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Source: *The Journal of Conflict Resolution*, Vol. 44, No. 5 (Oct., 2000), pp. 555-579

Published by: Sage Publications, Inc.

Stable URL: <http://www.jstor.org/stable/174644>

Accessed: 18-07-2016 05:48 UTC

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# Fighting for Survival

## THE FATE OF LEADERS AND THE DURATION OF WAR

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This article examines how the postdefeat fate of leaders of different regimes affects their incentives to end or continue a losing war and how the outcome of war interacts with regime type to affect the leaders' postwar fate. Three regime types—democracies, dictatorships, and mixed regimes—and three fates—staying in power, losing power, and losing power with additional punishment in the form of exile, imprisonment, or death—are distinguished. Only leaders of mixed regimes are likely to lose power and suffer additional punishment whether they lose a war moderately or disastrously. Therefore, leaders of such losing mixed regimes have a disincentive to settle on moderately losing terms; they prefer to continue war in a gamble for resurrection. As a result, wars with losing mixed regimes last longer and produce higher numbers of battle deaths for both sides than other wars.

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**H**istorically, students of war have largely sought to explain the variation between peace and war by a focus on the causes of war initiation. The alternative, the study of the causes of war termination, has been relatively neglected. A proper focus on the causes of war termination, however, may not just shed light on the duration and cost of war, but it may even be a necessary component in the explanation of the causes of war initiation (Blainey 1988). As Wagner (2000) has recently argued, a rational explanation for war requires not only an explanation of why the participants could not reach agreement without fighting but also why they fought as long as they did before agreeing to stop. This article therefore examines the incentives of individual leaders to end or continue war and the implications for the duration and costs of war. I examine three specific questions: (1) what is the relationship between the outcome of the war and the postwar fate of political leaders in different regimes? (2) Does the duration of war depend on the domestic regime type of the losing state? (3) Do the costs of war for both winners and losers therefore depend on the domestic regime type of the losing state? As I shall argue, the answers to these three questions are causally related.

I first offer a new theory to explain the variation in the postwar fate of leaders of different regime types and introduce the possibility of additional punishment above the

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**AUTHOR'S NOTE:** I thank John Brehm, Bruce Bueno de Mesquita, Scott Bennett, Giacomo Chiozza, Chris Gelpi, Robert Keohane, Craig Koerner, Nikki Raymond, and especially Allan Stam for their help and suggestions.

JOURNAL OF CONFLICT RESOLUTION, Vol. 44 No. 5, October 2000 555-579

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mere loss of power. I present arguments about why it is important to disaggregate *authoritarian* regimes, distinguishing *mixed regimes* from *dictatorships*. In the second section, I introduce the hypotheses, proposing that leaders of democracies and dictatorships will suffer much more severe penalties if they lose a war disastrously than if they lose only moderately. Leaders of mixed regimes, in stark contrast, are likely to suffer severe penalties above and beyond the loss of power even if they lose the war only moderately. Leaders of mixed regimes, therefore, have incentives to gamble for resurrection, and wars with losing mixed regimes should last longer than wars with other losers. As a result, wars with losing mixed regimes should also be more costly for both winners and losers. The third section lays out the research design and describes the data to be analyzed: one new data set on the postwar fate of leaders and a second existing data set on the duration of war. In the fourth section, I present and discuss the results. I find that leaders of mixed regimes have fundamentally different incentives from leaders of other regimes in their decisions to end or continue an unsuccessful war. Because leaders of mixed regimes have incentives to gamble for resurrection, wars in which the loser is a mixed regime last almost twice as long as other wars, and wars against such regimes are likely to be more costly for both sides.

Recent research has shown that the outcome of war has a significant effect on the fate of the regimes involved and the tenure of individual leaders (Russett 1990; Bueno de Mesquita, Siverson, and Woller 1992; Bueno de Mesquita and Siverson 1995; Werner 1996). Bueno de Mesquita and his coauthors have extended this line of research to hypothesize that defeat in war affects the tenure of leaders of different regimes differentially (Bueno de Mesquita and Lalman 1992; Bueno de Mesquita and Siverson 1997). Thus, Bueno de Mesquita and Lalman (1992) argue that democratic leaders face generally higher costs than authoritarian leaders in the event that they fight a losing or costly war. This argument is then invoked as part of an institutional explanation of the democratic peace: facing a higher risk of losing power if they lose war, Democrats have a lower expected value for wars (Bennett and Stam 1996; Reiter and Stam 1998, 1999; Schultz 1999; Bueno de Mesquita et al. 1999). Although this is an interesting and potentially powerful argument, it lacks empirical support. To date, no empirical study has shown that leaders of democracies do indeed face a higher likelihood of removal from office when they lose wars. Moreover, Bueno de Mesquita et al. overlook the possibility that the penalties for leaders may not be uniform across regimes. They posit only one form of penalty: the loss of power. Losing power might not be so bad if you or your party could run and win again in subsequent elections. Losing power could be very bad when it almost certainly leads to additional severe punishment, such as exile, imprisonment, or death. What matters for leaders, in other words, are not just the probability but also the consequences of losing power (Gowa 1995; Schultz 1999). The probability of losing power and the probable consequences of losing power thus together determine the leaders' expected value of the outcome of the war. If it is plausible that leaders make choices to avoid losing power, how much more plausible is it that leaders will want to avoid their imprisonment or even death?

By backwards induction, the postwar fate of leaders has been used not only to link regime type to war initiation but also to victory, war termination, and war duration (Reiter and Stam 1998; Downs and Rocke 1994). In particular, the article by Downs

and Rocke (1994) presents a seminal attempt to link the postwar fate of leaders to incentives to continue or end war. Focusing, again, solely on removal from office as the leader's penalty, Downs and Rocke show that if leaders know they will most likely lose power if they terminate a war now, they can rationally choose to continue war and gamble for resurrection. After all, a worse loss does not increase their penalty, and the leaders thus have nothing more to lose. Thus, the anticipation of removal from office after an unsuccessful war can sometimes spur leaders to continue fighting and prolong the war. Although Downs and Rocke do not explicitly distinguish between regime types, they argue that "the greater the information asymmetry [between constituency and leader, HG], and the worse the conflict outcome, the more we expect the removal rate of executives who are unsuccessful at war to exceed the removal rate of executives who do not go to war" (p. 372). Therefore, in contrast to the reasoning of Bueno de Mesquita et al., Downs and Rocke's argument implies that autocrats have more to lose from going to war and losing than democrats because autocrats exhibit great information asymmetries. Downs and Rocke, however, offer no specific hypotheses—much less empirical tests—on which regime type is most likely to gamble for resurrection and thereby prolong the war.

Turning to the duration of war, in a recent seminal article, Bennett and Stam (1996) present a rich statistical model that includes variables such as strategy, terrain, capabilities, and government type to explain the duration of war. However, their theoretical approach focuses exclusively on structural factors and fails to offer or consider the microfoundations of the decision to continue or stop fighting. Their theoretical framework focuses too much on structure, ignoring agency, and therefore offers no causal mechanism to explain war termination and decisions to continue or stop fighting. In summary, the theoretical (Bueno de Mesquita et al. 1999; Downs and Rocke 1994) and empirical (Bennett and Stam 1996) literature on war termination seems to be ready for an integration of perspectives, in which new theoretical arguments can flourish and be subjected to rigorous empirical tests.

## THEORY

In this section, I sketch a theoretical framework that specifies how the outcome of war combines with regime type to determine the domestic fate of political leaders.<sup>1</sup> The answer to this question lays the foundation for the answers to the second and third questions on the duration and costs of war. I specify how the answers to the three questions are linked in the next section on hypotheses.

The literature on the democratic peace usually distinguishes between only two regime types: democracies and autocracies. These types are then usually differentiated on the basis of their allegedly distinctive normative or institutional characteristics (Russett 1993; Schultz 1999; Bueno de Mesquita et al. 1999). I propose a different cut to distinguish regime types: the degree of repression employed by the leadership to

1. For a full discussion of the mechanisms that differentiate regime types, see Goemans (2000).

remain in power and the proportion of the populace that has access to the policy-making process. (These two variables are probably highly collinear because the more people are excluded from access, the more repression is needed; the more repression is available, the fewer people need to be given access.) Although these variables are theoretically continuous, empirically they yield three distinct ideal typical regimes: dictatorships, democracies, and mixed regimes.<sup>2</sup> Dictatorships are highly repressive and exclude most of the population; democracies do not repress and include the highest proportion of the populace. Mixed regimes, finally, use moderate repression and exclude a significant proportion of their populace from access. Reiter and Stam (1998) offer a somewhat similar typology, converted into a continuous measure.

The potential costs of an attempt to remove a leader from office are driven by two factors: the degree of repression employed by the current leader and the number of people joining in the attempt to remove him or her. In all regimes, the outcome of the war serves as a signal to coordinate the expectations of the people of the likelihood that others will join them in an attempt to remove the leader from office (Kuran 1991; Downs and Rocke 1994; Lohmann 1994; Hardin 1995). Thus, the more repressive the regime, the worse the outcome of the war has to be before enough people believe others will join in the attempt to remove the leader to make it worthwhile.<sup>3</sup> Although the degree of repression combines with the outcome of the war to largely determine when leaders lose power, the proportion of the populace excluded from access largely determines whether leaders suffer additional punishment once they have lost power. The more groups and the larger the proportion of the people excluded, the more people who have an incentive to punish the former leader severely to deter future attempts at exclusion (and take revenge for repression).

Dictators stay in power largely thanks to their effective repressive apparatus. They are therefore likely to lose power only if they lose a war disastrously and their repressive apparatus is significantly degraded. Once they lose power, however, dictators are highly likely to suffer severe additional punishment, such as death, imprisonment, or exile. New dictators have incentives to offer a scapegoat to the public; formerly excluded groups have incentives to harshly punish the former dictator to deter future aspiring dictators and similar flawed war policies, and both would like to prevent easy coordination of a potential opposition around the former leader. (A prominent example is Mussolini's grisly fate.) Democrats, in contrast, stay in power by consent of the public; they do not repress. The public can therefore easily punish their leaders for failed war policies to deter future leaders from making similar mistakes. Democrats are therefore likely to lose power for even a small defeat. However, because democra-

2. One of the anonymous reviewers suggested a slightly different theoretical cut. We can differentiate leaders by their control over the state's coercive apparatus. This is high for dictators, medium for mixed regimes, and could be high or low for democracies. Democracies, however, differ from the other regimes in the institutionalization of the peaceful transfer of power from one leader to the next through elections. This lowers the costs of removing leaders but works only if the leaders do not expect severe punishment after they leave office.

3. Note the difference between these arguments and those offered by Stam (1996, 59-60, 96-97, 161-65). Stam argues, in contrast, that states that can effectively repress dissent will be able to continue fighting longer than states that are less effective at repressing dissent.

cies give all groups in society a chance to affect policy and become winners in the future, democrats are unlikely to suffer additional punishment unless they lose disastrously and then most likely at the hands of their foreign enemies (Przeworski 1991). Mixed regimes exclude a significant proportion of the population from access to the policy-making process but lack the repressive abilities of dictatorships. Thus, leaders of mixed regimes rely on the included groups (larger and more numerous than in dictatorships), occasional bribes to excluded groups, and mild to moderate repression to stay in power (Snyder 1991; Kaiser 1990; Weart 1994; see also Bueno de Mesquita et al. 1999). Because they lack the ability to harshly repress the domestic opposition, even a moderate defeat suffices to coordinate the opposition's expectations that an attempt to throw the old leadership out will be successful. As in the case of dictatorships, the formerly excluded groups and the new leadership have incentives to punish the former leader(s) severely, deter future attempts at exclusion, prevent coordination around the former leaders, and offer scapegoats. Therefore, leaders of mixed regimes live in the worst of both worlds, likely to lose power for even a moderate defeat and likely to then suffer severe additional punishment.

## HYPOTHESES

The theoretical framework sketched above explains the relationship between the outcome of the war and the postwar fate of political leaders in different regimes. In this section, I show that this relationship provides an explanation for the link between the duration of war and the losing state's regime type. From there, it is only a small step to explain why the costs of war for both winners and losers depend on the domestic regime type of the losing state.

The argument developed above explains why dictators and democrats face much harsher consequences when they lose a war disastrously than when they lose a war moderately. Leaders of mixed regimes, in sharp contrast, face similar dire consequences whether they lose a war moderately or disastrously. Hence the following hypothesis:

*Hypothesis 1:* Leaders of mixed regimes will suffer severe punishment whether they lose moderately or disastrously. Dictators and democrats are much more likely to suffer severe punishment when they lose disastrously than when they lose moderately.

This variation of the fate of leaders of the different regime types has profound implications for several important issues in international relations. By backwards induction, the anticipation of their differential fates for different outcomes affects the decisions of leaders of the different regimes to continue or terminate war, the costliness of war, and potentially also decisions to participate in wars in the first place. First, during war, when leaders of mixed regimes estimate they will probably lose the war, they have little incentive to settle on moderately losing terms.<sup>4</sup> As long as there remains a

4. For a different explanation for how leaders decide they are losing, see Bennett and Stam (1998).

small likelihood of winning the war, leaders of mixed regimes will instead choose to continue the war in a gamble for resurrection. Such gambles would be extremely risky for dictators and democrats because they face a much higher probability of severe punishment if they continue fighting and lose worse than they would if they settle on moderately losing terms.

*Hypothesis 2:* Wars with losing mixed regimes last longer than wars with other types of losers.

Second, because leaders of mixed regimes continue a war to avoid punishment whereas the other regimes would settle on moderately losing terms, their states will suffer higher costs of war. Third, because leaders of mixed regimes continue a losing war, they will force their enemies to also continue fighting. States that fight losing leaders of mixed regimes therefore also suffer higher costs of war than states that fight other losers.

*Hypothesis 3:* Losing mixed regimes and their opponents suffer higher costs of war.

As laid out above, these hypotheses are deductively linked. The explanation of the link between regime type, war outcome, and the postwar fate of leaders straightforwardly led to an argument about the link between the losing state's regime type and war duration. This, in turn, led to a straightforward deduction about regimes of the dyad at war and the costs of war. Although we cannot test these hypotheses in one overall model, they clearly build on each other.

## VARIABLES AND DESIGN

To test the hypotheses presented above, I employ two different data sets. The first is a new data set on the postwar fate of leaders that also contains data on war participants' battle deaths per 10,000 population. To examine the hypothesis on the duration of war, in the second section, I reanalyze the data set developed and analyzed by Bennett and Stam (1996) in their recent *American Political Science Review* (APSR) article. To test the hypothesis about the costs of war, I return to the first data set that contains data on battle deaths. Because I focus on three different dependent variables—the postwar fate of leaders, the duration of war, and the costs of war as expressed in battle deaths—I discuss each dependent variable and its appropriate estimator in turn below. Next, I turn to the independent variables.

*Dependent Variable 1: The fate of leaders.* The unit of analysis for the postwar fate of leaders is the leader who initiates a war. The war data are taken from the Correlates of War (COW) data set as reported in Small and Singer's *Resort to Arms* (Small and Singer 1982, 1984). This data set reports all wars between 1816 and 1975 with at least 1,000 battle-related fatalities and identifies the initiators, winners, and losers. A careful look quickly reveals that the COW project was not constructed with questions

about war termination in mind. For example, the COW project codes the war between Japan and China as starting in 1937 and ending December 7, 1941, and a new war, the Pacific War, starting December 7, and ending in 1945. Following Dupuy and Dupuy's (1993) descriptions and chronologies of wars, I recoded this as a single war, beginning in 1937 (for China and Japan) and ending in 1945. From this data set, I eliminated the cases in which there was no clear-cut winner as coded in COW, that is, the participants in the Korean War. This left me with 215 observations.

I hypothesized that leaders in different regime types can face different degrees of punishment. To construct an indicator of the postwar fate of leaders, I therefore need information on the effective leadership, their entry and exit from power, and their fate when they lost power. For each participant in a war, I coded who the effective leader was when the war started, when the war ended, and 1 year before the war ended. For each country, I consulted the historical secondary literature to locate the person who held ultimate authority and was held accountable. In some cases, effective authority was held by more than one person.<sup>5</sup> If a prime minister largely made policy but could be dismissed by a king or queen at his or her will, I coded the monarch as the effective ruler. If the monarch had the nominal right to remove the prime minister, but in effect the prime minister ruled and the monarch was unable to remove him or her, the prime minister was coded as the effective ruler. In addition, I coded each leader's date of entry and exit from power. Finally, I coded whether the leader met a natural death or was punished (i.e., killed, exiled, or imprisoned) within the period 1 year before the war ended to 1 year after the war ended.<sup>6</sup> For the analysis of the fate of political leaders, I dropped the six cases in which leaders died a natural death.

From these data, I construct a binary dependent variable that focuses on punishment. It is 1 when the leader is removed from power and suffers additional punishment

5. In only one case did I encounter significant difficulties coding the effective leader: Japan between 1931 and 1945. I did not code the emperor as the effective leader because he did not set policy, nor did he appoint or dismiss prime ministers. But neither could I code the prime ministers as the effective leaders because they were assassinated, almost at will, by radical army officers. Moreover, the assent of the army council was required to form a cabinet in the first place. Without an army minister, no cabinet could form. Although less than satisfactory, I coded the effective leadership of Japan between 1931 and 1945 as the army council, consisting of six members. After the Pacific war, all leaders, except the emperor, of course, were punished. To test for its effects, I also coded the prime minister as the effective leader of Japan between 1931 and 1945. The results are not substantively different.

6. This information was collected from a variety of sources, including Spuler (1977), *Webster's New Biographical Dictionary* (1983), Bienen and van de Walle (1991), *The New Encyclopedia Britannica* (1973), *Encyclopedia Britannica* (1966), *The Encyclopedia Americana* (1987), *Worldmark Encyclopedia of the Nations* (1976), the Country Studies/Area Handbooks published by the Foreign Area Studies (various years), Seton-Watson (1982), and Legg (1969). As always, there will be some cases that are difficult to interpret. For example, during the Franco-Mexican War of April 1862 to February 1867, the French put Maximilian on the Mexican throne in 1864. He was executed in June 1867. He was the representative of the French government, but the French government back home suffered no punishment. Hence, the French leader at the time (Napoleon III) is coded as not removed from power or punished. Yayha Khan, effective leader of Pakistan before and during the 1971 war between India and Pakistan/Bangladesh, was kicked out of the presidency and the army and placed under house arrest. He was coded as punished. For some of the longer wars, it would be essentially incorrect to focus just on the leader at the start of the war. For example, Emperor Franz Joseph of Austria-Hungary died in 1916. His son Emperor Charles took over and after the defeat fled in 1918. It would be incorrect to classify this case as merely a natural death, and the leader of Austria-Hungary was coded as punished in World War I.



and 0 otherwise. Because this is a binary dependent variable, it is appropriate to use a logit model (Aldrich and Nelson 1984).

*Dependent Variable 2: The duration of war.* For the second hypothesis, the dependent variable is the duration of war in months. This variable comes from the data set developed and analyzed by Bennett and Stam (1996) in their recent *APSR* article. As in their model 5 (p. 249), the unit of analysis is the war. I use the “time-invariant covariate” model because it would be prohibitively expensive to code for each year each side’s expectations about the outcome of the war.<sup>7</sup> Bennett and Stam analyze 77 wars between 1816 and 1985. These 77 wars contain two wars, World War II and the Vietnam War, which they split up into multiple wars. For example, World War II is broken up into 12 separate wars, including the German-Polish, German-Belgian, Pacific, Western, and Eastern wars. I dropped 6 of these 12 separate wars in World War II—the German-Belgian, German-Netherlands, German-Danish, German-Norwegian, German-Greek, and German-Yugoslav wars—because they clearly were part of the larger conflagration. We therefore are left with 71 observations. As Bennett and Stam note, the duration data come from the COW data set, which they updated with information from Clodfelter (1992), Dupuy and Dupuy (1986), and Langer (1980).

As Bennett and Stam (1996, 244) note, the appropriate method of analysis for the duration of war (and duration of events in general) is a hazard model. For the easiest comparison of our respective results, I use the same estimator they used—a Weibull specification, which allows for positive, negative, or no duration dependence.

*Dependent Variable 3: The costs of war.* For the third hypothesis, the dependent variable is the costs of war, and the unit of analysis is country/war. I operationalized the costs of war as battle deaths per 10,000 population. The data on battle deaths come again from the COW data set of wars between 1916 and 1975. The data on battle deaths were checked against the fourth edition of Dupuy and Dupuy’s (1993) *Encyclopedia of Military History*. Where there was substantial disagreement and Dupuy and Dupuy offered precise numbers, I used the latter’s figures. This resulted in only a handful of corrections.

Because the dependent variable is bounded at zero and probably highly dispersed, I employed a negative binomial regression (King 1989, 48).<sup>8</sup>

## INDEPENDENT VARIABLES FOR DEPENDENT VARIABLE 1: THE FATE OF LEADERS

*Regime type.* For the first hypothesis on the postwar fate of leaders, I need indicators of regime type and outcome of the war. As is customary by now, the regime type data

7. I do this, however, for one war in Goemans (2000).

8. I also ran an ordinary least squares (OLS) regression, with a logarithmic transformation of the dependent variable:  $\ln(\text{battle deaths per } 10,000 \text{ population} + 1)$ .

were taken from the May 1996 version of Ted Robert Gurr's POLITY III (Jagers and Gurr 1996).<sup>9</sup> The POLITY III data set offers one coding per year for each country. If there was a change in the regime type at the end of the year, the coding for this country for that whole year reflects the new regime type. Therefore, to accurately capture the regime type at the start of the war, I also recorded the regime type 1 year before the war started. Next, I examined whether there was a regime change in the year the war started and whether that change occurred before or after the war started. If a regime change occurred in the same year but after the war started, I classified the regime type at the start of the war by using the POLITY III coding for the previous year. (Cyprus's regime score before the 1974 Turko-Cypriot conflict is coded as missing because the leadership came to power 5 days before the war by a coup.) There are 12 observations in the set for which the data on regime type were missing, including France in the Franco-Mexican War; Mecklenburg-Schwerin; Hesse Grand Ducal; Hesse Electoral and Hanover in the Seven Weeks War; Germany in the Franco-Prussian War; Greece in the war of 1919 with Turkey, Ethiopia, Italy, and Bulgaria after they switched sides in World War II; Israel in 1947; and Cyprus in 1974. Although France's regime type in 1862 was coded as missing in POLITY III, additional research allowed me to interpolate the coding of France in 1862 as a dictatorship.<sup>10</sup>

To construct indicators for the three regime types, I first created a composite indicator of regime type by subtracting the POLITY III autocracy index from the democracy index to produce a variable that ranges from 1 to 21. This composite index thus captures the four components used in both the democracy and autocracy indexes, openness of executive recruitment, competitiveness of executive recruitment, competitiveness of participation, legislative constraints on the executive, and a fifth component from the autocracy index, the regulation of participation. The composite index for autocracy and democracy seems a good first approximation of the number of groups that have access to the policy-making process. The higher a country scores on the autocracy index, the higher the proportion of people it is likely to exclude from access to power. Likewise, the higher a country scores on the democracy index, the higher the proportion of people who have access to power. Because repression and the number of groups excluded from power are probably highly collinear, this scale is a good indicator for the variables that determine regime type. It also has the advantage of being well known and widely used.

Next, I constructed three dummy variables for each of the three regime types: democracies, mixed regimes, and dictatorships. (As will become clear below, using dummies makes it much easier to test whether leaders of different regime types faced a significantly different fate when they lost small than when they lost big.) Countries that

9. See Gurr, Jagers, and Moore (1989) and Jagers and Gurr (1996).

10. The autocracy and democracy scores for France are coded as -88 between 1860 and 1862; in 1860, France scored -8 on the autocracy index and 0 on the democracy index; and in 1863, France scored -6 on the autocracy index and 0 on the democracy index. For both of these years, thus, France would be a dictatorship. I coded France in 1862 as a dictatorship because the institutional structure remained largely unchanged between 1860 and 1862, with the possible exception of a marginal change in the allocation of financial responsibility to the chamber on 31 December 1861. See Plessis (1985, xi, 151-58, esp. 15-57).

score 18 or higher on the composite indicator are coded as democracies, countries that score from 7 to 17 are coded as mixed regimes, and countries from 1 to 6 are coded as dictatorships. (I discuss the robustness of this specification below.)

*The outcome of war.* To test how different outcomes of wars affect the fate of domestic political leaders, we need data about the overall outcome of the war for each country. I know of no data that readily provide the overall outcome of the war, weighing benefits and costs in similar units. To develop indicators for the outcome of the war, I focus on winners and losers and the size of a loss for losers. (Below, I will discuss some of the regrettably unavoidable shortcomings of this choice.) The COW data code only whether each country was a winner or loser.<sup>11</sup> There are, however, some problems with the codings in the COW data set. The COW project codes both the date a war ended and the outcome of the war. Sometimes, however, this leads to internal contradictions. For example, Yugoslavia and Greece are coded as winners in World War II, although for both of them, the war is coded as ending in 1941. I chose, for obvious reasons, to focus on the end date and to recode Greece and Yugoslavia as losers.

To develop an indicator to differentiate moderate losses from big losses, I rely on the corrected war lethality data. The COW project lists for each nation its battle deaths per 10,000 population. This measure is particularly attractive because it is consistent across time and insensitive to the size of a nation's population. Because these data are highly skewed, I used a logarithmic transformation.<sup>12</sup> This variable was used to distinguish small losers from big losers. If a country lost a war and suffered more than one standard deviation above the mean of the natural log of battle deaths per 10,000 population, it was coded as a big loser. If a country lost a war but suffered fewer battle deaths, it was coded as a small loser.<sup>13</sup> This produced three dummy variables: winner, small loser, and big loser.

*Outcome  $\times$  Regime Type.* To construct indicators for how the outcome of war affected the fate of leaders of different regime types, I interacted the dummy outcome variables for small loser and big loser with the regime type dummy variables. This initially produced six independent variables: Democracy  $\times$  Small Loser, Dictatorship  $\times$  Small Loser, Mixed Regime  $\times$  Small Loser, Democracy  $\times$  Big Loser, Dictatorship  $\times$  Big Loser, and Mixed Regime  $\times$  Big Loser.<sup>14</sup>

11. The Correlates of War (COW) codings for the outcome of war are unavoidably subjective. A better measure would be to compare the outcome relative to prewar expectations and demands. See Lake (1992), Stam (1996), Wagner (2000), and especially Goemans (2000).

12. Bueno de Mesquita, Siverson, and Woller (1992).

13. Although most big losers lost "big wars," such as World Wars I and II, there were a fair number of big losers from other conflicts, most prominently Francisco Solano Lopez, the leader of Paraguay in the 1871 Lopez War. I tried other modifications of this operationalization to distinguish small losers from big losers; again, the results were not significantly different.

14. States that were coded as losing mixed regimes, the year they entered the war, and the fate of their leaders are listed below. (The full data set is available on the Web.)

*Overthrow by foreigners.* I add one control variable to capture the potential for punishment of domestic political leaders by outside foreign forces. Leaders of regimes overthrown by foreign forces are especially likely to suffer punishment (i.e., above and beyond their removal from office). First, foreigners are likely to be able to overthrow the complete regime only after they have disastrously defeated the regime, and disastrous defeats should lead to such severe punishment by domestic forces in all regimes. Second, the foreigners have strong incentives to prevent coordination around the former leaders and to try to deter others from such costly foreign adventures. Third, both the domestic opposition and members of the previous regime face strong incentives to offer a scapegoat to their conquerors. Two existing separate data sets contain data on leaders who have been overthrown by foreign intervention. From these data sets, I constructed two dummy variables for leaders overthrown by foreign intervention. The first data set was constructed and analyzed by Bueno de Mesquita, Siverson, and Woller (1992, 641); I added codings for countries they had excluded. A second data set, constructed and analyzed by Werner (1996, 84), offers a slightly different operationalization of foreign-imposed regime changes. To check for robustness, I ran separate regressions with each dummy.

<i>Small Losers (War Entry)</i>	<i>Leader's Fate</i>	<i>Big Losers (War Entry)</i>	<i>Leader's Fate</i>
Guatemala (1885)	Out and punished	Bolivia (1932)	Out
Honduras (1906)	Out and punished	Germany (1914)	Out and punished
Honduras (1907)	Out and punished	Finland (1939)	Out
France (1870)	Out and punished	Finland (1941)	Out and punished
Spain (1898)	In power	Turkey (1914)	Out and punished
Yugoslavia (1941)	Out and punished	Japan (1937)	Out and punished
Denmark (1864)	In power	Japan (1939)	In power
Turkey (1911)	Out and punished		
Turkey (1912)	Out and punished		
Egypt (1948)	In power		
Syria (1948)	Out and punished		
Lebanon (1948)	In power		
Republic of Korea (1965)	In power		
Pakistan (1971)	Out and punished		
Philippines (1966)	In power		

Although six leaders of mixed regimes that lost small stayed in power, two of them, Marcos of the Philippines and Park of the Republic of Korea, successfully turned their regimes into dictatorships a year before the Vietnam War ended. As dictators, we would expect them to remain in power after a moderate defeat. Among the leaders of mixed regimes that lost big, President Salamanca of Bolivia was overthrown by a prowar military coup about 6 months before the war ended. He was detained for 5 days before he voluntarily retired to the countryside to write his memoirs in isolation and died a natural death 1 month after the war ended. Because he agreed to cooperate and make a statement to transfer power "peacefully" to prevent civil war in the face of an external war and his extremely short detention, he was not coded as punished. Less than 1 year after the war ended, a coup turned Bolivia into a dictatorship. Japan's leaders stayed in power after Japan's defeat at Nomohan in 1939. Although this defeat had extremely important consequences, the leadership's ability to stay in power should not be surprising, given their apparent successes in China proper.

## INDEPENDENT VARIABLES FOR DEPENDENT VARIABLE 2: THE DURATION OF WAR

To test the second hypothesis on the duration of war, I relied on the independent variables used by Bennett and Stam (1996).<sup>15</sup> Bennett and Stam offer a model of the duration of war that incorporates both realpolitik and domestic political variables. Their main realpolitik variables focus on strategy, terrain, the balance of capabilities, total military capabilities, population size, quality of the military, surprise, and the salience of the issue. Their domestic political variables focus on both sides' ability to repress (based on their combined score on POLITY II's "competitiveness of participation") (Gurr 1990). With an eye on the democratic peace, they look at how democratic both sides at war were (based on their combined POLITY II's democracy score). Two final control variables about the history of conflict between the belligerents and the number of actors involved complete their model.

Bennett and Stam (1996) code strategy as a set of dummy variables that distinguishes nine possible strategies in ascending order of expected increased duration: offensive maneuver, defensive maneuver (OMDM); offensive maneuver, defensive attrition (OMDA); offensive attrition, defensive maneuver (OADM); offensive attrition, defensive attrition (OADA); offensive maneuver, defensive punishment (OMDP); offensive punishment, defensive maneuver (OPDM); offensive attrition, defensive punishment (OADA); offensive punishment, defensive attrition (OPDA); and offensive punishment, defensive punishment (OPDP). Of these nine strategies, they include only OADM, OADA, OADP, and OPDA as dummies in the final analysis. However, the full nine are incorporated in the interaction term with terrain. Table 1 lists Bennett and Stam's independent variables and hypotheses about their effect on the duration of war.

Note that Bennett and Stam's (1996) hypotheses about regime type are supposed to hold for the combined score of all participants involved in the war. We therefore cannot infer that democracies fight longer or shorter wars. We can only infer that as the democracy score of the combination of all participants increases, wars would tend to be shorter. The substantive implications for individual regime types may well be difficult if not impossible to assess.

*Mixed-regime loser.* I add one dummy variable to their independent variables: Was the loser a mixed regime? Because there were often several losers in multilateral wars, I focused on the main target (that state is not necessarily the strongest of the losers). The regime type coding as a mixed regime was by the same criteria as laid out above in the paragraph on regime type in the section on independent variables on the fate of leaders.<sup>16</sup>

15. The complete data set is available from Scott Bennett's Web site: <http://www.personal.psu.edu/faculty/d/s/dsb10/data.html>.

16. The wars with a mixed-regime loser were the following: Mexican-American (1846), Second Schleswig-Holstein (1864), Seven Weeks (1866), Franco-Prussian (1870), Pacific (1879), Central American (1885), Spanish-American (1898), Central American (1906), Central American (1907), Italo-Turkish

TABLE 1  
Bennett and Stam's (1996) Variables and Their Effect on the Duration of War

<i>Independent Variables</i>	<i>Hypothesized Effect on the Duration of War</i>
<b>Realpolitik</b>	
Strategy: OADM, OADA	Wars in which one or both sides use a maneuver strategy will be the shortest.
Strategy: OADP, OPDA	Wars in which one or both sides use a punishment strategy will be the longest.
Terrain	Wars on flat, open terrain will be shorter than those fought on inhospitable terrain.
Terrain $\times$ Strategy	Wars fought with a strategy appropriate to the terrain will be shorter.
Balance of forces	The greater the imbalance of the two sides, the shorter the war.
Total military personnel (in millions)	The greater the total military forces involved in a war, the longer the war.
Total population (in billions)	The greater the total population forces involved in a war, the longer the war.
Population ratio	The greater the disparity in the size of the opposing countries' populations, the shorter the war.
Quality ratio	The greater the difference in the two sides' military quality, the shorter the war.
Surprise	If a state achieves strategic surprise, then the war will be shorter.
Salience	The more salient the issue at stake, the longer the war.
<b>Regime</b>	
Repression	Highly repressive states will select risky wars that are likely to end quickly.
Democracy	The more democratic the states involved, the shorter the war.
<b>Other approaches</b>	
Previous disputes	The more numerous the previous disputes between states, the longer the war.
Number of states	The more states involved in a war, the shorter the war.

NOTE: OADM = offensive attrition, defensive maneuver; OADA = offensive attrition, defensive attrition; OADP = offensive attrition, defensive punishment; OPDA = offensive punishment; defensive attrition.

### INDEPENDENT VARIABLES FOR DEPENDENT VARIABLE 3: THE COSTS OF WAR

The hypothesis on the costs of war will be tested with the same data set constructed to analyze the postwar fate of leaders.

*Loser regime type.* The independent variables are the three dummies for the three regime types interacted with another dummy for loser. Hence, the first three independent variables are Democracy  $\times$  Loser, Dictatorship  $\times$  Loser, and Mixed Regime  $\times$  Loser.

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(1911), First Balkan (1912), World War I (1914), Russo-Polish (1920), Chaco (1932), Sino-Japanese (1937), Changkufeng (1938), German-Czech (1938), Nomohan (1939), Russo-Finnish (1939), United States-Japan (1941), Palestine (1948), Vietnamese I (1963), Footbal (1969), Bangladesh (1971), and Vietnamese II (1975).

TABLE 2  
Dependent Variable 1: The Outcome of War and the Fate of Leaders

Type/Outcome	Win	Lose Moderately	Lose Disastrously
Democracy	Stay in power	Out of power	Out and punished
Mixed regime	Stay in power	Out and punished	Out and punished
Dictatorship	Stay in power	Stay in power	Out and punished

*Opponent of losing mixed regime.* I argued that mixed regimes do not want to settle but continue fighting when they estimate they will probably lose. Because their opponents are therefore likely to estimate they will win, no bargaining space will exist, and both sides prefer to continue fighting rather than settle on the opponent's terms. This implies that I should also control for the battle deaths of countries that were fighting against a losing mixed regime and thereby forced to continue fighting and suffer higher battle deaths as well. I constructed a dummy variable for whether a country fought and won against a losing mixed regime by coding the regime type of each winner's main opponent. This dummy is coded 1 if the winner's main opponent is a losing mixed regime (operationalized as described previously) and 0 otherwise.<sup>17</sup>

*Duration of war.* Because the duration of war obviously affects the number of battle deaths, I controlled for the number of months of war.

RESULTS

In this section, I test the three hypotheses on how the outcome of war affects the postwar fate of leaders of different regimes, the duration, and the costs of war. I begin with dependent variable 1, the postwar fate of leaders of the three different regime types. Table 2 lists the hypothesized consequences of the outcome of war by regime type. For purposes of war termination, the crucial distinction is what happens to the leaders in different regime types when they lose the war moderately.

My central claim is that leaders of mixed regimes will be punished whether they lose moderately or disastrously. Dictators and democrats, in contrast, are likely to be punished only if they lose disastrously. Therefore, for leaders of mixed regimes, the difference between losing moderately or losing disastrously affects the probability of punishment much less than for dictators and democrats. Moreover, whereas democrats are hypothesized to be likely to lose power when they lose moderately, dictators are likely to stay in power. Table 3 examines these predictions and reports on the combination of regime type, outcome of the war (i.e., win, lose small, or lose big), and the

17. Because I assume each country can independently decide whether to continue or drop out of the war, it would be incorrect to also include a variable for a losing country that is fighting on the side of the losing mixed regime.

TABLE 3  
Dependent Variable 1: Regime Type, Outcome of the War, and Consequences

Type/Outcome	<i>In Power</i>		<i>Out of Power</i>		<i>Punished</i>		<i>Total</i>	
	%	(n)	%	(n)	n	(% of Out)	%	(N)
Democracy winners	69	(20)	31	(9)	1	(11)	15	(29)
Democracy small losers	14	(1)	86	(6)	2	(33)	4	(7)
Democracy big losers	0	(0)	100	(1)	1	(100)	1	(1)
Mixed-regime winners	74	(23)	26	(8)	3	(38)	16	(31)
Mixed-regime small losers	54	(13)	46	(11)	11	(100)	12	(24)
Mixed-regime big losers	10	(1)	90	(9)	7	(78)	5	(10)
Dictator winners	85	(34)	13	(5)	2	(40)	20	(39)
Dictatorship small losers	63	(31)	37	(18)	15	(83)	25	(49)
Dictatorship big losers	25	(2)	75	(6)	6	(100)	4	(8)
Total	63	(125)	37	(73)	48	(66)		(198)

NOTE: Pearson  $\chi^2(8) = 38.5$ ,  $Pr = 0.000$ ; Pearson  $\chi^2(8) = 51.1$ ,  $Pr = 0.000$ .

consequences for the leaders within the period 1 year before the war ended to 1 year afterward.

Thus, 69% of all democratic leaders who won a war remained in power. Of all the democratic leaders who won a war, 31% nevertheless lost power. (In-power and out-of-power percentages sum to 100%; all columns sum to 100%.) To interpret the punished column, it is important to remember that all leaders who were punished (e.g., exiled, imprisoned, or killed) of course first lost power. Therefore, the two leaders of democracies who won the war but lost power and suffered additional punishment represent 3% of all democracies that won but 11% of the democratic winners that lost power. (Democratic losers rarely were executed; most lost during World War II and fled in exile.)

It is of course troubling that there are so many cells with a very small number of observations. Especially with regard to democracies, therefore, any conclusions must be tenuous. With these caveats in mind, it is nevertheless striking that, as predicted, whether they won, lost small, or lost big, dictators were far more likely to stay in power than leaders of mixed regimes who, in turn, were more likely to stay in power than democrats. Moreover, for leaders who lost power, the likelihood of severe additional punishment does not seem to differ much between dictators and leaders of mixed regimes.

We now turn to the central hypothesis of this article—hypothesis 1 (leaders of mixed regimes are likely to lose power and suffer additional severe punishment whether they lose moderately or disastrously). Dictators and democrats are only likely to suffer severe punishment when they lose disastrously. Recall that punishment is coded as 1 if a leader lost office and was exiled, imprisoned, or killed in the period 1 year before to 1 year after the war ended and 0 otherwise. I ran the logit regression with both indicators of overthrow by foreigners. The first indicator of regimes overthrown by the foreign enemy perfectly predicts punishment. In model 1, I therefore dropped



TABLE 4  
Dependent Variable 1: Regime Type,  
the Outcome of War, and the Likelihood of Punishment

<i>Death, Imprisonment, or Exile</i>	<i>Model 1</i>		<i>Model 2</i>	
Other small loser	.895	(.661)	1.58***	(.554)
Other big loser	3.33***	(1.02)	3.11***	(1.02)
Mixed-regime small loser	2.66***	(.623)	2.48***	(.622)
Mixed-regime big loser	3.21***	(.891)	3.03***	(.893)
Regime overthrow by foreigners	—		3.06***	(.702)
Constant <sup>a</sup>	-2.92***	(.459)	-2.93***	(.444)

NOTE: All tests two-tailed. Model 1: Logit estimated: log likelihood = -59.09;  $\chi^2(4) = 32.67$ ;  $p > \chi^2 = .0000$ ;  $n = 176$ . Model 2: Logit estimated: log likelihood = -71.75;  $\chi^2(5) = 78.07$ ;  $p > \chi^2 = .0000$ ;  $n = 198$ .

a. The constant picks up the winners, and the coefficients for the other variables must be interpreted against this baseline.

\*\*\* $p < .01$ .

those cases. I also ran the regression with a second (Werner's) indicator for foreign-imposed regime change (Werner 1996, 84). Because in 3 of her 24 instances of foreign-imposed regime changes the leader was not removed from power, the variable no longer perfectly predicted the postremoval fate of leaders and could thus be included in the regression. Model 2 therefore reports the results for the regression that includes Werner's indicator for foreign-imposed regime change.

Furthermore, I postulated that mixed regimes were fundamentally different from the other two regime types. I argued that both dictators and democrats should expect basically the same low likelihood of exile, imprisonment, or death when they lose small and the same high likelihood of such severe punishment when they lose big. Therefore, I reduced the classification of regime types to two variables: mixed regimes and other regimes. This coding also partially alleviates the low-cell frequency problems that especially plagued democracies. Additional tests reported below reveal that this did not artificially distinguish mixed regimes from dictatorships. The logit model reveals the postulated effects of regime type, losing big or small, and regime change by foreign intervention on the likelihood of punishment. Because of the nature of the independent variables, it was necessary to leave one outcome—winning, losing small, or losing big—out of the estimation of the model. The effect of the omitted variable—in this case, winning—is then contained in the constant. The results are reported in Table 4.

Table 4 is fully consistent with my expectations and supports hypothesis 1. The results of model 1 show that for the other regimes, the probability of being punished by their domestic opponents when they lost small was only about 19%. When they lost big, however, they faced a 75% chance of being punished. Mixed regimes that lost small faced a whopping 55% chance of being punished by their domestic opponents and a 72% chance if they lost big. It will hardly be a surprise that mixed-regime small losers and other small losers were significantly different ( $p < .0027$ , all one-tailed

TABLE 5  
 Dependent Variable 1: Marginal Effects on P (punishment)  
 (other variables held at their means, in percentages)

<i>Regime Type and Outcome of the War</i>	<i>Model 1</i>		<i>Model 2</i>	
	<i>IV at 0</i>	<i>IV at 1</i>	<i>IV at 0</i>	<i>IV at 1</i>
Other small loser	9	19	12	40
Other big loser	10	75	16	81
Mixed-regime small loser	8	55	14	66
Mixed-regime big loser	9	72	16	79
Regime overthrown by foreigner	—	—	13	77

tests). Crucially, mixed-regime small losers and mixed-regime big losers were not significantly different ( $p < .26$ ), whereas other small losers and other big losers were significantly different ( $p < .009$ ). Mixed-regime big losers and other big losers were not significantly different ( $p < .46$ ).

Model 2 includes the variable for regime overthrow by foreigners; its results were not substantively different. As before, mixed-regime small losers and other small losers were significantly different ( $p < .05$ ). Mixed-regime small losers and mixed-regime big losers were not significantly different ( $p < .27$ ), whereas other small losers and other big losers were significantly different ( $p < .06$ ). Mixed-regime big losers and other big losers were not significantly different ( $p < .47$ , again all one-tailed tests). Table 5 lists the marginal effects of models 1 and 2.

In model 1, the baseline probability of punishment with all variables held at their mean is about 11%; in model 2, it is 18%.

I performed several specification checks. First, I examined how sensitive these results were to the cutoff points used to specify regime types. I multiplied the full composite regime type indicator (POLITY III's democracy-autocracy scores) and its square with the variables for big and small losers. Regressing these four variables on punishment showed the expected curvilinear effect for both small and big losers. Because it was more complicated to test whether the likelihood of punishment differed significantly for small and big losers across regimes, I constructed a host of additional dummy variables. Analysis showed that the crucial thresholds for the three different regime types lay at composite indicator scores of 6 and 18. Different codings within that range all yielded substantively the same results as above. Once I coded mixed regimes outside that range, however, the results no longer held.

Second, it could be argued that collapsing democrats and dictators into one category, other regimes, unduly influenced these results because democracies were unlikely to be punished in the first place. I dropped all democracies and ran the regression with only mixed regimes and dictatorial regimes. The results are again very similar. Among small losers, leaders of mixed regimes were significantly more likely to suffer punishment than dictators ( $p < .004$ , all one-tailed tests). The likelihood of punishment was again not significantly different for mixed-regime small losers and

TABLE 6  
Regime Types and the Size of Loss

Type/Outcome	Small Loss		Big Loss		Total	
	%	(n)	%	(n)	%	(n)
Democracy	86	(51)	14	(8)	58	(59)
Mixed regime	71	(24)	29	(10)	33	(34)
Dictatorship	89	(8)	11	(10)	9	(9)
Total	81	(83)	19	(19)	N = 102	

NOTE:  $\chi^2(2) = 3.9440$ ,  $Pr = .139$ .

mixed-regime big losers ( $p < .26$ ), but the likelihood was significantly different for dictator small losers and dictator big losers ( $p < .01$ ). Finally, among big losers, leaders of mixed regimes were not significantly different from dictators ( $p < .46$ ).

Third, it might be argued that exile is not nearly as bad as imprisonment or death and that the inclusion of exiled leaders as punished unduly influenced the results. To check, I regressed the now-familiar independent variables on a new variable for leaders who were just imprisoned or killed. The same results held as before, whether I used my indicator or Werner's (1996) indicator for foreign-imposed regime change. Democrats and dictators were significantly more likely to be imprisoned or killed if they lost big than if they lost small. Leaders of mixed regimes were just as likely to be imprisoned or killed if they lost small as when they lost big. Fourth, one might anticipate that "defenders" would not suffer the same fate as "attackers." I therefore also checked whether the initial stance of the regime type influenced the results. The dummy variable for defender—both separate and as an interaction with regime type—was not significant and did not influence the results.<sup>18</sup>

Although these results look very encouraging, there exists a serious endogeneity problem: the outcome of the war is endogenous. Unfortunately, the endogeneity problem is unavoidable, cannot be solved in this case with simultaneous equations, and does not depend on how I construct my indicators for the size of the loss. I argued that leaders of mixed regimes anticipate the same fate whether they lose moderately or disastrously and, as a result, prefer to continue fighting rather than settle on moderately losing terms. If my arguments are correct, we should therefore expect to find evidence of a selection effect and significantly fewer moderately losing mixed regimes.<sup>19</sup> Table 6 examines whether leaders of mixed regimes are indeed more likely to be big losers.

As the table shows, mixed regimes do seem to suffer more big losses, but the significance is doubtful. Another way to get at this is to look at overall costs of war in battle deaths. I will return to this issue below, in the third section on the costs of war.

18. I do not control for initiation in the next section either because the goal is to replicate the Bennett and Stam (1996) hypotheses, adding the hypothesis about losing regime type.

19. Note, though, that settlement on moderately losing terms is rational if the domestic opposition has learned the war will probably be lost. See Goemans (2000).

## THE DURATION OF WAR

Turning now to dependent variable 2, the duration of war, some could take issue with Bennett and Stam's (1996) variables and hypotheses. However, I take them at face value for two reasons. First, their work is the most sophisticated and careful on the duration of wars to date. Second, the exclusion of some of their variables can of course alter the estimates of the hazard curve's shape. The fairest test is thus to test my (unconstrained) model against their (constrained) model. This will show whether and how much the inclusion of a variable for the regime type of the loser affects the duration of war.

Table 7 presents the results of two hazard analyses. Model 1 repeats the analysis of Bennett and Stam's (1996) model 5 (non-time-varying covariate model) but this time on the more limited population of 71 wars. Model 2 adds only the dummy variable whether the loser was a mixed regime. The dependent variable is the duration in months.

Compared with Bennett and Stam's (1996) findings, as reported in their *APSR* article, these results differ only marginally, with one exception. In these hazard analyses estimated with the smaller sample, the effect of the population ratio, terrain, surprise, and repression variables was reversed. Whereas Bennett and Stam originally found a positive coefficient for population ratio and terrain and negative coefficients for surprise and repression, in the models estimated here, the signs were reversed. For the first three variables, this is not surprising because the coefficients in the original article and in the regressions here are nowhere near significant. The reversal of the sign for repression is much more disturbing and interesting because Bennett and Stam list a negative coefficient significant at the .1 level. My finding here runs directly contrary to their hypothesis.

To examine whether the inclusion of the variable for combined repression affected the coefficient and significance of the losing leaders of mixed-regimes dummy, I dropped the repression variable and ran the hazard model again. Although this reduced the significance of many variables, it somewhat increased the significance and coefficient of the losing mixed-regime dummy. Further tests of model specification showed the biggest effect when the variable for terrain was dropped while maintaining the interaction variable between terrain and strategy. This interaction variable then became significant at the .01 level, and the significance of the losing mixed-regime variable increased slightly. I was not surprised to find that dropping the terrain variable made the interaction variable significant because it seems highly implausible that states would plan their strategy without taking terrain fully into account. Other manipulations showed the results to be quite robust, and the coefficient for losing mixed regime remained remarkably stable.

To examine whether the inclusion of the dummy for losing mixed regime added significant explanatory power, I performed a log-likelihood ratio test. The log-likelihood ratio statistic tests whether the inclusion of the dummy for the losing mixed-regime variable significantly improves the fit of the model to the data. Because this test has to be performed on the same data, I dropped the two observations for which data on regime type of the loser were missing. The inclusion of the losing mixed-regime vari-

TABLE 7  
Dependent Variable 2: Hazard Model  
Coefficient Estimates, Effects on the Duration of War

<i>Length (months)</i>	<i>Model 1 (constrained)</i>		<i>Model 2 (unconstrained)</i>	
Realpolitik				
Strategy: OADM	2.72	(.761)***	2.47	(.74)***
Strategy: OADA	2.74	(.706)***	2.45	(.674)***
Strategy: OADP	4.63	(1.83)***	4.05	(1.64)***
Strategy: OPDA	5.59	(3.07)**	4.88	(2.97)*
Terrain	-.505	(4.09)	-1.28	(3.99)
Terrain $\times$ Strategy	-.348	(1.06)	-.227	(1.03)
Balance of forces	-2.62	(1.23)**	-1.81	(1.28)*
Total military personnel	.393	(.119)***	.419	(.114)***
Total population	-.342	(.743)	-.08	(.736)
Population ratio	-.0025	(.017)	-.007	(.022)
Quality ratio	.0012	(.0017)	.0017	(.0017)
Surprise	-.186	(.592)	.216	(.61)
Salience	.435	(.261)**	.408	(.259)*
Regime				
Repression	.304	(.136)**	.275	(.133)**
Democracy	-.145	(.059)***	-.153	(.058)***
Losing mixed regime	—		.614	(.352)**
Other approaches				
Previous disputes	.023	(.058)	.012	(.055)
Number of states	-.163	(.09)**	-.184	(.092)**
Constant	.75	(1.29)	.527	(1.3)
$\rho$ (duration term)	1.0035		1.0358	
Ln $\rho$	.003	(.096)	.035	(.354)
Log likelihood	-112.53		-107.99	
$\chi^2(x)$	50.38		51.26	
Probability $> \chi^2$	0.0000		0.0000	
Number of wars	71		69	

NOTE: Standard errors in parentheses. Significance tests are one-tailed. OADM = offensive attrition, defensive maneuver; OADA = offensive attrition, defensive attrition; OADP = offensive attrition, defensive punishment; OPDA = offensive punishment, defensive attrition.

\* $p < .1$ . \*\* $p < .05$ . \*\*\* $p < .01$ .

able significantly improved the fit with a probability well below the .1 level ( $p < .088$ ), not bad for an  $N$  of 69. These results fit nicely with Bennett and Stam's (1998) recent article on war outcomes and duration. In this article, Bennett and Stam once again compare democracies and autocracies. They find that democracies appear to be willing to settle for draws and hence shorter outcomes, whereas autocrats tend to hold out for decisive outcomes. My theoretical arguments and findings go a long way to explain this intrawar selection mechanism.

To calculate how much fighting against a losing mixed regime affected the duration of war, I used the estimated coefficients of model 2 and set all other variables to values of a base case consisting of typical (mean or median) values on the other variables, as

TABLE 8  
Dependent Variable 3: Regime Type, Duration of War, and Battle Deaths

<i>Battle Deaths per 10,000 Population</i>	<i>Model 1 Negative Binomial</i>		<i>Model 2 Ordinary Least Squares</i>	
Losing democracy	.207	(.572)	-.282	(.508)
Losing mixed regime	1.46***	(.332)	.907***	(.303)
Losing dictatorship	1.04***	(.285)	.479*	(.255)
Opponent of a losing mixed regime	1.25***	(.327)	.876***	(.296)
Months at war	.055***	(.005)	.033***	(.004)
Constant	1.144***	(.216)	.962***	(.185)
ln alpha	.872***	(.093)		

NOTE: Regression estimates: Model 1: LR  $\chi^2(5) = 137.5$ ; probability  $> \chi^2 = .0000$ ; pseudo  $R^2 = .083$ ; alpha = 2.39 (.221); LR test of alpha  $\chi^2(1) = 29567.5$ ; probability  $> \chi^2 = 0.0000$ . Model 2:  $F(5, 198) = 18.65$ ; probability  $> F = .0000$ ; adjusted  $R^2 = .303$ ;  $n = 204$ .

\* $p < .1$ . \*\*\* $p < .01$ .

suggested by Bennett and Stam (1996).<sup>20</sup> Wars fought against other losers have an expected duration of 5.2 months; wars fought against losing mixed regimes, in contrast, have an almost double expected duration of 9.6 months. Hence, hypothesis 2 is supported: wars against losing mixed regimes lasted longer than other wars.

## THE COSTS OF WAR

This section examines dependent variable 3, the costs of war, and returns to the issue of whether mixed regimes lose worse than other regimes, as would seem to be implied by the possibility of selection effects. As described above, I used two different dependent variables and estimators to test whether losing mixed regimes and their opponents are forced to suffer higher costs of war. The first dependent variable is the number of battle deaths per 10,000 population; the second adds one and takes the natural log to reduce the considerable skewedness. The first model uses a negative-binomial estimator; model 2 uses ordinary least squares. The results are presented in Table 8.

As the alpha indicates, the data are indeed highly overdispersed, thus validating the choice for a negative binomial estimator. In both models, losing mixed regimes were significantly more likely to suffer higher battle deaths than losing democracies (model 1,  $p < .02$ ; model 2,  $p < .01$ ). The difference between losing mixed regimes and losing dictatorships is also supported (model 1,  $p < .10$ ; model 2,  $p < .08$ ). As expected,

20. The base case has strategy = OADA, balance of forces = 0.75, terrain = 0.34, Terrain  $\times$  Strategy = 0.68, number of states = 3, total population = 165 million, total military personnel = 2.4 million, population ratio = 2:1, quality ratio = 2:1, salience = 0, democracy = 6.1, repression = -5.0, surprise = 0.5, and past disputes = 0, with expected duration of 12.1 months. Detailed information can be found at Scott Bennett's Web page at <http://www.personal.psu.edu/dsb10>. Expected duration is then estimated as  $E[d|x_i] = \exp(B' \times x_i) \Gamma(1/\rho + 1)$ .

the regressions also show that opponents of losing mixed regimes suffer higher battle deaths than other winners. The difference between democratic and dictatorial losers was also significant (model 1,  $p < .07$ ; model 2,  $p < .06$ ), all for one-tailed tests. Hence, as expected, losing mixed regimes suffer and force their opponents to suffer higher costs of war.

## IMPLICATIONS FOR WAR INITIATION?

Although the thrust of this article focuses on post- and intrawar processes, the findings and arguments presented above seem to suggest implications for the study of war initiation. From a bargaining perspective, it might be argued that leaders of mixed regimes should be extremely reluctant to initiate war. However, it is not clear how this incentive plays out in prewar crisis bargaining. Perhaps threats by leaders of mixed regimes are less credible, but perhaps leaders of other regimes will be tempted to make harsher demands. As Schultz (1998, 1999) has shown, it all depends on the strategic structure of the interaction between antagonists before war. Alternatively, by a logic similar to the one developed here, leaders of mixed regimes might be more prone to gamble during crises or more prone in general to engage in diversionary wars. This would fit the findings of Reiter and Stam (1998) that mixed regimes appear quite risk acceptant and lose more often than not when they start wars. It could also be argued that other regimes should prefer to avoid fighting mixed regimes because defeating such regimes is more costly. This would imply that mixed regimes should be less likely to be targets. However, as argued above, other regimes may be tempted to target mixed regimes in the anticipation they prefer not to escalate to risky war. Thus, arguments can be offered that mixed regimes should be less likely to be dispute initiators, less likely to be dispute targets, or less likely to be involved in disputes altogether. Unfortunately, it is not possible here to theoretically specify which of these effects should dominate.

Although I lack the space to perform a full-scale test, I offer some preliminary evidence to examine these arguments. I use Maoz's dyadic militarized interstate disputes data set, which contains information on the role—primary initiator, primary target, or joiner—of each participant.<sup>21</sup> This dyadic data set was converted to a monadic data set and merged with POLITY III (McLaughlin et al. 1998; Jones, Bremer, and Singer 1996). Table 9 reports the relationship between regime type and dispute role for all dispute participants.

Table 9 shows that there exists no simple and straightforward relationship between the leader's regime type and dispute role. Leaders of mixed regimes are about as likely to be targets as initiators but relatively unlikely to join in ongoing disputes. Democrats seem more likely to be targets, and dictators seem more likely to be initiators. A full examination whether and, if so, how the consequences, cessation, and conduct of war play a role in the causes of war initiation must be postponed.

21. Downloaded from <http://spirit.tau.ac.il/~zeevmaoz/>. Many thanks are due to Giacomo Chiozza for his outstanding work in preparation of this data set.

TABLE 9  
Regime Type and Dispute Role

Regime Type	Role						Total
	Initiator, % (n)		Target, % (n)		Joiner, % (n)		
Democracy	40	(517)	48	(615)	12	(148)	1,280
Mixed regime	47	(525)	45	(506)	8	(87)	1,118
Dictatorship	49	(1,019)	41	(852)	10	200	2,071
Total	46	(2,061)	44	(1,973)	10	(435)	4,469

NOTE: Pearson  $\chi^2(4) = 31.3$ ; probability = 0.000.

## CONCLUSION

This article has presented three main arguments and findings. First, it explained and demonstrated that leaders of different regimes can expect a radically different fate depending on the outcome of the war. Leaders of mixed regimes can expect the same degree of punishment whether they lose moderately or disastrously. Democrats can expect to lose power when they lose a war moderately but will only suffer severe punishment when they lose disastrously. Dictators, finally, are unlikely to lose power unless they lose disastrously, in which case they can expect severe punishment. Second, only leaders of mixed regimes therefore have disincentives to settle on moderately losing terms and instead have incentives to continue war and to gamble for resurrection. As a result, wars against losing leaders of mixed regimes can be expected to last longer than wars against other losers. Third, because losing mixed regimes prefer to continue war, such wars produce higher numbers of casualties on both sides. These are new and major findings for the field of international relations, with major implications for the study of the conduct and termination of war.

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