations in which an executive is overly aggressive in foreign policy, the use of ex post information can induce executive behavior that is insufficiently aggressive in eliminating threats. In some sense, voters must balance the relative desirability of unwanted wars against unwanted passivity when deciding how to evaluate leaders.

This suggests the importance of carefully considering the impact of micro-level assumptions about voter behavior in models of international relations. Opening up the black box of domestic politics is no simple matter. As this article demonstrates, changing assumptions about voter behavior can have a major impact on the conclusions that we draw from theoretical models. This article begins by examining how voters evaluate executives following international outcomes. I present three possible decision rules that voters could use in deciding whether to keep or replace their leader. Next, I discuss how past international relations scholars have examined the impact of uncertain threats on foreign policy decisions. I argue for the need to examine the impact of exogenously generated threats, such as those that leaders receive through covert intelligence. Third, a formal model is presented that combines these elements: exogenous uncertain threats and the three voter decision rules. I then present the formal results from this model and their implications for the study of international relations. Next, I consider the empirical plausibility of the three voting rules by comparing model predictions about voter behavior to a set of cases selected to discriminate among the competing perspectives. Finally, I conclude by summarizing key findings.

2. VOTER EVALUATIONS OF INTERNATIONAL OUTCOMES

The basic axiom that leaders derive utility from their survival in political office is a cornerstone of the contemporary analytical security studies literature (Bueno de Mesquita et al. 2003; Chiozza and Goemans 2003, 2004; Huth and Allee 2002; Fearon 1994, 1995; Schultz 1998, 2001; A. Smith 1998). This perspective argues that leaders do not go to war because of realist or liberal concerns about security, money, or international power. Foreign policy decisions are made to maximize the probability that a given leader will be able to retain his or her political position. However, it is not clear how voters actually make such retention decisions after observing international outcomes.

International relations scholars have used many different approaches to try to understand these decisions. In the coalition theory framework, leaders use the spoils of war to buy domestic political support by distributing public and/or private goods. Voters then make retention decisions based on the distribution of such goods (Bueno de Mesquita et al. 2003). This framework gives leaders control over how war spoils are spent, but it is worthwhile to contemplate political behavior in the absence of such power. Substantively, this is equivalent to one or both of the following situations: either public money gained (lost) in a conflict enters (comes from) a public treasury that is not under the exclusive and direct control of the executive, or the consequences of conflict are intangibles over which the leader has no distributive control, such as national feelings of security, pride, or shame.[1]

Another common way to model the voter's electoral decision is to introduce uncertainty about the abilities or preferences of the leader (Downs and Rocke 1995, chap. 3; Fang 2005; Ramsay 2004; Schultz 2005). In the first framework, leaders who achieve "good" outcomes (i.e., outcomes with high payoffs) are perceived to have a higher level of ability than leaders who achieve "bad" outcomes. If voters make retention decisions based on their expectations about a leader's ability to provide in the future, then leaders who achieve good outcomes for their constituents are more likely to be retained in office. In the latter framework, voters are uncertain as to whether a leader's preferences diverge from those of the electorate. When leaders possess private information regarding the necessity of international conflict, they can use this information asymmetry to achieve outcomes that are counter to the preferences of the electorate.

These methods of endogenizing voter choice create both analytic and substantive difficulties. If voters have uncertainty about both whether a threat is credible and what kind of leader they have, then it becomes extremely difficult to parse out what aspects of voter behavior are motivated by what kind of uncertainty. Also, in the case of uncertainty about an executive's preferences, there is no clear way to establish how a leader evaluates the trade-off between being reelected and achieving his or her private policy objectives. The framework below does not incorporate uncertainty about the voter's leader, even though such uncertainty surely exists in the world.

1. Setting aside the distribution of war spoils does not neglect the fact that leaders often have such power. Rather, it allows for a more parsimonious examination of the link between threat intelligence, office-seeking behavior, and the criteria that voters use to make decisions.

This analysis assumes that voters use decision rules (or "heuristics") when deciding whether to keep their leader. Both empirical and experimental work supports this assumption. I first briefly discuss two methods of retrospective voting, a framework often used in political science. I then present a new heuristic that I have developed, which is consistent with experimental examinations of human behavior: hindsight voting. Finally, I examine the impact of each rule on foreign policy decisions and international outcomes.

2.1. THE RETROSPECTIVE VOTING RULE

"Retrospective voting" posits that voters make simple comparisons of their well-being between the time of the election and the time of the previous election. If their utility has declined, then voters punish the incumbent candidate by replacing him or her with a rival candidate. Otherwise, they keep their leader. Empirical support for this decision rule is widespread, even when voters respond to circumstances over which politicians could not possibly have control (e.g., see Achen and Bartels 2004; Ferejohn 1986; Fiorina 1981; Kramer 1971; Lewis-Beck 1988; Markus 1988; Wolfers 2002). While analyzing the electoral impact of natural disasters, such as droughts, diseases, and shark attacks, Achen and Bartels (2004, 1) note, "When collective misfortune strikes a society, somebody has to take the blame." They go on to write, "In most cases, incumbents will pay at the polls for bad times, whether or not objective observers can find a rational basis for blaming them" (p. 4).

In the context of foreign policy, retrospective voting leads to the prediction that leaders will be punished for bad international outcomes, even if leaders are not responsible for such outcomes. If a leader engages in a costly war, then naive retrospective voting dictates that the leader will be punished, regardless of the reasons for which the war was fought. Conversely, leaders will be rewarded for good outcomes, even if such outcomes are the result of luck or chance rather than explicit policy decisions. A more sophisticated view of retrospective voting could posit that while voters may punish a leader for "bad times," they might also reward that leader if he or she eliminates the possibility of even worse outcomes. Suppose that a country fights a successful war to maintain possession of a valuable asset, such as land. A "naive" view of retrospective voting would suggest that the leader of the country will be replaced: the country possessed the asset both before and after the war, but resources were consumed in the fighting, so the voters have experienced a decline in utility during the leader's time in office. A "sophisticated" retrospective evaluation would posit that if the opponent country was a major threat to the home country's asset when the leader took power, then voters should reward the leader for removing this threat by being successful in a war.[2] Both types of voting are included in the formal analysis below.

2. Note that neither the naive nor the sophisticated view of retrospective voting posits "strategic" behavior on the part of the voter. They differ in the benchmark used to evaluate the utility of the final outcome.

2.2. THE HINDSIGHT VOTING RULE

The second decision rule that I analyze is new to the political science literature. However, its behavioral attributes have been well established in both empirical and experimental studies in other fields of social science. It is called *hindsight voting* because of its link to the empirical regularity known to cognitive psychologists and behavioral economists as the *hindsight bias*. This term refers to the robust finding that after a particular event has occurred, people adjust their ex ante estimation of the likelihood of various events to more closely accord with the outcome actually observed. As defined by psychologists, "the hindsight bias . . . refers to people's tendency to alter their perception of the inevitability of an event once they know the outcome of the event" (Christensen-Szalanski and Willham 1991, 147). Laboratory experiments have shown that after observing an outcome, people significantly revise their ex ante beliefs to account for the observed empirical phenomenon. Observed events that might previously have seemed rare or implausible are made to seem obvious or predictable. This pattern is analytically distinct from simple Bayesian updating since "hindsight bias is a projection of new knowledge into the past accompanied by a *denial that the outcome information has influenced judgment*" (Hawkins and Hastie 1990, 311).

The study of this phenomenon has much broader impact than simply understanding how ex ante probability estimates are revised ex post. One of the earliest studies of this bias was an attempt to understand how people attribute responsibility for unanticipated outcomes, including the changes in property values that result from natural disasters (for a discussion, see Hawkins and Hastie 1990, 312). Exploration of the hindsight bias has since been extended to the analysis of medical decision making, legal liability, and even electoral outcomes (Hawkins and Hastie 1990; Leary 1982; Plous 1993; Synodinos 1986). Academics have been careful to note that changes in posterior beliefs do not necessarily mean that people would change decisions made under prior beliefs, if given the opportunity to do so (Christensen-Szalanski and Willham 1991). However, concern about the impact of this bias on decision making has been significant enough for two prominent scholars to issue the following warning: "available research on hindsight bias tells us . . . that people cannot ignore outcome knowledge and appear unable to empathize with the uncertainty of foresight" (Tomassini and Grudnitski 1980, 29, quoted in Christensen-Szalanski and Willham 1991). It is this very lack of empathy that has led academics to colloquially refer to hindsight bias as the "Monday morning quarterback" or "I-knew-it-all-along" syndrome (see Leary 1982; Synodinos 1986).

As an alternative to the retrospective voting framework, the analysis below considers a voter who makes his retention decision based on the following hindsight voting rule:

1. The voter begins by considering what information he knows *after* an international outcome has occurred.
2. The voter then constructs a counterfactual by calculating what his expected utility would have been if the leader had maintained the status quo policy, given what he knows ex post about the state of the world.

3. The voter compares his actual utility with his or her counterfactual hindsight expected utility. If the voter is worse off in reality than in the counterfactual (i.e., if the leader's actions have made the voter worse off), then he replaces his leader. Otherwise, he keeps the leader.

Note that the counterfactual benchmark is derived from the status quo policy of not acting on information. That is, the voter asks, "Did my leader's decision make me better off than I would have been if he or she had taken no action at all?" While this is an inherently retrospective process, it differs from conventional presentations of retrospective voting. An alternative operationalization of hindsight voting could have the voter calculate the optimal policy choice based on ex post information and use the expected utility from this policy as the utility threshold.[3] This is set aside as an area for future research because of the numerous analytical challenges that this model extension would entail.

In addition to the vast experimental evidence on hindsight bias, contemporary domestic responses to American foreign policy incursions anecdotally suggest support for this heuristic. Reagan's preemptive invasion of Grenada on October 25, 1983, was motivated ex ante by the murder of several senior government officials, concerns about the link between Grenada's Prime Minister Maurice Bishop and the communist Cuban leader Fidel Castro, and relatively weak intelligence about the construction of a new airstrip (Cannon 1991; Rose 2002; Skinner, Anderson, and Anderson 2003). After the invasion, suspicions about the Grenada-Cuba relationship were confirmed by secret government documents and extensive stockpiles of Soviet weaponry being stored in Grenadian airport hangars (State Department and Defense Department 1984; Valenta and Ellison 1986). While it is impossible to know what the U.S. public would have done had they been informed before the invasion of the ex ante intelligence, there is good reason to think that public support would have been difficult to build, particularly given the recent death of 241 Marines in the Hezbollah bombing of the U.S. military barracks in Lebanon just two days before the invasion of Grenada. However, after the invasion took place and the ex post intelligence was revealed, there was strong public support for Reagan's actions (Shribman 1983). Many domestic and international political leaders who initially strongly objected to the invasion subsequently changed their minds based on new information. Former French President Valéry Giscard d'Estaing commented, "*Taking into account* the information on the Cuban presence on the island of Grenada and also the construction of an airfield whose nature does not correspond to the normal needs of the island, I approve of the American intervention on Grenada" (Vinocur 1983, A23, emphasis added). Even though it is unlikely that the United States would have incurred many costs in the invasion, Democratic House Speaker Tip O'Neill strongly opposed the invasion initially, calling it "gunboat diplomacy," but subsequently described Reagan's actions as "justified" after ex post intelligence was revealed (H. Smith 1983).

In contrast, public support for the 2003 war in Iraq was overwhelmingly high based on noisy ex ante signals about Saddam Hussein's link to terrorist organizations, his probable pursuit of now-infamous "weapons of mass destruction," and the anticipa-

3. I thank an anonymous reviewer for this suggestion.

tion that U.S. troops would be greeted by the Iraqi people as liberators. Nonetheless, this support quickly waned, in part because of the unanticipated duration and severity of combat and an ex post failure to find a decisive link between Hussein, Al Qaeda, and nuclear weapons. This latter factor prompted *The Economist* to question its earlier support of the war. The periodical also noted that in April 2003, "76% of Americans thought the war had been worthwhile. By [mid-May 2004], 52% had come to think the opposite" (Remind me 2004, 11-2).[4] Certainly other intervening factors affected the change in public perception, including the prisoner abuse scandal in U.S.-operated Iraqi jails. Also, performance by the Bush administration during the war and subsequent revelations about prewar intelligence may have led many voters to question the competence or veracity of their leader. Nevertheless, public support for the war eroded significantly in just one year's time.

While these examples provide no definitive proof about how voters evaluate foreign policy decisions and the leaders who make them, they do suggest that ex post information is used to reevaluate decisions made prior to the revelation of such information. If the most extreme view of hindsight bias is taken, voters may simply be cognitively incapable of reconstructing what their ex ante beliefs were. As Leary (1982, 258) notes, "Once the outcome of an event is known it is difficult for people to reconstruct what they actually knew prior to the event. By reasoning backwards from the event to its possible antecedents, the individual may see relationships among factors that were not easily discernible before the event took place. . . . Conflicting information that does not fit into the reconstruction of the factors leading up to the event is either ignored or reinterpreted in light of what has subsequently happened." In postinvasion Iraq, prewar beliefs about weapons of mass destruction seem ludicrous, despite the fact that such noisy signals had earlier convinced a majority of Americans that war was necessary. Similarly, the discovery of weapons stockpiles and Soviet influence in Grenada made the U.S. intervention seem justified in the eyes of most voters, despite the fact that these same voters would probably have opposed the invasion based on only the ex ante intelligence.

3. FOREIGN POLICY AND UNCERTAIN THREATS

The examination of the impact of uncertainty on international interactions has played a central role in the crisis bargaining literature (e.g., Fearon 1994, 1995; Schultz 1998, 2001; A. Smith 1998). Many of the crisis bargaining models rely on a similar structure. Two nation-states begin with conflicting interests. Leaders of each country decide whether to make threats and/or whether to go to war. Outcomes range

4. I thank an anonymous reviewer for noting that the change in public opinion cited by *The Economist* might be due to changes in question wording rather than true changes in views about the war in Iraq. The Gallup Organization has maintained consistent question wording throughout its prolonged polling about the war. In early April 2003, shortly after the war began, 76 percent of U.S. respondents answered in the affirmative when asked, "All in all, do you think the current situation in Iraq is worth going to war over, or not?" By mid-June 2003, 63 percent answered affirmatively to the question, "All in all, do you think the situation in Iraq was worth going to war over, or not?" (Carlson 2005). Positive responses to this same question had declined to 42 percent by early June 2005 (Moore 2005).

from the status quo to total warfare, and the decisions that leaders make are in anticipation of the possible electoral consequences associated with each of these outcomes. This crisis bargaining structure has given us valuable insight into international behavior, but it has done so by only examining one form of uncertainty. This structure assumes that all threats are essentially similar. While threats may differ in their level of credibility, their existence and content is common knowledge to all players. As such, the uncertainty that is examined comes from uncertainty about the credibility of commonly observed threats made by a strategic player. In the canonical example, nations A and B are fighting over a piece of land. If nation A threatens to attack B, then nation B knows that it has been threatened. This threat may not be credible, but B is nevertheless certain that it has been made.

However, the history of international conflict suggests that many (if not most) threats lack such clarity. Al Qaeda's attacks on the World Trade Center, Sadaam Hussein's invasion of Kuwait, and the Japanese bombing of Pearl Harbor were all preceded to some extent by preattack intelligence. However, to label such intelligence as knowledge of a "threat" stretches credulity. Being handed a formal declaration of war can surely establish in the mind of a leader that a threat has been made, but does covert intelligence have the same degree of clarity? Leaders are constantly bombarded with noisy signals about whether various foreign leaders pose threats to national security. In many cases, these signals are knowingly sent by the foreign country; however, in many cases they are not. Intelligence agencies, military units, or even chance can reveal information to a leader about whether a foreign country or an international agent is a threat. This situation generates a type of uncertainty that is fundamentally different from the kind examined in the crisis bargaining model. While the latter is concerned with the credibility of commonly observed threats that another strategic actor chose to make, the former consists of uncertainty about the credibility of an exogenously generated noisy signal.[5] The formal analysis below combines the element of uncertainty regarding whether a threat exists with the voter decision rules discussed above. As such, it examines how different methods of executive evaluation induce different foreign policy responses to uncertain threats.

4. THE MODEL

The set of players for the model consists of a home leader (H), a foreign leader (F), the median voter of the home country (V), and nature. The game begins when nature chooses the type of the foreign leader, x_F, from a distribution over the unit interval. This type is the value that leader F has for an asset that H possesses. The voter in the home country ascribes a commonly known utility of x_H to the asset that his or her home coun-

5. In the case of military and covert intelligence, it would of course be more accurate to label such signals as quasi-exogenous. A home leader can decide how to distribute the allocation of his or her intelligence resources. In addition, a foreign power may attempt to infiltrate intelligence networks and use them to send endogenous signals. Both actions are certainly strategic, so the observed signals that arise from covert intelligence have the possibility of being endogenously determined. However, they are analytically distinct from threats that a foreign power chooses to make in public.

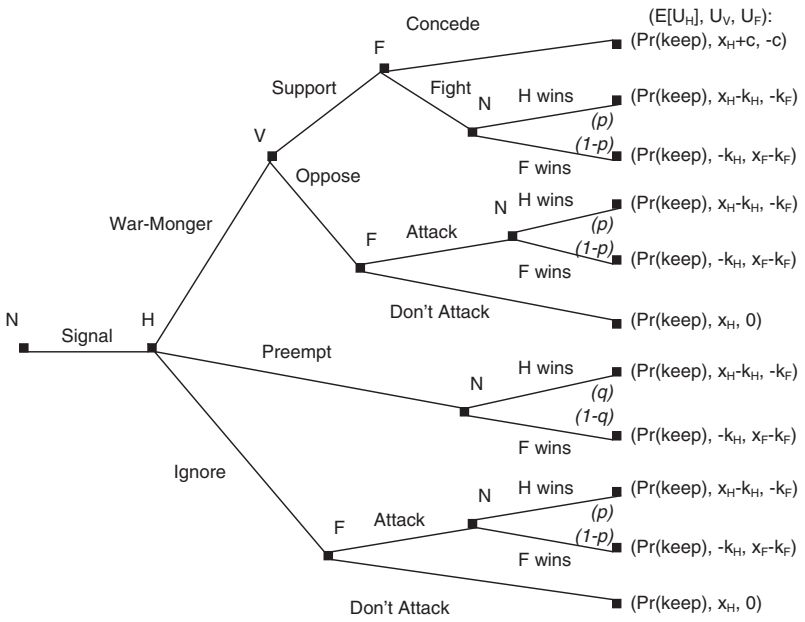

Figure 1: Extensive Form of the Foreign Policy Subgame

try possesses. The foreign leader *F* knows his or her own type, but the other players do not. Nature then sends a signal about the type of the foreign leader to the home leader. This signal vector, $\bar{s}$, can consist of one piece of information or multiple pieces of information.

Both the home leader *H* and the voter *V* have prior beliefs about player *F*'s type, denoted by the density function $f(x_F)$ and the distribution function $F(x_F)$. The function $f(x_F)$ has full support along the unit interval. After leader *H* observes his signal vector $\bar{s}$ about leader *F*'s type, he must decide what foreign policy action to take. This foreign policy subgame is displayed in Figure 1. The home leader has three options: he can (1) ignore the signal that he has received, thereby keeping the signal private; (2) preempt a possible attack by immediately launching a war against the foreign state; or (3) warmonger by revealing his signal to the voter and asking for the voter's support for a war.

It is assumed throughout this model that all revelations of signals must be truthful. That is, the leader has no opportunities to dissemble by lying about his private information or manufacturing false signals. The leader can only share his private information with the voters or keep the information to himself. To some extent, this assumption stacks the deck *against* finding situations in which the leader acts contrary to the voter's best interests because it rules out a mechanism by which a leader could achieve a distortionary outcome. As such, I expect that any incentive-compatibility problems identified in this world, in which leaders must be truthful, would only be exacerbated in an alternative world in which politicians can lie.

If leader H decides to ignore his signal, then leader F must decide whether or not to attack the home country. If leader F attacks, he will win the resulting war with a probability of $1 - p$. If the foreign leader wins the war, he receives a payoff of $x_F - k_F$.[6] That is, the leader gains control of the asset that he values at x_F but must also bear his cost of war, k_F. In this case, the voter receives a payoff of $-k_H$. That is, he pays his cost of war and loses control over the asset that he had previously held. When the home country wins, the voter retains the value of his initial status quo asset, x_H, but both the voter and leader F must bear the cost of war. If leader H ignores his signal and the foreign leader does not attack, then the status quo does not change: the voter receives a payoff of x_H, and the foreign leader gets a payoff of 0.

Suppose that leader H takes preemptive action based on his signal. Then leader F is not given the chance to attack, and the home country wins with the resulting war with a probability $q > p$. If the home country wins, then the voter gets a payoff of $x_H - k_H$, and the foreign leader gets $-k_F$. If the foreign country wins, then the voter only gets $-k_H$, and the foreign leader gets $x_F - k_F$.

If the home leader war-mongers, then he reveals his or her signal, $\bar{s}$, and the voter must decide whether to support or oppose a war with the foreign country. The decision of the voter is decisive. If the voter supports the war, then leader F must decide whether to concede or to fight. The price of concessions to the foreign leader is c. If leader F decides to fight, then a war takes place in which the home country wins with a probability p. Payoffs are the same as in the other war subgames. If the voter opposes war, then the foreign leader has the opportunity to attack. If he attacks, a war ensues; if he does not attack, the status quo remains.

Since I am substantively interested in semi-separating rather than pooling behavior, I maintain the assumption that war has a positive expected utility for leader H. That is, $px_H - k_H > 0$.[7] In addition, I assume that $k_F / (1 - p) < 1$, which implies that there exist some types of player F who would attack if given the opportunity to do so.

In all of the subgames described above, voters learn information about the type of the foreign leader as the game proceeds by observing leader H's private signal vector, $\bar{s}$, or leader F's actions (or both). If leader H decides to war-monger, then the voter learns the signal vector that leader H previously observed. In addition, it is assumed that if the foreign leader is not presented the opportunity to attack, a war takes place, and the home country is successful, then the voter learns whether leader F would have attacked the home country if he or she had been given the opportunity to do so. That is, waging a successful war results in gaining information about the true intentions of the foreign country. The voter need not perfectly observe leader F's type, x_F. It is only necessary that after a successful war is over, the voter be able to state either "I now know that leader F would have attacked me if he had the chance to do so," or "Leader F never would have attacked me."

6. Throughout my analysis, I assume that the voter of the home country derives no additional benefit from fighting a war beyond maintaining control over its asset. That is, winning a war is not a better outcome than the status quo. As noted below, relaxing this assumption does not affect the substantive findings of my model.

7. Note that this assumption regarding payoffs is implicitly embedded in the structure of the game since a war always results from an attack by leader F. If this assumption did not hold, then leader H would never fight a war following an attack by leader F, and thus all types of player F would always attack.

After the foreign policy subgame is completed, an election takes place, and the voter must decide whether to keep or replace leader *H*. This decision is made in accordance with one of the decision rules described above: naive retrospective, sophisticated retrospective, or hindsight voting. If leader *H* is kept, then he receives a payoff of 1; if he is replaced, then he receives a payoff of 0. This means that leader *H*'s expected utility from a given foreign policy action is his expected probability of remaining in office after an international outcome occurs.

5. FORMAL RESULTS

I restrict my attention to pure strategy perfect Bayesian equilibria in undominated strategies. This equilibrium concept requires that (1) all equilibrium strategies satisfy the requirement of subgame perfection, and (2) beliefs about the type of the foreign leader are updated in a manner consistent with Bayes' rule (Fudenberg and Tirole 2000, 215).

5.1. EVALUATING THE EXECUTIVE

The voter can evaluate his or her executive's performance using one of three voting heuristics: naive retrospective voting, sophisticated retrospection, or hindsight voting. Naive retrospective voting only requires the use of initial utility and final payoffs when making retention decisions. So the naive retrospective reservation value is $R_{NRETRO} = x_H$. Under sophisticated retrospection, the voter takes into account his or her final payoff and the ex ante uncertainty over payoffs that existed when the game began. That is, the voter asks, "Am I now better off than I was *in expectation* at the beginning of the game?"[8] Let $\overline{A}$ denote the path of actions leading to the voter's decision node. This means that the voter's threshold for evaluating final outcomes is as follows:

$$\begin{aligned} R_{SRETRO}(F(x_F)) &= Prior\,Prob(Don't\_Attack)[x_H] + Prior\,Prob(Attack)[px_H - k_H] \\ &= PriorProb\left(x_F \le \frac{k_F}{1-p} | \bar{s}, \overline{A}\right)[x_H] + PriorProb\left(x_F > \frac{k_F}{1-p} | \bar{s}, \overline{A}\right) \\ &\quad [ps_H - k_H] \\ &= F\left(\frac{k_F}{1-p}\right)[x_H] + \left[1 - F\left(\frac{k_F}{1-p}\right)\right][px_H - k_H]. \end{aligned}$$

8. I thank an anonymous reviewer for suggesting that rather than using such a "sophisticated retrospective" heuristic, the voter might instead reward her or his leader for a successful war under "naive retrospective voting" if successful wars generate utility beyond maintaining control over the asset in dispute. That is, winning a war may be more profitable than the status quo utility of x_H. Incorporating such an added benefit from successful wars is a straightforward model extension and does not affect the substantive results of the model. This additional analysis is omitted due to lack of space, but it is available in a "Technical Extension" to this article, which is available from the author upon request.

Finally, hindsight voting requires that the voter form a counterfactual reservation value based on his or her beliefs at the end of the foreign policy game. The voter forms posterior beliefs based on his or her prior beliefs, observed signals, and the actions of player *F*. Let $g(x_F)$ denote the posterior density and $G(x_F)$ denote the corresponding distribution function of beliefs about the value of x_F. To derive his or her reservation value under the hindsight voting rule, player *V* must consider the following: "given what I now know about the type of player *F*, what would my expected utility have been if leader *H* had simply ignored the signals he or she received and stuck with the status quo foreign policy?" Then the voter's hindsight reservation value at a given decision node is

$$\begin{aligned} R_{HIND}(G(x_F|\bar{s}\overline{A})) &= PostProb(don't\_Attack|\ \bar{s},\overline{A})[x_H] + PostProb(Attack|\ \bar{s},\overline{A})[px_H - k_H] \\ &= PostProb\left(x_F \le \frac{k_F}{1-p}|\bar{s},\overline{A}\right)[x_H] + PostProb(x_F > \frac{k_F}{1-p}|\bar{s},\overline{A})[px_H - k_H] \\ &= G\left(\frac{k_F}{1-p}|\bar{s},\overline{A}\right)[x_H] + \left[1 - G\left(\frac{k_F}{1-p}|\bar{s},\overline{A}\right)\right][px_H - k_H]. \end{aligned}$$

As an illustration, consider how the three different voting rules operate when player *H* has revealed the signal $\bar{s}$ to the voter, and the voter has arrived at the fourth voting node of the game via the path of actions, $\overline{A}$: War-Monger, Oppose, Attack, H wins.

Naive retrospective voting. The voter keeps leader *H* if and only if his or her final payoff is greater than or equal to his or her initial endowment before the game began, x_H. That is, the voter keeps iff

$$x_H - k_H \ge x_H.$$

So under this path of play, leader *H* will always be replaced by the voter because *V*'s payoff at the end of the game is less than the utility that *V* had at the start of the game. Naive retrospective voting in the example above punishes leader *H* for a bad outcome: an attack against his or her country by player *F*.

Sophisticated retrospective voting. The voter keeps leader *H* if and only if the voter's actual payoff is larger than his reservation value. That is, iff

$$x_H - k_H \ge F\left(\frac{k_F}{1-p}\right)[x_H] + \left[1 - F\left(\frac{k_F}{1-p}\right)\right][px_H - k_H] \Leftrightarrow F\left(\frac{k_H}{1-p}\right) \le \frac{x_H - px_H}{x_H - px_H + k_H}.$$

Since $F\left[k_F/(1-p)\right]$ denotes the prior probability that the foreign leader will not attack, the above statement implies that if the prior belief of an impending attack is sufficiently high (i.e., $F\left[k_F/(1-p)\right]$ is sufficiently low), then the leader will be kept following a successful attack. That is, the service that the executive provided in eliminating an ex ante threat of attack outweighs the costs of war in the mind of the voter. This specific cutpoint on prior beliefs about x_F is prominent in many sophisticated voting situations. As such, let us define the following condition, which will be used in subsequent analysis:

TABLE 1
Outcomes of the Voting Subgame:
Comparing the Results of Voting Behavior Rules

	Outcome of the Voting Rule		
Voting Node	*Naive Retrospective*	*Sophisticated Retrospective*	*Hindsight*
1	Keep	Keep	Keep
2	Replace	Keep if (T); else Replace	Keep if (A); else Replace
3	Replace	Replace	Replace
4	Replace	Keep if (T); else Replace	Keep
5	Replace	Replace	Replace
6	Keep	Keep	Keep
7	Replace	Keep if (T); else Replace	Keep if (A); else Replace
8	Replace	Replace	Replace
9	Replace	Keep if (T); else Replace	Keep
10	Replace	Replace	Replace
11	Keep	Keep	Keep

NOTE: Condition (T) is identified below. Condition (A) holds if $x_F \geq \frac{k_F}{1-p}$.

Threat condition (T). This holds when the ex ante threat of attack is sufficiently high that sophisticated retrospective voters reward leaders for successful war. That is,

$$F\left(\frac{k_F}{1-p}\right) \leq \frac{x_H - px_H}{x_H - px_H + k_H} = \hat{t} \in (0,1).$$

Hindsight voting. The voter keeps leader *H* iff

$$x_H - k_H = G\left(\frac{k_F}{1-p} \mid \bar{s}, \overline{A}\right)[x_H] + \left[1 - G\left(\frac{k_F}{1-p} \mid \bar{s}, \overline{A}\right)\right][px_H - k_H].$$

Since *F* attacked in the path of play $\overline{A}, G\left(k_F/(1-p) \mid \bar{s}, \overline{A}\right) = 0$. So $R(G(x_F \mid \bar{s}, \overline{A})) = px_H - k_H$. This implies that the voter will keep leader *H* iff $x_H - k_H \geq px_H - k_H$, which implies that leader *H* will keep his or her job. While *V*'s final utility is less than the amount of utility that the voter had at the beginning of the game, the loss of k_H, the cost of war, is not necessarily the fault of leader *H*. The blame for this loss lies in the fact that *F* was a high type who valued conflict. Colloquially, hindsight voting yields the following logic: "I now know that player *F* was a bad guy who wanted to hurt me. I was hurt a little bit, but things didn't turn out so badly: my country won the war. Since I'm better off than I could have been, based on what I now know about the world, I'm going to keep my leader in office."

Table 1 displays the voter's choice under the three different decision rules for all possible voting nodes of the game. These results hold regardless of the functional form of beliefs or the content of the signal vector $\bar{s}$. The expected voting behavior shown in Table 1 holds as long as the voter has beliefs that are consistent with Bayes's rule and updated based on known information. Note that every time that player *H* is kept under

the naive retrospective voting rule, he or she is also kept under sophisticated voting and the hindsight rule. However, the converse statement is not true: there exist many circumstances in which hindsight and sophisticated retrospective voters would keep a leader whom naive retrospective voters would replace. It is also important to notice that when a war takes place and *H* wins, the resulting hindsight evaluation is affected by new ex post information (i.e., whether *F* was truly a threat), while sophisticated retrospection is affected by ex ante beliefs about whether *F* was a substantial threat (i.e., whether condition (T) is met).

5.2. SUPPORTING OR OPPOSING THE WAR

Before analyzing leader *H*'s optimal foreign policy actions, we must consider what would happen if leader *H* war-mongers and the voter must decide whether to support or oppose the war. In order for the voter to be indifferent between supporting and opposing a war, the following condition must hold:

$$\Psi(\bullet) = c\left[G\left(\frac{k_F - c}{1-p} \mid \bar{s}\right)\right] - (x_H - px_H + k_H)\left[G\left(\frac{k_F}{1-p} \mid \bar{s}\right) - G\left(\frac{k_F - c}{1-p} \mid \bar{s}\right)\right] = 0.$$

The first term in this equation represents the value of the concessions extracted from those types of *F* who would rather concede than fight a war. The second term represents the expected loss from the increased probability of war. That is, if the voter supports his leader in war-mongering, then there exists an interval,

$$\left[\frac{k_F - c}{1-p}, \frac{k_F}{1-p}\right],$$

containing types of *F* that would rather fight than make concessions but would not attack *H* if given the opportunity to do so. These types of *F* are peaceful in that they would never initiate an attack against the home country, but the price of concessions is such that they would prefer to fight than to concede. If the first term is larger than the second, then *V* strictly prefers to support a war. If the second term is larger than the first, then *V* opposes the war. I now proceed to examine how the three different voting heuristics affect the home leader's choice of an optimal foreign policy action.

5.3. FOREIGN POLICY CHOICES UNDER THE DIFFERENT VOTING RULES

Given the voter's optimal behavior under the various voting rules, the following holds:

Proposition 1: Under all three voting rules, (a) ignoring all threat information weakly dominates war-mongering for leader *H*, and (b) if the model parameters are such that the voter would support the war (i.e., if $\Psi(\bullet) > 0$), then ignoring information is strictly dominant for player *H*, despite the fact that voter *V* would be strictly better off if *H* war-mongered.

Proofs for all propositions are presented in the appendix. Both parts of this finding are normatively troubling. Part (a) demonstrates that none of the voting rules examined can eliminate the information asymmetries that exist between a leader and his or her constituents. Regardless of the content of his or her private information or the parameter values for the model, the leader is always weakly better off concealing his or her information rather than sharing it with the voter. Indeed, as part (b) states, it is precisely in those circumstances in which the voter supports policy change (i.e., by supporting *H*'s call for war) that the interests of the leader and voter are diametrically opposed and *H* is unwilling to provide the information necessary for the voter to make a policy choice.

Proposition 2: If the voter uses the naive retrospective decision rule, ignoring all threat information weakly dominates all other actions for leader *H*.

This presents another grim picture of the ability of voters to hold leaders accountable. When naive retrospective voting is used, it is impossible to induce *H* to preempt a threat, regardless of the content of his private information or the strength of the belief that the country is under an impending threat of attack. As we shall see below, leader *H*'s desire to ignore his information holds even when the voter would be better off under the more aggressive policies of war-mongering and preemption. As such, the retrospective voting rule induces leader behavior that is often too passive.

Proposition 3: If the voter uses the sophisticated retrospective decision rule and condition (T) does not hold, results are equivalent to those induced by naive retrospective voting.

When the voter does not have sufficiently strong prior beliefs that a threat is looming, he does not reward his leader for successfully eliminating a possible threat. As such, his behavior is equivalent to that under naive retrospective voting, thereby inducing the same behavior in *H*.

Proposition 4: Given sufficiently strong beliefs that player *F* is a high type, leader *H* will engage in preemption under the hindsight decision rule and under sophisticated retrospective voting when (T) holds.

This shows that sophisticated retrospection and hindsight voting can induce more aggressive behavior than is possible under naive retrospective voting. Incentives are such that leader *H* is willing preempt if he believes that the probability of an attack is sufficiently high. However, it is not clear yet whether this change in equilibrium behavior is beneficial to the voter. I turn next to the examining the welfare properties of these equilibria.

5.6. COMPARING EQUILIBRIUM RESPONSIVENESS UNDER THE DIFFERENT VOTING RULES

When discussing the properties of equilibria, it is common to invoke the criterion of Pareto efficiency as a method of evaluation. An equilibrium is defined as Pareto

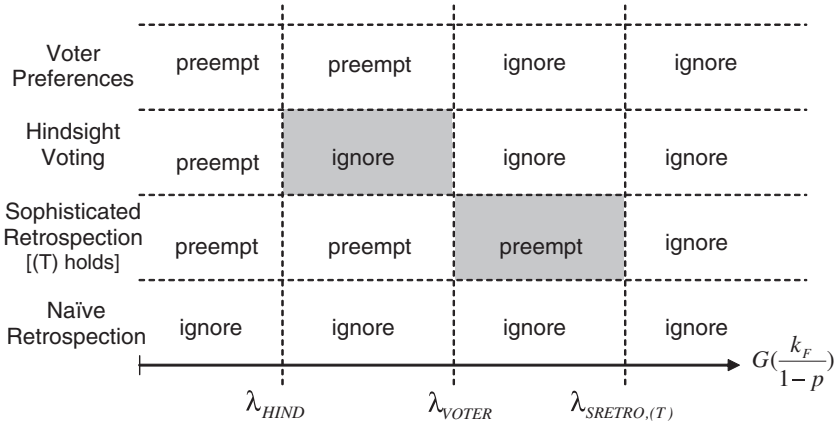

Figure 2: Equilibrium Responsiveness to the Voter's Utility

efficient if there does not exist another equilibrium in which every player is at least as well off and one player is strictly better off. A similar concept, which I call *responsivity*, can be invoked to evaluate the set of equilibria for strategic games of accountability. An equilibrium can be described as responsive to a given player if there exists no other equilibrium that always provides at least as much utility for the given player and sometimes more. Note that while Pareto efficiency is concerned with the welfare properties of an equilibrium for an entire population of strategic actors, responsivity is concerned only with the welfare properties for a given player. Let ϕ denote a given set of parameters for the game and Φ denote the set of all possible sets of parameters for the game. Then we have the following formal definition:

Definition: Equilibrium $(\sigma^*_A, \sigma^*_{-A})$ is *more responsive* to the utility of player A than equilibrium $(\sigma^*_A{}', \sigma^*_{-A}{}')$ iff

1. $E[U_A(\sigma^*_A, \sigma^*_{-A}; \phi)] \geq E[U_A(\sigma^*_A{}', \sigma^*_{-A}{}'; \phi)]$, $\forall \phi \in \Phi$; and
2. there exists a $\phi' \in \Phi$ such that $E[U_A(\sigma^*_A, \sigma^*_{-A}; \phi')] > E[U_A(\sigma^*_A{}', \sigma^*_{-A}{}'; \phi')]$.

The equilibrium behavior induced by each of the three voting rules as a function of $G(k_F/(1-p)|\bullet)$ is displayed graphically in Figure 2. The cutpoints displayed on the *x*-axis of this figure are analytically derived in the appendix. As stated in proposition 2, it is always weakly dominant for leader *H* to ignore his or her private information under naive retrospective voting. In contrast, there are parameter regions in which sophisticated retrospection and hindsight voting induce *H* to preempt an attack. The

9. There exist parameter regions in which the voter strictly prefers war-mongering to all other actions. There also exist regions in which leader *H* is willing to war-monger. However, Figure 2 only includes comparisons between preemption and ignoring since the only time that the voter can induce war-mongering is when he is indifferent between it and ignoring the threat (i.e., when the voter would oppose the war). This means that in terms of voter welfare, war-mongering and ignoring information are analytically equivalent whenever they occur in equilibrium.

top row of Figure 2 shows the voter's preferred action as a function of the parameter space.[9]

It is clearly the case that hindsight voting induces an equilibrium that is more responsive to the voter's utility than naive retrospective voting. While the two voting rules induce identical behavior for some parameter regions, there are cases in which leader *H* is willing to preempt, and the voter is made better off by this choice. Nonetheless, there is some divergence between the preferences of the voter and the actual policy choice. As shown by the upper-left gray box, there exists a region of parameter values in which the voter prefers to preempt the threat, but *H* refuses to do so. For this set of parameters, the executive is too passive from the voter's perspective.

In contrast, the sophisticated retrospective voting rule induces behavior that is more aggressive than the voter would like. As shown by the lower-right gray box, there exists a region of parameter values in which *H* takes preemptive action, although the voter would be better off if the leader ignored his private information. Since this voting rule induces undesired aggression, we cannot examine its general responsiveness to the utility of the voter. For some parameters, sophisticated retrospection leads to better results for the voter than both naive retrospection and hindsight voting (i.e., for $G(k_F/(1-p)|\bullet) \in [\lambda_{HIND}, \lambda_{VOTER}]$). However, for other regions, it lowers the voter's utility by taking overly aggressive foreign policy actions (i.e., for $G(k_F/(1-p)|\bullet) \in [\lambda_{VOTER}, \lambda_{SRETRO,(T)}]$). This suggests that voters must balance the relative desirability of unwanted wars against unwanted passivity when deciding how to evaluate leaders. While sophisticated retrospection induces the former, hindsight voting induces the latter.

6. ASSESSING THE MODEL AND ITS FINDINGS

Since the three voting rules lead to divergent predictions about both voter and leader behavior, it is worth contemplating which model variant seems to provide the best "fit" to cases in which leaders must make important foreign policy decisions under uncertainty. As is generally true with strategic models, systematic testing of the model's conclusions is hindered by problems of observability: rational leaders should not make choices that are likely to lead to their downfall, so selection effects shape the actions that we observe. Nonetheless, careful consideration of specific cases should enable us to discern which of the voting rules seems most plausible based on the outcomes that we observe.

Trying to distinguish between the model variants based on the actions of the political leader is problematic because, as displayed in Figure 2, optimal behavior is conditioned on the beliefs of the leader. The complexity that defines the belief space and the optimal action cutpoints makes systematic assessment of the theory quite difficult, particularly within the limited space of a journal article. However, the predictions about voter behavior after different action profiles are usually quite clear, and the actions leading to a particular decision node are observable to us as researchers. As such, I attempt to assess the relative quality of the voting heuristics within the context of the predictions made by the model about voting behavior.

Let us begin with naive retrospective voting. Table 1 is quite clear in demonstrating that voter behavior under this rule is never conditioned on parameters of the model: predictions about voter behavior can be derived based simply on foreign policy outcomes. Naive retrospective voting predicts that voters will be replaced following all conflicts, regardless of whether they are successful in winning the war. Systematic empirical analysis of the effect of war involvement on leaders' tenure in office is challenging because selection effects can confound model estimates: since leaders can choose which wars to fight, estimates about the impact of war on leader survival are most likely biased.[10] Nonetheless, recent empirical work does not support the prediction that leaders will always be replaced following wars. In their recent study on leader tenure, Chiozza and Goemans (2004, 605) find that "societal costs of war generally do not translate into political costs for leaders." Similarly, the immense popularity of British Prime Minister Margaret Thatcher following the Falklands War of 1980 and Israeli Prime Minister Levi Eshkol after the 1967 Six Days War suggests that voters often approve of leaders who are victorious in war. This contradicts naive retrospective voting, in which leaders should always be removed following wars.

However, the analysis of Chiozza and Goemans (2004) does not necessarily refute the predictions of the other two voting heuristics, both of which allow for circumstances in which the leader remains in office following a war. To assess sophisticated retrospection and hindsight voting, we should examine circumstances in which the two voting rules can lead to different outcomes. As shown in Table 1, this happens at voting nodes 2, 4, 7, and 9. I proceed through each of these situations in turn.

At the second decision node, leader *H* has war-mongered and gained the support of his constituent. This led to a war, which *H* has won. The two voting rules lead to different predictions if we can identify a case in which *F* was initially thought to be a significant threat but subsequently was discovered not to be one. The 2003 war in Iraq provides a nice case for this situation because, as detailed above, when President George W. Bush war-mongered, U.S. voters overwhelmingly supported him and believed that Hussein posed a threat. However, subsequent events have destroyed the claim that Iraq was ever an imminent threat to the United States. Sophisticated retrospection would lead voters to support Bush, while hindsight voting would suggest that voters should reject Bush. As the polling evidence above demonstrates, a majority of voters now oppose the Iraq war, thereby providing support for the hindsight heuristic.[11]

An alternative analysis of this case might suggest that the decline in public support for the war in Iraq has been caused by mounting fatalities, rather than a failure to discover weapons of mass destruction (WMD). Such increases in the cost of war might persuade voters that the U.S. actions in Iraq have in fact been a failure, not a success. Since both hindsight and sophisticated retrospective voting suggest that voters should

10. Chiozza and Goemans (2003) make a noble attempt to address this problem.

11. It is important to note that while the model and its analytical results are based on the notion of an election or referendum on foreign policy, actual elections require voters to make retention decisions based on dozens of different policy issues—hence George W. Bush's reelection despite widespread opposition to his performance on Iraq. For the purpose of model evaluation, the key outcome is not whether the leader remains in office; rather, it is whether he or she retains the support of the people based on his or her foreign policy decisions.

not support their leader following an unsuccessful war, then we would not be able to discriminate between the competing perspectives: both voting processes would be consistent with the Iraq case. It is certainly most likely that voter attitudes regarding Iraq are affected by both factors: the failure to find WMD and mounting casualties. However, consider the following counterfactual case: U.S. troops discovered WMD after the invasion (i.e., the justification for the war was correct and a threat was removed) and subsequently suffered massive casualties from an insurgency. If casualties are the key causal factor, then the voter should oppose his leader under both voting rules. However, if WMD are the key causal factor, then the voter should oppose his leader under sophisticated retrospection and support his leader under hindsight voting. I find it difficult to believe that voters, when confronted with such a situation, would oppose their leader. This suggests that the effect of war casualties on voter attitudes is shaped by the context of the war: a failed justification for war means that "lives were lost in vain," but a valid justification for war means that "soldiers died to protect their country." To the extent that a voter's willingness to tolerate war casualties is conditioned upon knowledge gained during the war, we have evidence that some sort of hindsight process is at work: voters are using ex post information to evaluate decisions made before such information was known.

The fourth voting node follows a path of actions in which the leader unsuccessfully tries to build a case for war, and his country is subsequently attacked and perseveres in war. This is similar to the U.S. experience in World War II. The attempts of U.S. President Franklin D. Roosevelt to build domestic support for war against Germany and Japan in the late 1930s and early 1940s have been extensively documented (e.g., Casey 2001; Dallek 1979; Goodwin 1994). Historical evidence demonstrates that Roosevelt sought major increases in defense spending and aircraft production; assistance to the military forces of Great Britain, France, and China; and revision of the Neutrality Act, which limited the United States's ability to become involved in the conflict. While Roosevelt was able to achieve some progress on his goals, his ability to prepare the country for war was severely limited by public opposition to U.S. involvement. The Roosevelt administration scaled back war preparations in light of public opinion surveys administered shortly after the invasion of Poland in September 1939, which found that "[w]hile more than 80 per cent of the public favored the Allies in the fighting and while between 50 and 60 per cent of the public consistently supported aid to England and France, the majority of this second group unequivocally wished to keep the United States out of war" (Dallek 1979, 201). Dallek (1979, 239) also notes that Roosevelt wished to be more aggressive with Japan in the summer of 1940, but "[h]aving just been nominated for a third term on a platform of no participation in foreign wars unless attacked, Roosevelt felt constrained to avoid provocative threats." It is clearly the case that while the majority of Americans supported assistance to their allies, they also opposed direct involvement in the war.

12. See Casey (2001, 16-9, 215-6) for a discussion of the role of newspapers, periodicals, government agencies, and early polling organizations in the measurement of public opinion in the late 1930s and early 1940s.

The lack of consistent high-quality public opinion data from this time period makes it difficult to evaluate whether the U.S. public viewed Japan as a substantial threat prior to the bombing of Pearl Harbor in December 1941.[12] Roosevelt himself spent much of the summer and fall of 1941 negotiating a nonaggression agreement with Japan, and, as Casey (2001, 13) notes, "in [Roosevelt's] opinion, the Japanese threat clearly paled next to the danger posed by Hitler, who aimed at world, rather than regional, domination." While Dallek (1979, 302) writes that "[n]ewspaper, public, and official opinion was uniformly opposed to any appeasement of Japan" in the early autumn of 1941, the concern of both the public and policy makers was largely focused on Hitler, Mussolini, and the conflict in Europe, not on Japan. Summarizing popular opinion in July 1941, Alan Barth, an adviser to Treasury Secretary Henry Morgenthau, wrote, "The prevailing editorial judgment is that four years of warfare has exhausted the Japanese, undermined their economy, and revealed them as *a second-rate power*. . . . A great many commentators cherish the conviction that the American Pacific fleet would polish off Japanese sea power between daybreak and breakfast . . . with the Atlantic fleet tied behind its back" (emphasis added, cited in Casey 2001, 29-30).

The formal model above shows that if ex ante beliefs about the probability of attack are sufficiently low and the foreign country subsequently attacks, then sophisticated retrospection and hindsight voting should lead to divergent predictions. Sophisticated retrospective voters should reject their leader because the country has been involved in a costly war without a clear ex ante threat. In contrast, hindsight voters will reward their leader for being successful in war, even though the attack was not anticipated ex ante. To the extent that the attention of the U.S. public was focused on the conflict in Europe, it is difficult to make the case that Japan was perceived as being an imminent threat to the security of the United States. The focus was on the threat posed by European fascism. While it is probably impossible to untangle public support for the war in Europe from support for the fighting in the Pacific Ocean, support for Roosevelt, Truman, and the overall war effort remained high, even after fighting had ceased in Europe (Casey 2001, 211-9). This suggests that the hindsight voting heuristic is more plausible in this case than naive retrospection.

Another situation in which the predictions of the sophisticated retrospective and hindsight voting rule diverge is what happens when leader *H* has been successful in preemptive action. Suppose that *F* was not initially viewed as a threat but was subsequently shown to be one, as with Grenada in 1983. The model predicts that sophisticated retrospective voters will punish their leader because he has consumed resources without removing an ex ante threat. In contrast, hindsight voters will reward leader *H*. While surely Grenada never provided a major threat to the security of the United States, it is possible that if its actions had continued unchecked, it could have posed a threat to democracy in its immediate neighbors and to the Central American region. The strong public support experienced by President Ronald Reagan following the invasion of Grenada provides modest support for the argument that hindsight evaluation was at work.

Finally, the ninth voting node of the game follows a surprise attack that *H* wins. Furthermore, leader *H* has done nothing to mobilize public support or preempt before the

attack occurs. The Falklands War began when General Galtieri, leader of the Argentinean military junta, launched a surprise invasion of the British-controlled Falkland Islands on April 2, 1980, asserting sovereignty over the islands. Historical accounts vary in their identification of precisely when the British government of Prime Minister Margaret Thatcher knew about the impending threat. However, it is generally accepted that Thatcher had at least minimal covert intelligence about Argentinean military maneuvers and commenced some military and diplomatic actions before the attack began (Gibran 1998; Freedman 1988; Freedman and Gamba-Stonehouse 1990). However, no preemptive action was taken to prevent the invasion, and information about the imminent attack was kept private (Gibran 1998, 73-4). The attack initially forced the resignations of several top cabinet officials, including Foreign Minister Lord Carrington, and generated intense criticism of Thatcher and her government (Freedman 1988, 93-4). Nevertheless, success in the war generated tremendous support for Prime Minister Thatcher, despite a flailing domestic economy and recurring battles with the European Economic Community (Freedman 1988, 94-6, 100-4; Gibran 1998, 103-6). As was subsequently noted, "the 'Falklands Factor' was the single most important factor in the large Conservative election victory of 1983" (Evans 1997, 96-7).

While sovereignty of the Falklands Islands was a major domestic political issue in Argentina and tensions over the islands had been growing for some time, the British public did not in general consider Argentina to be a military threat prior to the invasion. In her memoirs, Thatcher (1993, 173) writes, "No one predicted the Argentine invasion more than a few hours in advance, though many predicted it in retrospect." Even officials from the U.S. State Department, which was heavily involved in mediating the prior dispute, did not become aware of Galtieri's military intentions until the day before the invasion (Gwertzman 1982). The model predicts divergent voter behavior under these circumstances. Since F was not viewed as a substantial military threat ex ante, sophisticated retrospective voters should replace their leader; in contrast, hindsight voters will support their leader. Thatcher's strong public support following her success in the Falklands War thus provides support for the hindsight heuristic rather than for sophisticated retrospection.

When evaluating the empirical plausibility of the three voting heuristics presented above, we can begin by examining a set of cases to determine whether actual political behavior coincided with the behavior predicted by the model. Naive retrospective voting is rejected based on large-N empirical findings that demonstrate that involvement in war does not decrease the tenure of leaders on average. To assess the relative plausibility of sophisticated retrospection versus hindsight voting, I have examined four cases for which the model predicts that these voting heuristics will lead to different behavior—the 2003 U.S.-Iraq war, the attack on Pearl Harbor, the U.S. invasion of Grenada, and the Falklands War. All four examples provide support for the hindsight mode of voting over sophisticated retrospection. This provides modest preliminary

support that voters use ex post information to evaluate decisions made by leaders based on uncertain ex ante information.

7. CONCLUSION

Leaders undoubtedly make foreign policy decisions based (at least in part) on anticipated electoral consequences. This analysis demonstrates that the specific manner in which voters make retention decisions can have a significant effect on foreign policy choices. I created a formal model of foreign policy responses to exogenously generated threats, in which leaders are accountable to voters after international outcomes occur, and posited three alternative decision rules that a voter could use when evaluating his leader: naive retrospective, sophisticated retrospective, and hindsight voting.

While all three voting heuristics are retrospective processes, each uses a different benchmark for evaluating a leader's past performance. When voters use naive retrospection, they compare their final payoff to their value for the asset in dispute. This induces them to punish their leader for bad outcomes and reward him for good ones. As such, the home leader has no incentive to undertake aggressive foreign policies that combat possible threats, even if his voters would be made better off by such actions. It is always in the leader's best interest to ignore the threat information that he receives and hope for the best. In contrast, the other two voting rules can induce more aggressive outcomes, although neither generates equilibrium behavior that fully accords with the preferences of the voter. Under sophisticated retrospection, voters will reward leaders who eliminate ex ante threats, even if this involves a costly conflict. This induces overly aggressive behavior: leaders have incentive to engage in international conflict even when voters would prefer that they did not. Under the hindsight voting heuristic, voters use ex post information, which is only revealed after a policy has been chosen and implemented, to evaluate the performance of their leader. While this induces more aggressive behavior than naive retrospective voting, there still exist many situations in which leaders are less aggressive than voters would like.

Empirical studies of the effect of war on leader tenure contradict the model's predictions regarding naive retrospective voting. Examination of four historical cases in which the model leads to different predictions for the remaining voting heuristics provides more support for hindsight voting than for sophisticated retrospection. This suggests modest support for the contention that voters use ex post information when evaluating decisions made by an executive under uncertainty.

More broadly, this article demonstrates that changing assumptions about how voters evaluate executives can have a significant impact on the substantive and normative conclusions that we draw from formal models of international relations. This suggests the need to carefully consider the robustness of formal results with regard to changing assumptions about how voters behave. Opening up the black box of domestic politics is clearly no easy matter.

APPENDIX

Proof of proposition 1. Let r denote the probability that V supports war-mongering and $\sigma_{V|RULE}$ denote the voting strategy of V conditional on a given voting rule. Note that the following hold:

$$E[U_H(ignore\,|\,\sigma_{V|NRETRO})] = E[U_H(ignore\,|\,\sigma_{V|SRETRO}, \neg(T))] = G\left(\frac{k_F}{1-p}|\bullet\right)$$
$$\geq E[U_H(war\text{-}monger\,|\,\sigma_{V|NRETRO})] = E[U_H(war\text{-}monger\,|\,\sigma_{V|SRETRO}, \neg(T))]$$
$$= rG\left(\frac{k_F - c}{1-p}|\bullet\right) + (1-r)G\left(\frac{k_F}{1-p}|\bullet\right).$$

$$E[U_H(ignore\,|\,\sigma_{V|SRETRO}, (T))] = p + (1-p)G\left(\frac{k_F}{1-p}|\bullet\right)$$
$$\geq E[U_H(war\text{-}monger\,|\,\sigma_{V|SRETRO}, (T))\ ]$$
$$= p + r(1-p)G\left(\frac{k_F - c}{1-p}|\bullet\right) + (1-r)(1-p)G\left(\frac{k_F}{1-p}|\bullet\right).$$

$$E[U_H(ignore\,|\,\sigma_{V|HIND})] = p + (1-p)G\left(\frac{k_F}{1-p}|\bullet\right)$$
$$\geq E[U_H(war\text{-}monger\,|\,\sigma_{HIND})] = p\left[1 - G\left(\frac{k_F}{1-p}|\bullet\right)\right]\left[r\left[1 - G\left(\frac{k_F - c}{1-p}|\bullet\right)\right] + (1-r)\right]$$
$$+ (1-r)G\left(\frac{k_F}{1-p}|\bullet\right).$$

Note that if $r = 0$, then leader H is always in-different, and if $r = 1$, then all of the inequalities are strict. So ignoring weakly dominates war-mongering across all voting rules. QED.

Proof of proposition 2. As shown above, ignoring information weakly dominates war-mongering when the voter uses naive retrospection. Now note that $E[U_H(preempt|\sigma_{V|NRETRO})] = 0$. QED.

Proof of proposition 3. Note that the voting outcomes are identical under naive retrospective voting and sophisticated retrospection when condition (T) does not hold. As such, they induce identical equilibrium behavior by H. QED.

Proof of proposition 4. Consider the following relationships:

$$E[U_H(premempt\,|\,\sigma_{V|HIND})] = q\left[1 - G\left(\frac{k_F}{1-p}|\bullet\right)\right] > E[U_H(ignore\,|\,\sigma_{V|HIND})]$$
$$= p + (1-p)G\left(\frac{k_F}{1-p}|\bullet\right) \Leftrightarrow G\left(\frac{k_F}{1-p}|\bullet\right) < \frac{q-p}{1+q=p} = \lambda_{HIND}.$$

$$E[U_H(preempt \mid \sigma_{V \mid SRETRO}, (T))] = q > E[U_H(ignore \mid \sigma_{V \mid SRETRO}, (T))]$$
$$= p + (1-p)G\left(\frac{k_F}{1-p} \mid \bullet\right) \Leftrightarrow G\left(\frac{k_F}{1-p} \mid \bullet\right) < \frac{q-p}{1-p} = \lambda_{SRETRO,(T)}.$$

Note that since both statements are conditions on sufficiently low values of $G(k_F/(1-p) \mid \bullet)$, the statements hold if beliefs about the probability of attack are sufficiently high. QED.

REFERENCES

Achen, Christopher H., and Larry M. Bartels. 2004. Blind retrospection: Electoral responses to drought, flu, and shark attacks. Working paper, Department of Politics, Princeton University.

Bueno de Mesquita, Bruce, James D. Morrow, Randolph M. Siverson, and Alastair Smith. 2003. *The logic of political survival*. Cambridge, MA: MIT Press.

Cannon, Lou. 1991. *President Reagan: The role of a lifetime*. New York: Simon & Schuster.

Carlson, Darren K. 2005. Fewer Americans say Iraq war "worth it." *Gallup News Service*, April 19.

Casey, Steven. 2001. *Cautious crusade: Franklin D. Roosevelt, American public opinion, and the war against Nazi Germany.* Oxford, UK: Oxford University Press.

Chiozza, Giacomo, and Hein Goemans. 2003. Peace through insecurity: Tenure and international conflict. *Journal of Conflict Resolution* 47:443-67.

———. 2004. International conflict and the tenure of leaders: Is war still *ex post* inefficient? *American Journal of Political Science* 48:604-19.

Christensen-Szalanski, Jay J. J., and Cynthia Fobian Willham. 1991. The hindsight bias: A meta-analysis. *Organizational Behavior and Human Decision Processes* 48:147-68.

Dallek, Robert. 1979. *Franklin D. Roosevelt and American foreign policy, 1932-1945.* New York: Oxford University Press.

Downs, George W., and David M. Rocke. 1995. *Optimal imperfection? Domestic uncertainty and institutions in international relations*. Princeton, NJ: Princeton University Press.

Evans, Eric J. 1997. Thatcher and Thatcherism. New York, Routledge

Fang, Songying. 2005. The informational role of international institutions and domestic politics. Working paper, Department of Politics, University of Rochester.

Fearon, James D. 1994. Domestic political audiences and the escalation of international disputes. *American Political Science Review* 88:577-92.

———. 1995. Rationalist explanations for war. *International Organization* 49:379-414.

Ferejohn, John. 1986. Incumbent performance and electoral control. *Public Choice* 50:5-25.

Fiorina, Morris P. 1981. *Retrospective voting in American national elections*. New Haven, CT: Yale University Press.

Freedman, Lawrence. 1988. *Britain and the Falklands War.* Oxford, UK: Basil Blackwell.

Freedman, Lawrence, and Virginia Gamba-Stonehouse. 1990. *Signals of war: The Falklands conflict of 1982*. London: Faber and Faber.

Fudenberg, Drew, and Jean Tirole. 2000. *Game theory.* Cambridge, MA: MIT Press.

Gibran, Daniel K. 1998. *The Falklands War.* London: McFarland & Company.

Goodwin, Doris Kearns. 1994. *No ordinary time*. New York: Simon & Schuster.

Gwertzman, Bernard. 1982. Reagan, in a phone call, tried to deter dispute. *New York Times*, April 3.

Hawkins, Scott A., and Reid Hastie. 1990. Hindsight: Biased judgments of past events after the outcomes are known. *Psychological Bulletin* 107:311-27.

Huth, Paul K., and Todd L. Allee. 2002. Domestic political accountability and the escalation and settlement of international disputes. *Journal of Conflict Resolution* 46:754-90.

Kramer, Gerald H. 1971. Short-term fluctuations in U.S. voting behavior: 1896-1964. *American Political Science Review* 65:131-43.

Leary, Mark R. 1982. Hindsight distortion and the 1980 presidential election. *Personality and Social Psychology Bulletin* 8:257-63.

Lewis-Beck, Michael S. 1988. *Economics and elections: The major Western democracies*. Ann Arbor: University of Michigan Press.

Markus, Gregory. 1988. The impact of personal and national economic conditions on the presidential vote: A pooled cross-sectional analysis. *American Journal of Political Science* 32:137-54.

Moore, David W. 2005. Public: Pullout from Iraq would be harmful to U.S. *Gallup News Service*, July 1.

Plous, Scott. 1993. *The psychology of judgment and decision making*. Philadelphia: Temple University Press.

Ramsay, Kristopher W. 2004. Politics at the water's edge: Crisis bargaining and electoral competition. *Journal of Conflict Resolution* 48:459-86.

Remind me how I got here. 2004. *The Economist*. May 29, 11-2.

Rose, Euclid A. 2002. *Dependency and socialism in the modern Caribbean*. Lanham, MD: Lexington Books.

Schultz, Kenneth A. 1998. Domestic opposition and signaling in international crises. *American Political Science Review* 92:829-44.

———. 2001. Looking for audience costs. *Journal of Conflict Resolution* 45:32-60.

———. 2005. The politics of risking peace: Do hawks or doves deliver the olive branch? *International Organization* 59:1-38.

Shribman, David. 1983. Poll shows support for presence of U.S. troops in Lebanon and Grenada. *New York Times*, October 29.

Skinner, Kiron K., Annelise Anderson, and Martin Anderson. 2003. *Reagan: A life in letters*. New York: Free Press.

Smith, Alastair. 1998. International crises and domestic politics. *American Political Science Review* 92:623-38.

Smith, Hedrick. 1983. O'Neill now calls Grenada invasion "justified" action. *New York Times*, November 9.

State Department and Defense Department. 1984. *The Grenada documents: An overview and selection*. Washington, D.C.: Government Printing Office.

Synodinos, Nicolaos E. 1986. Hindsight distortion: "I knew-it-all along and I was sure about it." *Journal of Applied Social Psychology* 16:107-17.

Thatcher, Margaret. 1993. *The Downing Street years*. London: HarperCollins.

Valenta, Jiri, and Herbert J. Ellison, eds. 1986. *Grenada and Soviet/Cuban policy: Internal crisis and U.S./OECS intervention*. Boulder, CO: Westview.

Vinocurs, John. 1983. Invasion of Grenada wins some allied supporters. *New York Times*, November 3.

Wolfers, Justin. 2002. Are voters rational? Evidence from gubernatorial elections. Research Paper No. 1730, Graduate School of Business, Stanford University.