



Democracy, War Initiation, and Victory

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The rent-seeking argument has logical shortcomings. The model assumes that democracies are wealthier because they extract fewer rents from their society than do autocratic states, leading to greater wealth, which in turn means more resources for the military. Yet, one important reason states extract rents is to increase military spending, so fewer rents also would mean a smaller percentage of GDP devoted to military spending. Hence, the model does not necessarily predict that democracies devote more resources to military spending than do autocracies. Though the economic pie may be larger for the former, military spending is a relatively smaller slice. Indeed, according to the model, democracies prosper for that reason. In order for the rent-seeking argument to predict that democracies can generate a strong military, additional assumptions need to be made about an economic multiplier effect of reduced rent-seeking, which means that proportionately more rents are available in the long run. Logical shortcomings aside, empirical studies have found that democracy does not cause prosperity, though higher levels of economic development may make democracy more stable (Przeworski and Limongi 1997).

Although the argument that democracies form overwhelming countercoalitions contains compelling logic, even anecdotal evidence in support of this claim is scarce. Lake's (1992, 33) data included 30 wars from 1816 to 1982 in which democracies participated. In only six of these was there more than one democracy on any side, meaning that in 80% of the cases a lone democracy could attract no support from a sister regime. Of the six wars that involved a democratic coalition, four were won by the coalition (the Boxer Rebellion, the Sinai War, and the two world wars; the 1991 Gulf War also might be included), which fought for imperialist or realist motivations; democracies did not declare war primarily to come to one another's rescue.

Finally, the argument that democratic governments enjoy widespread support and therefore can extract more contributions for the war effort seems more tenable. In a study of major battles since 1800, Reiter and Stam (1998; see also Reiter and Stam 1997) found that soldiers fight better under democratic governance than under other regime types. Specifically, democratic armies fight with greater initiative and better leadership than do the armies of other kinds of states, which the authors attribute to the emphasis on individual prerogative in democratic political systems. Note that we are not arguing that democratic governments are more effective at extracting economic resources from society during wartime; empirical studies cast doubt on that particular claim (Kugler and Domke 1986).

Distinct from the war-fighting explanation is the selection-effects argument. It maintains that democracies tend to win more often because they are more careful than autocratic states about deciding whether to initiate war. Significantly, this risk aversion may account for the empirical observation that democracies are more likely to win wars (see Achen 1986). Testing for the selection effect may lead to new and significantly different conclusions about the nature of state power, as was the case in studies of deterrence (Fearon

1994) and the democratic peace (Rousseau et al. 1996).¹

Scholars make two distinct arguments in favor of the selection-effects explanation. The first centers on democratic electoral institutions. When faced with a displeased public, democracies are generally more likely than other governments to lose power, since the latter need not hold regular, competitive elections. Moreover, autocracies are less constrained in their use of state power to suppress dissent. Therefore, democratic leaderships are more likely to lose power following a military defeat—an event quite likely to generate popular dissatisfaction—than are nondemocratic leaderships (Bueno de Mesquita and Siverson 1995; Downs and Rocke 1994). An important implication is that fear of postdefeat political consequences motivates democracies to initiate war only when they are relatively certain of victory. Consider that democratic Israel has won all the wars it has initiated (the Suez, Six-Day, and Lebanon wars). Conversely, in the 1898 Fashoda Crisis, democratic France backed down when its leadership realized the considerable military inferiority it faced against the British.

Following this logic, nondemocratic leaders are less likely to lose power after a defeat and hence are more likely to undertake risky military ventures. Saddam Hussein initiated costly wars against Iran and Kuwait but retained power. This, despite the fact that one ended in an extremely bloody stalemate, and the other conflict ended in perhaps the most decisive military defeat in modern history. The expectation, then, is that because democracies are cautious initiators, they have a higher probability of victory than nondemocratic initiators. This argument shares common theoretical assumptions with the structural explanation of the democratic peace. That is, democracies tend to be more peaceful than other kinds of states (at least in their relations with one another) because their political institutions constrain leaders from pursuing belligerent foreign policies (see Bueno de Mesquita and Lalman 1992; Russett 1993).

A second argument in support of the selection-effects explanation posits that since democratic governments benefit from more and higher quality information, they are more likely to make better policy and therefore only initiate winnable wars. The proposition that the vigorous discussion of alternatives and open dissemination of information in democratic systems produce better decisions is an idea at the core of political liberalism, traceable to thinkers such as John Milton, Thomas Jefferson, and John Stuart Mill. Specifically, a free press with limited government control or censorship is more likely to expose the flaws in

¹ One possible selection bias that may remain in our model stems from limiting our dependent variable to war and the concomitant exclusion of lower levels of violence. One may argue that in some cases the real initiation decision comes at lower levels (such as the decision to show force), so that focusing solely on the change from peace to large-scale war obscures important dynamics. We doubt that this is a problem with our model, given that the move to large-scale war is the most important and salient threshold in the escalation ladder of violence.

policy and improve government stewardship. In the modern international relations literature, scholars have posited that the relatively open marketplace of ideas engendered by a free press decreases the chances that democratic leaders will engage in foolhardy wars (Snyder 1991; Van Evera 1994, 32–3). In addition, the less politicized bureaucracies of democratic governments are more likely to generate higher quality, less biased information (see Reiter 1995b, 47–9). Specifically, in authoritarian regimes, the military is likely to provide lower quality information to the leadership. Following this logic, authoritarian governments are more likely to promote military officers based on political loyalty, as they fear potential threats to their hold on power from a disgruntled military. This toadyist phenomenon has been called “commissarism,” one side effect of which is biased military intelligence, as officers are more interested in maintaining the approval of civilian leaders than in presenting sound military or strategic analysis (Pollack 1996, chapter 3). The bottom line is that since democratic leaders get better information from both society and their own bureaucracy, they are more likely to make better policy and therefore avoid starting losing wars.

Empirical work supports various aspects of these theories. As noted, both Stam (1996) and Lake (1992), while failing to control for selection effects, found that democracies are more likely to win. Siverson (1995) found that democratic initiators suffer significantly fewer casualties than other kinds of war participants. This strengthens the selection-effects argument, since higher casualties are likely to increase the domestic political threat to democratic leaders, and concerns about those repercussions may guide their war initiation decisions (see also Gartner and Segura 1998). Bennett and Stam (1996) found that democracies tend to fight shorter wars, which also is consistent with the selection-effects explanation; democratic leaders should prefer shorter wars, as they are likely to fear that public support will dissipate as a war drags on. Finally, research on the tenure of regimes following war confirms important links between the outcome and domestic politics (Bueno de Mesquita and Siverson 1995).

Empirical research, however, has not provided a test that discriminates between the war-fighting and selection-effects explanations. This is unfortunate, as these stem from very different assumptions, and more careful validation of variables could prove useful in theoretical debates. The empirical tests presented here endeavor to determine whether one, both, or neither explanation has validity.

HYPOTHESES AND DATA

Conceptual Framework and Hypotheses

Our unit of analysis is the single nation participating in war, and the dependent variable is whether that nation experienced military victory or defeat. To understand who wins wars, our conceptual framework integrates war initiation and outcomes (our ideas are closely

related to those of Gartner and Siverson 1996). Assume that when a state's leadership decides whether to initiate war, it makes a subjective probability assessment that it will win (W ; a number ranging from 0 to 1) and that states prefer winning to losing. Assume further that a state chooses to initiate war if W surpasses some threshold (T) value of acceptable risk. Also assume that W reflects, at least to some extent, a state's real, objective probability for victory (V). Drawing on the cost-benefit approach laid out by Stam (1996), we argue that a war ends when one side concedes defeat because it has absorbed more costs than it is willing to bear to achieve the foreseen benefits of victory. Therefore, V rises when a state's threshold of cost acceptability rises, when a state can inflict greater costs at a greater rate, and/or when it can reduce the rate at which it suffers costs.

From this set of assumptions, we deduce a number of specific hypotheses. These are presented next, along with the operationalization of independent variables.

HYPOTHESIS 1: *War initiators are more likely to win than targets.*

Since W (subjective belief that the state will win) is related to V (the objective probability of victory), we should observe that initiators are more likely to win than targets. States with a greater objective chance of victory will select themselves into the population of war participants by launching wars, whereas states with a lower objective probability of victory are selected into the population of targets for attack. The proposition that all initiators should be more likely to win wars is central to the literature on conflict behavior (Bueno de Mesquita 1981; Wang and Ray 1994). We closely equate “initiating war” with the stronger phrase “choosing war.” There are very few examples of states being forced to initiate war because they feared imminent attack (the only democratic example is Israel in 1967 [Reiter 1995a]).² *Initiation* is a dichotomous variable, 1 for initiators and 0 for noninitiators.³

Our conceptual framework proposes that cautious decision making by democracies relates only to their role as initiator, not target; that is, the selection effects apply only to those which start wars, not to those which are attacked. We assume that targets must accept war when attacked. It may be argued that they can choose

² Some scholars disagree with the notion that states choose war, positing instead that states are usually forced into it by circumstances beyond their control. Of course, if war does not reflect a real choice, then in our data analysis the initiation terms will not be significant.

³ Our initiation codings differ slightly from those of the Correlates of War (COW) project (Small and Singer 1982). Aside from three cases that we divide (the two world wars and the Vietnam War), we follow the arguments in Dupuy and Dupuy (1986) and Clodfelter (1992). We made two changes from the COW initiation codings. In the Crimean War, we code Russia as the initiator, not Turkey. In the First Balkan War, we code the three members of the Balkan League as coiniciators.

One also may argue that states which join wars are conceptually similar to those which initiate wars. We tested for this possibility. When we recoded the initiation variable to include states that join because of a defense pact with a belligerent or because an ongoing war threatens their national interests, the results were largely the same, though substantive and statistical significance were weaker.

not to fight, but if this were the case, then perhaps the selection-effects explanation would imply that democratic targets are also more likely to win than are nondemocratic targets. Weak democratic targets would be more likely to accept peaceful surrender over military defeat, as Denmark did in 1940 when Nazi troops crossed the border.

The assumption that targets must fight does not undermine our findings. Our empirical tests will allow us to discern whether targets have the range of choice available to initiators. If so, then we should find that initiators—democratic or otherwise—have no greater chance of winning than targets. Regardless, there are almost no cases of peaceful surrender aside from Denmark, though there are several cases of small targets electing to fight when attacked, even against overwhelming odds, such as all the other small European neutrals in World War II. Leaders tend to place a higher utility on defeat in battle than on peaceful surrender for three reasons. First, abject surrender probably would end their personal political career, while choosing to fight vainly would permit the possibility of postwar leadership. Second, honor supports power, as a country that allows itself to be conquered peacefully brands itself for decades to come as a feckless weakling to be bullied (Kagan 1995, 8–9). Third, leaders treat the choice to defend one's own land as an insubvertible good, and honor in defeat is intrinsically preferable to ignominious surrender. Consider Belgium's choice at the outbreak of World War I. In the first days of the war, Germany presented an ultimatum: Allow us to move peacefully through your territory to reach France, and we will honor Belgian sovereignty after the war and recompense any damages; oppose such movement, and face destruction. Faced with a relatively attractive offer and the prospect of military annihilation, the Belgians still fought (Tuchman 1962, 124).

HYPOTHESIS 2: *Democratic targets are more likely than other kinds of targets to win wars.*

HYPOTHESIS 3: *Democratic initiators are more likely than other kinds of initiators to win wars.*

The war-fighting explanation posits that all democratic war participants, initiators and targets, win more frequently because they fight more effectively. In other words, within the context of our framework, V is likely to be higher for democracies. The war-fighting explanation makes no assumptions about W or T varying among states. The straightforward implication is that all belligerents—both initiators and targets—are more likely to win if they are democratic. The war-fighting explanation implies both hypotheses 2 and 3.

As discussed previously, the selection-effects explanation proposes that, because democratic leaderships fear being turned out if a war is lost, they are likely to initiate only those wars which they are confident of winning. Within the context of our framework, this implies that T will be systematically higher for them than for leaders in nondemocracies. The selection-effects theory predicts that democracies will only initi-

ate war when W is high. We also expect that their estimates of W will closely approximate V . If democracies grossly overestimate their chances of victory ($W \gg V$), then we would fail to observe the hypothesized relationship between democratic war initiation and victory. The selection-effects explanation implies only Hypothesis 3, not Hypothesis 2.

HYPOTHESIS 3a: *Among initiators, democracies are the most likely to win, followed by dictatorships, followed by mixed regimes.*

Hypothesis 3 implies a monotonic relationship between regime type and outcomes for initiators: The more democratic they are, the more likely they are to win. An alternative approach is to relax the monotonicity assumption. The study of imperial overexpansion by Snyder (1991, 21–65; for a different theory relaxing the monotonicity assumption, see Goemans 1997) suggests that there may be a more complex relationship. Following Snyder's theory, democracies are still most likely to initiate only wars they believe winnable, owing to the prospects for postdefeat political punishment and the benefits of the marketplace of ideas. Dictatorships should be more risk acceptant, since dictators need not fear the political fallout from losing and do not benefit from a marketplace of ideas, but some dictators may have the ability to make clear-sighted foreign policy, and thus avoid starting unwinnable wars. Therefore, it is mixed regimes that are especially likely to start misguided military ventures, because their corporate or oligarchic political structure engenders logrolling and militarist mythmaking.

To test hypotheses 2, 3, and 3a, we use democracy and autocracy scores from the Polity III data set (Jagers and Gurr 1995). These scores are aggregations of the degree of system openness, the degree of participation, and the degree of competitive candidate selection. The democracy scale ranges from 0 to 10 (0 = absence of democratic institutions; 10 = very strong democratic institutions). The autocracy scale also ranges from 0 to 10 (10 = most autocratic). We combine the two into a single *Politics* index by subtracting the autocracy scale from the democracy scale, which results in a 20-point scale, with +10 representing the most democratic states and –10 the least. Some countries that were invaded and conquered in the same year (such as Norway in 1940) are coded by Polity III as having missing democracy and autocracy scores. For these cases, we used the scores in the previous year, as the “missing” scores reflect the lack of a normal political system during occupation; these countries were functioning polities prior to invasion and during the war, which means that our hypotheses can make predictions about how their political system affected war outcomes.

To test our various hypotheses linking regime type and war outcomes, we used two functional forms, each with a different set of interaction terms. In one functional form, we added two interaction terms: (1) a state's *Politics* score times the dichotomous initiation variable and (2) a state's *Politics* score times a dichotomous target variable, which is coded 1 if the state is a

target (not an initiator) and 0 if it is not a target (an initiator). Hypothesis 2 predicts that the *Politics*Target* term will be positive, and Hypothesis 3 predicts that the *Politics*Initiation* term will be positive. The war-fighting explanation predicts that both terms will be significant, while the simpler, monotonic selection-effects explanation predicts that only the *Politics*Initiation* term will be significant. Inclusion of an interaction term is a new approach, since Lake (1992) considered initiation and democracy as independent variables.⁴

Testing Hypothesis 3a, which envisions a nonmonotonic selection-effects relationship, requires a different functional form for the independent variables. To test for the expected curvilinear relationship in the *Politics*Initiation* term, we used a pair of fractional polynomials (see Royston and Altman 1994). To compare the curvilinear selection-effects explanation to the war-fighting explanation we then need three terms. The first is a state's politics score multiplied by a dichotomous target variable, which is coded 1 if a state is a target (meaning it is *not* an initiator) and 0 if a state is not a target (meaning it *is* an initiator). There are also two terms of a transformed independent variable: The transformation for the first term is $x^{-1/2}$ and for the second term is $x^{-1/2}(\ln(x))$, where $x = (\text{Politics*Initiation} + 11)/10$. This transformation is a relatively simple fractional polynomial (e.g., we could have squared or cubed x , but doing so gains little, either substantively or statistically). The polynomial specification allows for a curve that starts at a medium level for a politics score of -10 , dips down to a lower level as the scores increases, but then rises to a higher level as it approaches $+10$. With this alternate functional form, the democratic selection effects are supported in the curvilinear manner predicted by Hypothesis 3a if the transformed independent variables are statistically significant. Due to the complex nature of the transformation, we will leave interpretation of the signs of the coefficients to the results section. Among targets, democracies have an advantage (an effect predicted by Hypothesis 2) if the *Politics*Target* interaction term is positive and significant.

In contrast, realists are generally skeptical about a relationship between domestic political structure and international conflict, a point often made in critiques of the democratic peace proposition (see Mearsheimer 1990). In our framework, there would be no relationship between W , T , or V and a state's level of democracy. This implies that regime type should be unrelated to war outcomes (see Wright 1965, 163). Morgenthau (1978, 143–6) did argue that the quality of government and national character or morale are important factors in state power, though he did not believe that these are systematically related to whether the state is democratic. Realism predicts that we will not find either substantive or statistical support for hypotheses 2, 3, and 3a.

Control Variables

A variety of factors unrelated to regime type or initiation should systematically influence the objective probability of victory in war (V). Realism proposes that these variables provide a virtually complete explanation of war outcomes. Though our main theoretical interest is to trace the effect of political structure on war outcomes, excluding these factors from the analysis would risk biasing our results, which in turn could lead to incorrect inferences about the relationship between political structure and war outcomes. Our choice of control variables is driven by theory and empirical research on the determinants of war outcomes (e.g., Stam 1996).

HYPOTHESIS 4: *The greater a state's relative advantage in material capabilities, the greater are its chances of winning a war.*

As a state's advantage in military-industrial capabilities rises, its chances for victory rise, since it will be able to inflict greater costs upon its opponent relative to the costs it will suffer. We operationalize this variable as each actor's *Capabilities* as a proportion of all participants' capabilities. We use the COW composite capabilities index as our indicator. It is composed of industrial production, military troops, military spending, energy consumption, and proportion of urban to total population.⁵

HYPOTHESIS 5: *States with a military of higher quality will have a greater chance of winning.*

Since militaries are the tools of war, higher quality militaries ought to increase the chances of victory (Van Creveld 1991). Specifically, superior military technology and training should translate into fighting forces that can more efficiently inflict costs on the opponent (Arquilla 1992, 81–5). We used an indicator that can be measured by ex ante information. We assume that states with a higher *Quality Ratio* (spending rate per soldier, relative to their opponents) will have a correspondingly higher level of technology, equipment, and training (Huth, Bennett, and Gelpi 1992; Stam 1996). The military spending and troop numbers come from the COW data set.

HYPOTHESIS 6: *The better a state's choice of military strategy, the greater are its chances of winning a war.*

Strategy can have a major effect on a state's ability to absorb and inflict costs and hence on the prospects for victory. We categorize military strategies as maneuver, attrition, and punishment (see Mearsheimer 1983; Posen 1984; Stam 1996). We then match each with either offensive or defensive political goals, or doctrine. It is important to note that the effectiveness of a particular strategy also depends on the adversary's choice of strategy. We predict the effectiveness of various combinations based on two assumptions: Min-

⁴ Lake (1992, 36n) seems to have checked for a possible democracy-initiation interaction effect, but he only mentions briefly that he found no significant relationship.

⁵ We do not discount nations' material contributions based on when they joined the war. The inevitable imprecision and inaccuracies of any discount formula would outweigh any reduction in bias it might achieve.

imizing one's own military losses is better, and the side trying to change the status quo prefers quicker outcomes (see Stam 1996).

We coded military strategy as a set of dummy variables following Stam's (1996) procedures. The first step is to determine whether a state has offensive (*O*) or defensive (*D*) political goals, based on Dupuy and Dupuy (1986) and Holsti (1991). Next, we coded the choice of maneuver (*M*), attrition (*A*), or punishment (*P*) strategies, following the analysis in Dupuy and Dupuy (1986), Dupuy (1983), and Clodfelter (1992). We coded blitzkrieg strategy, or encircling and dividing the opponent's forces, as maneuver. A focus on annihilation of the enemy and/or seeking decisive battles was coded attrition. Cases in which Maoist guerrilla tactics were used or in which civilians were the principal military targets were coded punishment. If multiple strategies were employed, then we chose the one that absorbed the majority of the state's military assets. If there was more than one country on a side, then we coded the strategy of the largest state (in terms of capabilities). In the three cases of no clear distinction between maneuver and attrition, we coded the modal strategy of attrition (see Bennett and Stam 1996, 247n).

For each belligerent, we code its goals and strategy, and those of its opponent with a four-letter code. For example, OADP indicates that one party has offensive goals and an attrition strategy, and the other has a defensive doctrine and punishment strategy. We also grouped all possible strategy codings into pairs and ranked the effectiveness of each pair. Not all possible strategies are observed, however. Among those that are observed, we rank the strategy pairs as follows starting with the most effective: OMDA/DPOA; OPDA/DMOA; OADA/DAOA; OADM/DAOP; OADP/DAOM. Five dummy variables are used to account for the observed strategy combinations. To avoid perfect multicollinearity among the strategy categories, we omitted from the regression models the dummy category representing OADP/DAOM (for more discussion, see Stam 1996).

Our strategy variables are certainly simplifications of reality, but the general aim of most military theorists is to propose concepts about the execution of combat that transcend a particular military environment. The essential issue is whether our conceptualizations explain more than they obscure. We believe so, if for no other reason than that this set of strategy variables has been found to be significantly correlated with both war outcomes and duration (Bennett and Stam 1998).

Our model also simplifies reality by coding each belligerent as having a single strategy throughout the war (see Gartner 1997). Fortunately, there are very few cases in which belligerents made strategy changes from one of our categories to another. We reduce the potential problem of intrawar strategy change by breaking the two world wars and the Vietnam War into shorter components (discussed in detail below).

HYPOTHESIS 7: *Appropriate terrain will increase a state's chances of victory.*

Terrain significantly enhances or diminishes the effectiveness of a strategy choice. For example, the maneuver strategy of one side can better exploit the attrition strategy of the other side on flat plains than in mountainous jungle. Terrain codings come from *New York Times Atlas of the World* (1983) and correspond to the location of the majority of battles fought during a war (Dupuy and Dupuy 1986). We then scaled the terrain types to match the predicted movement times, using data from Dupuy (1979, 1983) that estimate movement speed over various terrains. In cases involving more than two actors on one side, we used the average of terrain scores weighted by the size of the forces fighting in particular terrain. The final terrain index ranges from 0.3 to 1.2; 1.0 corresponds to the speed at which vehicles and troops can move on open rolling terrain, similar to the plains of Eastern Europe. Higher scores correspond to desert areas with flat, hard-packed surfaces. A score close to 0.3 indicates very difficult movement for vehicles, such as rugged mountains and dense jungles.

Our model includes two terrain variables, a *Strategy-Terrain* interaction variable and, as a control, the terrain variable alone. To measure the interaction term, we would normally multiply the two variables. Unfortunately, with dummy variables to control for strategy choice, the inclusion of each terrain interaction dummy would create multicollinearity problems with the strategy dummy variables. Instead, we used a scaled strategy index with terrain, which reduces multicollinearity (as revealed by partial correlations) by creating a single variable with a larger range of values rather than several variables with a more limited range. This scaled strategy variable is coded 1 through 5, a ranking of the observed strategies listed above.⁶

HYPOTHESIS 8: *The greater the distance between the war participant and the site of combat, the lower are the chances of victory.*

Several authors hypothesize a correlation between *Distance* and the chances of victory (Stam 1996). Bueno de Mesquita (1981, 41) argues that a state's ability to inflict costs or exert power declines over distance, which may affect a state's ability to raise the costs of war for an opponent or minimize its own costs. We measure distances in miles from capital to capital, using Fitzpatrick and Modlin (1986) and *New York Times Atlas of the World* (1983).

HYPOTHESIS 9: *The more powerful a war participant's allies, the greater are its chances of winning.*

Alliance Contributions are at the core of the realist vision of international relations and waging war (Morgenthau 1978). A state's allies increase the costs its opponents must bear and reduce its own costs. Yet, the contributions to a state's power from its allies must be

⁶ We score the most effective offense and defense strategies (OMDA and DPOA) 1, the next most effective 2, and so forth, to the least effective strategies (OADP and DAOM), which we code as 5. Including the scale or individually multiplied dummy variables makes little difference in the overall results of the model, as the fit remains nearly identical.

discounted compared to the state's own military and industrial capabilities. At the operational level, it is likely that differences in factors such as command structure, technology, training, and communication equipment may hinder effective coordination. Allies also have to defend themselves and will reserve some of their forces for that purpose. We thus separate out alliance contributions from the resources of the belligerents. Alliance contributions are measured in the same fashion as the state's military-industrial capability, using the COW data, that is, as a fraction of the total capabilities of all states involved in the war. Because we have no discount formula for allies, we include these contributions as a separate term to permit measurement of their independent effect.

Data Set

Our population for analysis is all participants in interstate wars between 1816 and 1982.⁷ They were identified by the COW set of interstate wars (Small and Singer 1982) and Dupuy and Dupuy (1986). The hypotheses we test concerning polity type relate only to the likelihood of victory. Accordingly, we simplified the analysis by dropping draws from the data set, leaving 197 cases.⁸

Unlike the COW data set, ours disaggregates World War I and II and the Vietnam War into multiple wars. Our goals were to distinguish between separate military campaigns (for example, the German campaign against France in 1940 and against the Soviet Union) and to err on the side of conservatism, that is, to create fewer rather than more new wars. World War I we divide into three campaigns: Germany versus Belgium, Germany/Austria/Turkey versus Russia, and the Allied Powers (minus Russia and Belgium) versus the Central Powers (see Edmonds 1951). World War II we divide into several campaigns: Germany versus individual

European countries as separate wars, Germany versus the Soviet Union, the Pacific War, and the United States and Great Britain versus Germany and Italy. The Vietnam War we divide into the United States and South Vietnam versus North Vietnam, a phase lasting until 1972, and North versus South Vietnam.

This separation makes our data set more historically accurate; these long coalition wars can be thought of as aggregations of distinct conflicts. Decision makers rarely anticipate or think in terms of large systems of wars, but usually in terms of sequences of opponents. In the case of World War II, Dupuy and Dupuy (1986), among many others, identify separate and distinct negotiated settlements among the various participants as well as fundamentally independent war-fighting efforts.⁹ Disaggregation also affords two important advantages for testing the hypotheses. First, it permits more accurate distinctions between winners and losers. In long coalition wars, members of the losing coalition may score distinct campaign victories against members of the ultimately victorious coalition. For example, our method permits us to classify Russia and Belgium as losers in World War I and Poland and Norway as losers in World War II, whereas the COW data set views these four countries as winners. Conversely, our method recognizes the execution of successful military campaigns by countries that went on to lose, such as Germany's campaign against the Netherlands in World War II. Second, disaggregation allows us to code the independent variables more accurately. Dividing long wars of global reach into distinct campaigns greatly improves coding accuracy for such variables as strategy and terrain.¹⁰ This advantage may not be trivial; one scholar found that how one treats cases from the two world wars determines whether one finds significant correlations between military buildups and the outbreak of war (Diehl 1983).

EMPIRICAL RESULTS

We first present a simple contingency table listing victory-defeat records for states classified by the politics index and initiation. A war participant was coded democratic if its politics score was +7 or higher, mixed regime or "anocratic" if the score was -6 to +6, and autocratic if the score was -7 or lower. In Table 1,

⁷ Some may argue that it would be better to focus on the core dyad in each war, but we include all belligerents for two reasons. First, if the dependent variable is war outcomes, then there is no theoretical justification for excluding them. For war initiation, it may be more important to think about the primary disputants, but membership in the core dyad is less relevant to performance during the war. Second, including only the core dyad would leave out relevant information. We enhance confidence in the results if we broaden the empirical sample. Furthermore, note that model 6 in Table 2 includes only core dyads, and the results are largely the same.

⁸ Analyzing the data with draws included does not substantially change the results. One variable that we eventually dropped from the analysis, geographic distance, is statistically significant if we include draws. States fighting in distant wars are more likely to settle for draws than states fighting near their borders.

In addition, we note that our data set differs from Lake's. From the COW list, Lake (1992, 31, 33, 35n) used only wars in which at least one democracy participated, minus the Spanish-American War and wars in which there was no clear victor. Lake also restricted the size of his sample by using a version of the COW data set that extends only to 1965 (20 wars). We believe our sample is richer and likely to contain fewer sources of bias; it covers up to 1982 (77 wars), includes the Spanish-American War, and does not exclude wars in which no democracy participated. The results do not change significantly if we only use cases up to 1965, though standard errors do increase somewhat. Finally, Lake did not disaggregate the two world wars and the Vietnam War, as we did.

⁹ The results were quite similar even when we omitted our disaggregation; because that reduced seventeen wars to three, *all* the standard errors increased slightly. The coefficient estimates were stable, though the strategy and terrain variables could not be estimated because of insufficient variance among the independent variables.

¹⁰ The COW codings are based, in part, on an attempt to generate a data set useful for testing propositions about systemic wars and the mechanism through which bilateral wars become multilateral. The COW outcome codings do not attempt necessarily to reflect the outcome of waging war. For example, while Germany clearly defeated Poland in World War II, the Polish government in exile remained allied to the U.S. and British war effort. Consequently, COW codes Poland as being on the winning side, although they were defeated in battle. We are interested in the process of waging war, so we treat each war separately; they are aggregated into multilateral wars only if that was the way the battles were actually waged. The 1973 Arab-Israeli conflict is an example of a multilateral war we did not disaggregate.

TABLE 1. War Outcomes by State Type and Initiation

Outcome	Democracy	Anocracy	Autocracy	Total
Initiators				
Win	14	21	21	56
Lose	1	15	14	30
Targets				
Win	12	18	16	46
Lose	7	27	31	65
Total	34	81	82	197

$\chi^2 (6) = 12.7, p = .048.$

entries are victory-defeat records. The probit analysis, which follows, uses the -10 to +10 politics scores.

As a first and somewhat crude cut, Table 1 indicates preliminary support for hypotheses 1, 2, and 3—our baseline model. There is no apparent support for Hypothesis 3a, that is, a curvilinear relationship between regime type and victory. Initiators and democracies appear to be more likely to win, and democratic initiators appear to be especially likely to win. The general results are statistically significant at the $p < .05$ level.

While interesting, the results in Table 1 may also be an artifact of correlations with other determinants of victory. For example, democratic war initiators may have the most powerful armies. To test for this and other possible factors, we used a more fully specified, multivariate model. A probit model was chosen because of the dichotomous nature of the dependent variable. Applying a linear model would risk introducing specification error and biased coefficients. Table 2 presents the probit regression results of several models.¹¹

In model 1, our baseline, we include terms for the interaction between the politics variable and both initiators and targets. We also include a variable marking whether the state was an initiator. Note that in this model we cannot test the nonmonotonic Hypothesis 3a, which is addressed below. Regardless, concerning the effects of democracy, the Politics*Initiation term is in the hypothesized direction and statistically significant.¹² We also see that democratic targets appear to perform somewhat better during war, and we find support for the selection-effects argument. Yet, with this simple model we cannot ascertain the individual validity of the rent-seeking, democratic countercoalitions, or state legitimacy arguments.

To test Hypothesis 3a (a nonmonotonic relationship among politics, initiation, and victory), we also fit a fractional polynomial model. In model 2, we find

similar results for the initiation term. The parameter estimate for the Politics*Target term is relatively stable, although it is no longer statistically significant. In this arguably incomplete model of outcomes the fractional polynomial terms (interacted with initiation) are not supported—leading to preliminary rejection of Hypothesis 3a—but it is possible that including additional data may allow for less biased estimates of the polynomial terms. Recall Lake's claim that democracies should be more likely to win because they devote more resources to the military and assemble overwhelming countercoalitions, and it is these variables that should determine war outcomes. This implies that if we control for these factors, then the effects of democracy may drop out of the equation. First, we tested our model of military factors absent the domestic politics variables. Model 3 might best be termed a realist model of war outcomes. It is devoid of state polity characteristics and includes variables marking military-industrial capability, alliance contributions, and military quality as well as several markers for strategy and strategy-terrain interactions. In general, we find strong support for this realist approach.

Next, in model 4, we include the regime type variables from model 1, and all the politics terms from our base model are still statistically significant. This increases our confidence in the validity of the selection-effects explanation. It also implies that democratic targets tend to be more powerful, which is consistent with all three of the arguments underlying the war-fighting explanation. In model 4, however, we have controlled for alliances and industrial capability, two of the factors that Lake (1992) highlights in his presentation of the war-fighting explanation. We still observe a relationship between democracy and war outcomes; indeed, it appears both substantively and statistically stronger, not weaker, when we add the realist controls. This seems to support Lake's empirical generalization, but not for all the reasons he outlined. Though there is no direct evidence here, the results do not contradict the validity of the state legitimacy proposition. In addition, we ran tests to see whether adding political variables in model 4 makes a statistically significant improvement to our explanation of the dependent variable. A likelihood ratio test demonstrates that the gains in model 4 over model 3 are statistically significant at the $p < .01$ level.

In model 5 we substitute two fractional polynomial terms for the Politics*Initiation interaction. Unlike model 2, the inclusion of a more fully specified model of outcomes indicates some support for the nonmonotonic Hypothesis 3a. Note that although the interaction terms in both models 4 and 5 are statistically significant, model 5 is preferable to model 4. The improvement in the fit of the overall model from the inclusion of two fractional polynomial terms, compared to the linear term, is significant using a conservative test at the $p < .02$ level.¹³ This encourages preference for the

¹¹ We also fit the same models to the logit distribution. In these models, the parameter estimates were essentially the same; the standard errors increased somewhat. In the baseline model with the logit estimates, the democratic target term did not meet standard levels of significance ($p = .052$).

¹² Models 1 and 2 do not include an estimate for a constant. When included, the absolute values of the standard errors exceeded the estimate of the constant itself. In runs with a constant estimated, the coefficients for all variables remained stable, with the p -value for all remaining below 0.05 (one-tailed tests).

¹³ To compare the fit of two (or more) fractional polynomial models, we compared the deviance (D) of the two. The deviance is defined as -2 times its minimized log likelihood, using the formula $D =$

TABLE 2. Probit Models of War Outcomes: Dependent Variable Is Win/Lose						
Independent Variable	Model 1		Model 2		Model 3	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Poly-Pol 1*Initiation	—	—	−0.16	0.13	—	—
Poly-Pol 2*Initiation	—	—	0.013	0.075	—	—
Politics*Initiation	0.045*	0.021	—	—	—	—
Politics*Target	0.038*	0.017	0.029	0.019	—	—
Initiation	0.51***	0.15	0.64**	0.21	—	—
Capabilities	—	—	—	—	3.33***	0.70
Alliance Contributions	—	—	—	—	3.85***	0.95
Quality Ratio	—	—	—	—	0.082*	0.05
Terrain	—	—	—	—	−9.00***	3.36
Strategy*Terrain	—	—	—	—	2.86***	1.09
Strategy 1	—	—	—	—	5.14*	3.40
Strategy 2	—	—	—	—	2.72	2.39
Strategy 3	—	—	—	—	2.47*	1.70
Strategy 4	—	—	—	—	2.09*	1.27
Constant	—	—	—	—	−4.11***	1.86
	LL = −128.1 Pseudo R ² = 0.07 N = 197		LL = −128.9 Pseudo R ² = 0.07 N = 197		LL = −74.9 Pseudo R ² = 0.45 N = 197	
	Model 4		Model 5		Model 6	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Poly-Pol 1*Initiation	—	—	−3.67*	1.88	−3.90*	1.98
Poly-Pol 2*Initiation	—	—	−1.07*	0.57	−1.14*	0.60
Politics*Initiation	0.068*	0.030	—	—	—	—
Politics*Target	0.064**	0.027	0.064*	0.03	0.059	0.039
Initiation	0.91**	0.34	0.96**	0.35	1.24**	0.41
Capabilities	3.73***	0.52	3.76***	0.53	3.85***	0.60
Alliance Contributions	4.72***	0.68	4.71***	0.68	4.48***	0.78
Quality Ratio	0.052	0.03	0.051	0.03	0.055*	0.03
Terrain	−10.93***	2.94	−11.31***	3.02	−14.1***	3.31
Strategy*Terrain	3.56***	0.97	3.68***	0.99	4.73***	1.10
Strategy 1	7.24**	2.89	7.62**	2.93	10.5**	3.13
Strategy 2	3.47*	1.99	3.76*	2.02	6.06**	2.15
Strategy 3	3.35**	1.43	3.57*	1.45	4.91**	1.55
Strategy 4	3.07**	1.25	3.21*	1.26	5.23**	1.59
Constant	−5.51***	1.70	−2.14	2.49	−3.76	2.77
	LL = −64.9 Pseudo R ² = 0.52 N = 197		LL = −64.9 Pseudo R ² = 0.52 N = 197		LL = −50.2 Pseudo R ² = 0.57 N = 168	

Note: All estimates were generated using Stata 5.0. Reported standard errors are robust standard errors. Data are available currently from the authors at <http://www.yale.edu/plsc151a/initiation.zip>. Model 6 includes only core dyads. **p* < .05. ***p* < .01, ****p* < .001. All tests are one-tailed.

curvilinear selection effect described in Hypothesis 3a over the monotonic selection effect described in Hypothesis 3. We limit the remainder of our discussion to the estimates for model 5, which tests all hypotheses except Hypothesis 8, which we discuss below.

As shown in model 5, the coefficient estimate for initiation is statistically significant, indicating that Hy-

$n\left(1 + \log\frac{2\pi RSS}{n}\right)$, where *n* is the sample size and RSS is the residual sum of squares estimated fitting a linear model. The gain (*G*) is defined as the deviance estimated for a straight-line model minus the deviance estimated for the fractional polynomial model. The test statistic to calculate the *p*-value for the gain for the polynomial probit model is obtained using the formula $T = D_{k-1} - D_k$. We then compared *T* to the χ^2 distribution with 2 df. These *p*-values are approximate and conservative (for an extensive discussion of fractional polynomial models, see Royston and Altman 1994).

pothesis 1 (initiators win more often) is supported. The coefficient estimates for the two Politics*Initiation interaction terms are also statistically significant.¹⁴ This provides support for hypotheses 3 and 3a—democratic initiators win more often, and dictatorships are more likely to win than anocracies (we discuss the meaning and the interpretation of the signs and magnitudes of the interaction terms below). This is an interesting result; the conventional belief in the rational choice literature that initiators are more likely to win wars

¹⁴ In model 5, the constant's standard error is larger than the parameter estimate. When we suppress the constant, in the resulting model the other parameter estimates are stable, but the standard errors shrink substantially. In this model (not shown) the Politics*Initiation terms are significant at the *p* < .001, the Politics*Target and Initiation terms at *p* < .005. We used these more precise estimates for the deviance test outlined in footnote 13.

receives confirmation. But, even when we control for the general increase in the likelihood of victory for all initiators, some initiators do better than others. Democracies tend to have a higher likelihood of winning than all other kinds of regimes.

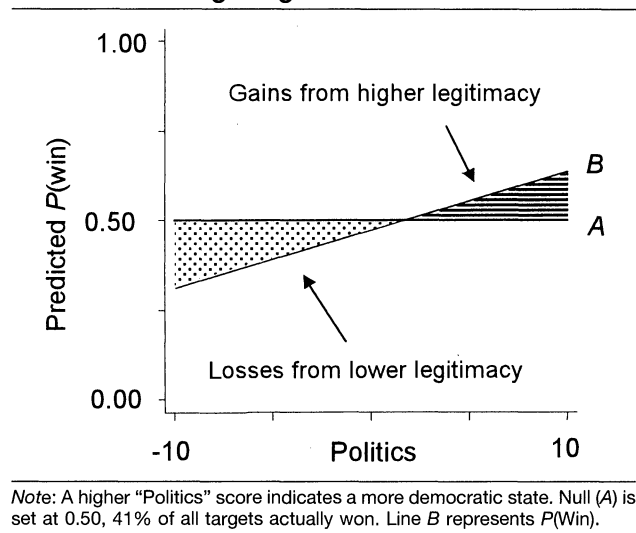
Among the control variables, the findings are mixed. The probit models in Table 2 are restricted models. They reflect our decision to drop two independent variables from models not presented in Table 2; one (military personnel) initially was included because Lake did so, and the other (distance) was included to test Hypothesis 8. The p -values for these variables fall far outside the standard levels of statistical significance. In addition, a likelihood ratio test indicated that we can safely exclude these two variables from the model. When including distance and military personnel, the results are consistent with models 4 and 5.

We find statistically significant relationships between winning and a better ratio of military-industrial capabilities and greater allied contributions, which supports hypotheses 4 and 5. The results for Hypothesis 9 (superior troops and training contribute to victory) are mixed. We leave it to future research using more sophisticated measures of technology and training to sort out this issue. Distance was not significantly related to outcomes, so we can reject Hypothesis 8.¹⁵ The strategy dummy variables are statistically significant, indicating that strategy choices do have systematic effects on outcomes. In addition, both the terrain and strategy-terrain interaction are statistically significant ($p < .001$). Strategy dummy variables 2 and 3, while having essentially the same coefficients, still predict different outcomes because of the effects of the strategy-terrain interaction. Hence, we find strong support for hypotheses 6 and 7.

One possible objection is that our results are biased by the inclusion of war participants other than the core dyad of belligerents (see footnote 7). To be sure that our results are robust, we also estimated model 6, which includes all the variables from model 5 but on a smaller sample, that is, the core dyad in each war ($n = 168$ versus $n = 197$).¹⁶ In this model, the results do not change substantially.

The issue of substantive explanatory power remains: How much of an effect do the statistically significant

FIGURE 1. Probability of Victory by Level of "Politics" among Target States



variables have on the dependent variable? We use figures to portray the effects of politics on the dependent variable.

In Figure 1, we demonstrate, *ceteris paribus*, the substantive effect of changing levels of democracy on war outcomes for targets.¹⁷ Note that the darkest area, which represents the potential gains from democracy compared to the null, shows a positive but small effect. When we compare dictatorships to highly democratic states (the lightly shaded area), the apparent effect is quite large. Recall that there are several explanations of this effect, most notably Lake's (1992) rent-seeking theory and the legitimacy argument. Note that we still observe effects for democratic targets even when we control for industrial capability and alliance contributions, two factors emphasized by Lake's rents argument. Indirectly, then, these findings point toward the legitimacy argument made by Lake (1992) and Stam (1996) as the most likely explanation, in concurrence with the empirical findings of Reiter and Stam (1998). What of the selection-effects argument?

Figure 2 represents the changes in the expected chance of victory for an initiating state as its politics score varies from -10 to $+10$.¹⁸ Here we see that the selection effect has substantive as well as statistical significance.¹⁹ States appear to become increasingly

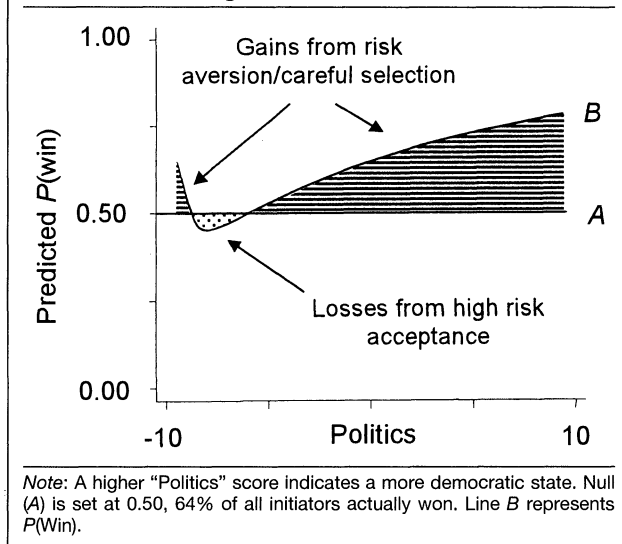
¹⁵ We also checked for the possibility that the distance term would have an effect only as an interactive variable with military and industrial capability. This hypothesis was not supported. We also estimated a model using capability scores adjusted for distance according to the procedures in Bueno de Mesquita (1981); again, the hypothesis was not supported.

¹⁶ To estimate the core dyad model we reran our basic model, but with certain exclusions: Austro-Sardinian War (Tuscany and Modena); Roman Republic (France); Crimean (France, Great Britain, and Italy); Italian Unification (France); Lopez (Argentina); Seven Weeks (Hanover); Franco-Prussian (Baden, Bavaria, and Wurtemberg); Pacific (Bolivia); Second Balkan (Romania and Turkey); World War II in Western Europe (Italy and United States); Yom Kippur II (Jordan and Saudi Arabia); Ethiopia-Somalia (Cuba); World War I (Turkey); and World War I (Austria, Bulgaria, Great Britain, Greece, Italy, Rumania, Turkey, and United States). We also estimated a model, not in the table, that dropped all cases but initiators. In this case, politics was still associated with greater chances of victory (coefficient 0.044, SE 0.022, $p < 0.05$).

¹⁷ We used the parameter estimates from model 5 to estimate the predicted values for the plots. The vertical axis is the predicted probability of victory. Line A represents the null hypothesis: Democracy has no effect on outcomes. Line B represents the increase in the expected likelihood of victory as a state's Politics score rises from -10 to $+10$ while holding all other variables at their observed values.

¹⁸ Line A again represents the null hypothesis of no democratic selection effect. Curve B represents the expected change in a state's probably of victory (V) as the Politics*Initiation term varies from minimum to maximum. We used the parameter estimates from model 5 to estimate the outcome probabilities.

¹⁹ A simple interpretation of Table 2 might indicate that the political variables are not particularly important for a general understanding

FIGURE 2. Probability of Victory by Level of "Politics" among Initiator States

prudent, or risk averse, as they become more democratic; and the effect appears to be quite substantial. Highly democratic states appear to be quite unwilling to initiate war except under the most propitious conditions. Keep in mind that Figure 2 represents the political component of the selection-effects argument, as we have controlled for both the operational advantages of initiation and the other components of state power. Note also, at the far left of the graph, that the most autocratic states, while not doing as well as democracies, do substantially better than their slightly more moderate associates. This lends support to Snyder's argument that some totalitarian states may be able to gauge the chances for success more accurately than mixed regimes (anocracies).

Our results differ somewhat from those of Lake (1992) about democracies' war-fighting capabilities. We found that initiators who are democratic are more likely to win than all other types of states, and targets who are more democratic also tend to do better, but not for all the reasons Lake suggested. He argued that democracies should be stronger because lower rent-seeking means greater material capabilities, powerful alliances can be formed, and the society will be more supportive of the war effort. Note that our model uses separate control variables for material capability and alliances, and we find that democratic targets still fare

of war outcomes because their addition only raises the pseudo R^2 by .07 (model 3 to model 4). Two points are in order. First, the marginal effects tests illustrated in the figures are preferred, as they more precisely indicate the exact expected effects on the predictions of the dependent variable when comparing democratic targets and initiators to other belligerents. Second, R^2 and other summary statistics capture the overall or average contribution made by a particular set of independent variables in explaining the variance of the dependent variable. The vast majority of war participants are not very democratic (mean politics score = -2.6). We should not be terribly surprised that democracy makes, on average, less of a contribution to determining war outcomes than does strategy or military capability. For an extensive discussion of historical average effects versus potential influence, see Stam 1996, 197-8.

better than their autocratic counterparts. This encourages the conclusion that democracies are more likely to win because they can more effectively rally the support of society for a war effort.

One might expect that democratic initiators win because they select themselves into wars in which they have specific advantages, such as much smaller opponents and more allies. If this were true, then we would expect the Politics*Initiation term to be strongly correlated with some of the control variables. Yet, difference-of-means tests reveal no substantively or statistically significant relationships between that term and capabilities, alliance contributions, or troop quality ratios. In addition, democratic initiators do not make different strategy choices; among the sixteen in our data set, all but two used the modal strategy OADA. In contrast, Reiter and Meek (1998) found, in a random sample of all states in peace and war, that democracies are significantly more likely to choose maneuver strategies. Their finding may be the basis for providing a more fully satisfying answer to the following question: On what basis do democracies first judge a potential war to be winnable and then choose whether to initiate fighting?

CONCLUSION

This article has presented several results about the determinants of war outcomes. Examining all interstate wars from 1816 to 1982, we discovered that the nature of the relationship between regime type and war outcomes is more complex than previously believed. By using a broad sample and a comprehensive array of control variables, and by accounting for important interaction effects, we are able to offer some confirmation of the conventional wisdom that democratic states are likely to win the wars they fight. Notably, however, we discovered important interaction effects between regime type and initiation. Specifically, we found that democratic initiators are statistically and substantively more likely to win than other kinds of states. Furthermore, the empirical results indicate that the effect is not monotonic among initiators: Democracies are most likely to win, highly autocratic regimes are less likely to win, and mixed regimes (anocracies) are least likely to win. These findings add an important qualification to the conventional view that all initiators have an advantage, as it appears that the degree of advantage varies with regime type. We also found that democratic targets are more likely to win than other targets, though this finding has more limited statistical and substantive significance. It appears that the tendency for democratic targets to win wars is most likely due to the greater legitimacy of the regime rather than to lower rent-seeking or bandwagoning by democratic allies.

These results have important implications for broader theoretical issues. The finding that democratic initiators are more likely to win is strong circumstantial evidence of their concern about how foreign policy outcomes will affect domestic political fortunes. The finding that they almost never lose the wars they start is evidence for the theoretical expectation that demo-

cratic governments wish to avoid foreign policy failures. These results fit nicely with Siverson's (1995) finding that democratic initiators suffer fewer war casualties, which suggests they start wars that they are likely to win with little bloodshed. The alert reader will recall that we laid out two theoretical explanations for the selection effect, only one of which was related to domestic political vulnerability. It is possible that democratic initiators win because their policies are based on better information, and we leave it to future research to explore this issue.

Our findings also have important ramifications for the debate on the origins of the democratic peace. There are two principal explanations of the democratic peace: The normative explanation argues that peaceful means of conflict resolution in domestic affairs drive a peaceful foreign policy, whereas the structural explanation maintains that democratic political institutions such as elections restrain militarist adventures (Russett 1993). Our results are consistent with the latter, as they support the view that democratic leaders are willing to take military action if they are confident it will not threaten their domestic political fortunes. Our findings are not consistent with the normative position that democracies intrinsically prefer a nonviolent foreign policy, as the data reveal they will launch wars under the right conditions.

Finally, the implications for realism are mixed. On the one hand, a number of factors that realists hypothesize to be related to outcomes (in particular, allies, military capabilities, and strategy) apparently do have a strong influence. On the other hand, realism simply cannot explain the powerful relationship between democracy and successful war outcomes. If it were the case that democracies simply fought better, then the explanation could be fit into realism by recognizing that institutional democracy is a component of state power, the key focus of realism. The findings, however, indicate that differences in outcomes are not merely the result of some heretofore-misunderstood power differential. Rather, they are the result of certain characteristics peculiar to democracy itself. These may include differences in decision making and/or vulnerability to public opinion, factors which realists are loath to acknowledge. The relationship among regime type, decisions to initiate, and war outcomes indicates that domestic political structure is an aspect that scholars should not omit from the analysis of international relations.

Our findings present three new empirical puzzles for future research. First, exactly what material or strategic advantage makes democratic initiators more likely to win? Reiter and Meek (1998) suggest that democracies choose maneuver strategies, but more study is needed. Second, why do democracies only initiate wars they will go on to win? Do democratic leaders fear being punished at the polls, or do democracies create better marketplaces of ideas? Third, why do democratic targets not perform even better? Since democracies do not fight one another, they are the targets of a group less likely to win (nondemocratic initiators) than the group that confronts nondemocratic targets (a mix of

democratic and nondemocratic initiators). Continuing theoretical and empirical research can broaden our understanding of these and other issues.

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