Testing the Selectorate

Explanation of the Democratic Peace

by

Bruce Bueno de Mesquita

(Hoover Institution, Stanford University and Department of Politics, New York University)

James D. Morrow

(Department of Political Science, University of Michigan)

Randolph M. Siverson

(Department of Political Science, University of California, Davis)

and

Alastair Smith

(Department of Politics, New York University)
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Two-thousand five hundred years ago, Sun Tzu articulated his views about how best to wage war. More recently, on November 28, 1984 Caspar Weinberger, then Secretary of Defense in the United States, pronounced his doctrine for waging war. These two doctrines, separated by two and a half millennia, one prepared for a leader in a monarchy, the other for a leader in a democracy, express significantly different views about when and how to fight a war. In “An Institutional Explanation of the Democratic Peace” (1999) Bruce Bueno de Mesquita, James D. Morrow, Randolph M. Siverson, and Alastair Smith (hereafter BdM2S2) propose the selectorate theory of war. That theory appears to reconcile the seemingly contradictory perspectives of Sun Tzu and Caspar Weinberger. It focuses on policy choices and resource allocations that are incentive compatible for a leader who hopes to survive in office. When leaders depend on support from a small coalition of essential backers to stay in office – as is true in monarchy, junta, and autocracy – then it is incentive compatible for them to follow the advice given by Sun Tzu. When leaders depend on support from a large coalition of supporters to survive in office then they are expected to follow the recommendations of Caspar Weinberger.

We summarize the relevant elements of the theory laid out by BdM2S2, then show how it relates to claims by Sun Tzu and Caspar Weinberger. ¹ Following that discussion we develop

¹ Those interested in the details behind the selectorate argument and its formal proofs should see BdM2S2 (1999).
measurement procedures and conduct empirical tests of five hypotheses about democracies at war. These hypotheses are based on the selectorate theory and, we believe, are novel implications from that theory.

The Selectorate Theory: A Brief Summary

The selectorate theory shows that leaders who require a large coalition to remain in office necessarily favor spending resources on public goods rather than on private benefits for their coalition of supporters. Those who are backed by a small coalition favor the use of private rewards that only benefit coalition members rather than public goods that benefit everyone. That is, leaders allocate resources to most efficiently reward the group whose backing is essential to keep them in office (BdM2S2 1999, 2002; Bueno de Mesquita, Smith, Siverson, and Morrow 2003). They are assumed to maximize their prospects of retaining power and to leave as many resources over for their discretionary use as is compatible with keeping their coalition loyal. In this way, leaders minimize the risk that someone in their coalition will join a rival’s political coalition and that they will be toppled from power.

A central insight from the selectorate theory is that the resources committed to private goods are spread more thinly as the winning coalition increases in size. Public goods are more attractive instruments for holding onto power for leaders with larger winning coalitions because the value of such goods to members of the winning coalition does not decrease as the winning coalition increases in size.

The selectorate theory has direct applications in the domain of foreign policy and, in particular, for explaining patterns of dyadic conflict. In wartime, as in peacetime, the theory indicates that large
coalition polities (like many democracies) seek gains in the form of public goods, while small coalition systems (like many autocracies) pursue the acquisition of private benefits. Although each type of regime extracts different goods from a victorious war, all else being equal, all types of regimes provide incentives for leaders to prefer victory over defeat. Victory itself is a public good. But whether victory is sufficiently attractive to be worth making an extra effort to achieve – at the expense of risking resources that might have been saved to satisfy cronies – is quite another matter.

To illustrate these central ideas, consider the limiting case. Suppose a leader must choose between making an all-out effort that guarantees victory (with its possible access to spoils and/or policy gains) and making no additional effort at all, even though this makes defeat inevitable. In the former case, the extra resources behind an all-out effort are not available for distribution to the winning coalition as private goods. Say the leader has $R$ resources that could be committed to the war effort or distributed as private goods to her winning coalition, the value of victory is $v$ (with $v$ including all public and private goods associated with victory in war), the value of defeat $0$, and the cost of fighting to the members of the winning coalition $k$. If the leader makes an all out effort, her state wins the war, and her coalition receives a payoff of $v-k$. If instead of making an all out effort she distributes the resources to the $W$ members of her winning coalition as private goods, their payoff is $0-k+R/W$, assuming that each coalition member receives an equal share of the private goods.

Since survival in office depends upon maintaining the support of the winning coalition, leaders

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2 We use the phrase large coalition and the term democracy interchangeably purely to improve readability. Likewise, we use the phrase small coalition and the term autocracy interchangeably throughout for the same reason. Democracy is not identical to a large coalition system nor is autocracy the only type of small coalition regime. So, if the use of democracy or autocracy seems confusing, substitute large coalition and small coalition system throughout.
One might argue that the value of remaining in office is a function of regime type. As Goemans (2000) points out, being ousted is more often fatal for autocrats than democrats. This reinforces our conclusion. Our assumption is that the primary goal of all leaders is to keep their jobs. Given this, the principle component in every leader's objective function is reselection. It may be true, conditional on being ousted, that autocrats are more likely to be killed or exiled than are democrats, but it is also true that the risk of being ousted is most effectively diminished for autocrats by spending less on the war effort and reserving more for their domestic coalition.

Autocrats are expected to choose to provide private goods to their supporters even if, in this example, that act makes military defeat inevitable insofar as $R/W$ increases in value as $W$ shrinks in size.

Autocratic leaders could improve their chances of victory by trying harder but this is not incentive compatible with their desire to stay in office. BdM2S2 (1999) show theoretically that effort level increases with coalition size, $W$, in general provided that the ex ante prospects of victory are not already overwhelming.

If the prospects of winning the war are not very good, then small coalition leaders (autocrats) may still be willing to fight according to the selectorate logic but large coalition leaders (democrats) are more likely to avoid war and seek a negotiated settlement of differences with their foe. If large coalition leaders believe that their chances of victory are excellent, then they do not have a need to try especially hard. Of course, this does not imply that democratic leaders are particularly dovish since when it is required, democratic leaders will make an extra effort to win the war. Autocrats, in contrast, prefer to retain resources to buy off their coalition rather than make extra effort. So, democrats try especially hard when, having chosen to fight (believing their chances for victory are excellent), they come to realize

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that their expectation of an easy victory was mistaken. In this scenario they are expected to increase their effort over their initially chosen level in order to improve the chances of victory. In contrast, small coalition leaders (autocrats) are unlikely to increase their war effort as they learn more about their prospects of victory during the course of fighting. According to the selectorate argument, they choose a level of effort at the outset and they do not meaningfully increase beyond that effort level if the war progresses poorly. Instead, they conserve resources to dole out as private benefits to their key backers as it is private benefits and not the public goods aspect of military victory that helps keep autocrats in office.

The predicted difference in effort levels when a war does not resolve quickly follows from the selectorate theory but not, we believe, from other explanations of the democratic peace (Maoz and Abdolali 1989; Morgan and Campbell 1991; Bueno de Mesquita and Lalman 1992; Maoz and Russett; 1993; Dixon 1994; Ray 1995; Oneal and Russett 1997; Mousseau 1998). As such, evidence about these claims can help sort out competing accounts of the democratic peace. Other empirical claims about the democratic peace are also unique to the selectorate argument, especially hypotheses about the practice of imperialism by democracies and the willingness of democratic leaders to use force against other democracies provided they believe that their target is unlikely to retaliate in kind. These other hypotheses contradict the normative explanations of the democratic peace. They are tested elsewhere (Bueno de Mesquita, Smith, Siverson and Morrow 2003).

**Sun Tzu, Caspar Weinberger and the Selectorate Theory of War**

The predictions made by Sun Tzu, Caspar Weinberger, and deduced by BdM2S2 provide the
basis for several empirical tests. Sun Tzu wrote:

The skillful general does not raise a second levy, neither are his supply wagons loaded more than twice. Once war is declared, he will not waste precious time in waiting for reinforcements, nor will he turn his army back for fresh supplies, but crosses the enemy’s frontier without delay. The value of time – that is, being a little ahead of your opponent – has counted for more than either numerical superiority or the nicest calculations with regard to commissariat. . . .Now, in order to kill the enemy, our men must be roused to anger. For them to perceive the advantage of defeating the enemy, they must also have their rewards. Thus, when you capture spoils from the enemy, they must be used as rewards, so that all your men may have a keen desire to fight, each on his own account (pp 9-14).

Caspar Weinberger indicated:

First, the United States should not commit forces to combat overseas unless the particular engagement or occasion is deemed vital to our national interest or that of our allies. . . .

Second, if we decide it is necessary to put combat troops into a given situation, we should do so wholeheartedly, and with the clear intention of winning. If we are unwilling to commit the forces or resources necessary to achieve our
objectives, we should not commit them at all. . . .

Third, if we do decide to commit forces to combat overseas, we should have clearly defined political and military objectives. And we should know precisely how our forces can accomplish those clearly defined objectives. And we should have and send the forces needed to do just that. . . .

Fourth, the relationship between our objectives and the forces we have committed – their size, composition, and disposition – must be continually reassessed and adjusted if necessary. Conditions and objectives invariably change during the course of a conflict. When they do change, then so must our combat requirements. . . .

Fifth, before the US commits combat forces abroad, there must be some reasonable assurance we will have the support of the American people and their elected representatives in Congress. . . .

Finally, the commitment of US forces to combat should be a last resort.

Sun Tzu’s perspective can coarsely be summarized as follows: (1) advantage in capabilities is not as important as quick action in war; (2) resources should be sufficient for a short campaign that does not require reinforcement or significant additional provisions from home; and (3) distributing private goods is essential to motivate soldiers to fight. Sun Tzu says that if the army initially raised proves insufficient or if new supplies are required more than once, then the command lacks sufficient
skill to carry the day, implying that the fight is best given up rather than risk exhausting the state’s
treasure and giving additional advantages to rival chieftains. Indeed, his advice is rather specific. “If
equally matched, we can offer battle; if slightly inferior in numbers, we can avoid the enemy; if quite
unequal in every way, we can flee from him” (Sun Tzu, p. 16).

Weinberger’s doctrine does not emphasize swift victory, but rather a willingness to spend
however much victory requires, a point made even more emphatically in the Powell Doctrine.
Weinberger and Colin Powell both contend that if the United States is not prepared to commit
resources sufficient to win, then the United States should not get involved at all. Here they both argue
for great selectivity in choosing when to risk war. At the same time Weinberger (and Powell) recognizes
that once committed, victory may take a long time and that, therefore, there must be regular
reassessment of objectives in light of evolving circumstances. He endorses a preparedness to raise a
larger army and to spend more treasure if warranted by subsequent developments.

Sun Tzu emphasizes the benefits of spoils to motivate combatants (“when you capture spoils
from the enemy, they must be used as rewards, so that all your men may have a keen desire to fight,
each on his own account”). Weinberger emphasizes the public good of protecting vital national
interests. For Sun Tzu, the interest soldiers have in the political objectives behind a fight or their concern
for the common good is of no consequence in determining their motivation to wage war. That is why he
emphasizes that soldiers fight, “each on his own account.”

Sun Tzu’s attentiveness to private rewards and Weinberger’s concentration on the public good
of protecting the national interest represent part of the great divide between small coalition and large
coalition regimes posited by the selectorate theory. That theory leads to the hypothesis that leaders of
political systems that depend on a large coalition only enter into war if they are confident of victory. Otherwise, they seek a peaceful resolution to the dispute in which they are engaged. Leaders in systems that depend on a small coalition for the retention of power are prepared to fight even when the odds of winning are not particularly good. This implies a selection effect in the distribution of regime types in the observed cases of war and a different selection effect in cases of disputes that do not become wars.

If the selectorate account is correct, we should only rarely observe large coalition regimes fighting in a war when the large coalition state’s ex ante prospect of victory is not decisive. Yet, large coalition systems may well be prepared to engage in disputes short of war for which their prospects of victory are not overwhelming. That is, as long as the large coalition leader believes that the dispute is unlikely to escalate to war, the leader may move partially up the escalation ladder, backing down and negotiating if he or she concludes that the other side is prepared to fight and that his or her prospects of victory are not sufficient to justify fighting a war rather than making concessions. According to the selectorate account that is why democracies are observed to negotiate more often to settle disputes than are other types of regimes. That is also why, according to the selectorate theory, disputes arise between democratic states even though wars do not.

The reasoning for the latter claim is straightforward. A large coalition state will attack another large coalition state only if the target is sufficiently weak so that the target is expected to prefer to negotiate rather than fight back, taking both the pre-war military balance and effort levels into account. Since the democratic target will also try hard if it chooses to fight back, the initiating democracy must either have a great pre-war military advantage or a great advantage in overall resource endowments that can be put to use in the war effort or it must be confident that its rival’s resources are insufficient for
the target to believe it can have a near certainty of victory. Thus, the attacking democracy must be sure that its target democracy is *unsure* of victory; this is of paramount importance in a head-to-head military dispute between two democracies. Thus the selection arguments suggest that large coalition systems are more selective about the disputes in which they participate and about waging war than are small coalition systems, but large coalition systems are less selective about participating in disputes than they are about participating in war. Reiter and Stam (1998) have already demonstrated that the selection argument is consistent with war outcomes. They show that when democrats initiate wars they are unusually likely to win. According to Reiter and Stam (1998) 93 percent of wars initiated by democratic states are won by them. In contrast, only about 60 percent of wars initiated by non-democracies are won by the initiator. Below we test other aspects of these selection arguments.

When the ex ante anticipation of victory is high, large coalition (democratic) regimes should try no harder for victory than do their autocratic (small coalition) counterparts. However, if a large coalition regime goes to war and then learns during the course of the war that its ex ante expectation of victory was overstated – as when victory does not come easily – then it should increase its war effort. Here the selectorate account agrees with Caspar Weinberger when he emphasizes the need to adjust the military effort as warranted by circumstances in the war. Conversely, small coalition regimes that discover that the war is tougher to win than expected are predicted by the selectorate account to make little if any additional effort. They do not want to dissipate additional resources on the war effort when

4 In fact there are numerous cases of violent conflicts between pairs of democracies in the Correlates of War Project’s militarized disputes data. None become wars because while one sided used force, the other side backed down rather than fight back. These cases are incompatible with the normative account of the democratic peace.
those resources would be better reserved for use as private benefits to the leader’s essential
supporters. As suggested by Sun Tzu, the selectorate theory predicts that if the initial effort proves
insufficient, then small coalition leaders pull back rather than dedicating incrementally more resources to
the war effort.

As with the arguments about how best to fight a war, the selectorate theory, Sun Tzu, and
Caspar Weinberger provide consistent clues about how best to end the war and experience the peace.
The selectorate theory implies a difference in the motivations behind war fighting as a function of regime
type. Leaders of large coalition regimes must provide public goods to survive in office. Consequently,
their war aims are oriented toward enhancing public well-being at home. To achieve this enhancement,
they fight wars disproportionately with the intention of imposing policies on their foes. Leaders of small
coalition systems survive by providing their backers with private goods. Thus, they disproportionately
choose to fight wars over the acquisition of territory, slave labor, or other booty. As Sun Tzu, an
adviser to a small coalition leader, aptly noted, “when you capture spoils from the enemy, they must be
used as rewards, so that all your men may have a keen desire to fight, each on his own account.”
Caspar Weinberger, in contrast, advised a large coalition leader and emphasized the importance of
national welfare as the justification for war, “the United States should not commit forces to combat
overseas unless the particular engagement or occasion is deemed vital to our national interest or that of
our allies.”

When victory leads to the extraction of wealth from the vanquished, there is little need to incur
additional costs by pursuing such activities as regime replacement, nation building, or the like. Yet,
when wars are fought to achieve policy objectives, it is often necessary to commit resources that are
used to oversee the implementation of the desired policies in the vanquished country or otherwise to incur costs in maintaining a policy-based settlement. Bueno de Mesquita et al (2003) offer a formal proof of these claims. Here we explore the empirical implications. In particular, we expect that post-war expenditures return to pre-war levels more quickly in smaller coalition systems than in larger coalition systems precisely because the latter must enforce the peace while the former merely take wealth and go home.

Sun Tzu exerted a lasting influence on the study of war – and on his own King Ho Lu of Wu – precisely because his recommendations are the right recommendations for leaders, like monarchs and autocrats, who rule based on a small coalition. The Weinberger Doctrine – like its more recent replacement, the Powell Doctrine – exerts influence over American security policy precisely because it recommends the most appropriate actions for leaders who are beholden to a large coalition. The hypotheses implied by these doctrines and by the selectorate theory are summarized in Figure 1. The text embedded in outlined rectangles in that figure indicate the predicted patterns of behavior that are tested below. The central hypotheses can be stated more precisely as follows:

H1: Larger coalition systems are predicted to exert greater selectivity in the decision to wage war than are smaller coalition systems. Therefore, few democracies are expected to be observed waging war when their ex ante military advantage over the rival is not overwhelming.

H2: Larger coalition systems are predicted to exert greater selectivity in the decision to participate in militarized interstate disputes than are smaller coalition systems when the odds of military victory are not overwhelming. However, large coalition systems are
predicted to be less selective in these non-war situations than they are about fighting in wars. The same is not expected to be true of smaller coalition regimes.

H3: Conditional on waging war, the military effort exerted by small coalition regimes (some with an ex ante low probability of victory) is the same or less than the effort exerted by large coalition regimes (generally with high ex ante probabilities of victory) at the outset of fighting. That is, the smaller coalition regimes do not make a greater effort than do larger coalition governments in the early phase of a war.

H4: If the war continues for a prolonged period, say more than one year, then leaders in larger coalition systems are predicted to shift more resources into the war effort while leaders in smaller coalition systems are predicted to put fewer additional resources into the remaining war effort.

H5: At the end of a war, larger coalition leaders are expected to maintain a higher level of military expenditures than are smaller coalition leaders because the former must enforce their desired policy settlement while the latter need only extract the valuable private goods for which they fought. Small coalition leaders are predicted to return their country’s military spending to its inflation-adjusted pre-war level and large coalition leaders to maintain spending above the pre-war level.

Figure 1 About Here

Data and Design

To test our hypotheses, we construct a data set in which the unit of analysis is a country-year.
For each nation-year we collect data on military expenditures taken from the Correlates of War Project (COW). These data are included for about 140 countries and for the period 1816-1993.

In assessing how hard nations try in war, we focus on differences in military spending during wartime compared to peacetime across regime types, controlling for prior military spending. It hardly needs saying that such expenditures are the immediate way societies pay for war. Any shift of resources into war effort above and beyond “normal” pre-war military spending reflects a decision to try harder, depriving the citizenry either of government services sacrificed to pay for the extra war effort or of personal income not taxed by the government before the war. This is true even if the extra spending goes into the pockets of military and civilian leaders who use the opportunity to steal more from the people through defense contract kickbacks and the like. Unfortunately, this use of military spending is common, especially in autocracies. To the extent that such corruption arises, it undermines the empirical observation of the main effects predicted here.

The dependent variable is the logarithm of each country’s annual military expenditures (LnMilEx). We use the logged value because we are interested in the magnitude of changed effort. The regression models we specify includes the lagged value of LnMilEx (called LagLnMilEx) as a control variable. With the inclusion of this variable the model effectively looks at the proportionate change in military expenditure; that is, the difference in the logged values is the proportional increase or decrease in military expenditures.

We construct three variables that estimate different phases of war. The first, called War1 is coded as 1 if a state finds itself at war and it is the first year of the war. Of course, War1 is coded as 0 under all other contingencies. The second, called Existing, is coded 1 if a state is at war and the war is
in at least its second year. The third is called End and is coded as 1 in the first year for which a country that had been at war in the previous year now finds itself no longer at war.

We estimate the order of magnitude of the size of the polity’s institutionally required coalition (W) as a composite index based on the variables REGTYPE, taken from Arthur Banks’s data, and XRCOMP, XROPEN, and PARCOMP from the POLITY IV data. When REGTYPE is not missing data and is not equal to codes 2 or 3 so that the regime type was not a military or military/civilian regime, we award one point to W. Military regimes are assumed to have particularly small coalitions and so are not credited with an increment in coalition size through the indicator of W. When XRCOMP, that is, the competitiveness of executive recruitment, is larger than or equal to code 2 then another point is assigned to W. An XRCOMP code of 1 means that the chief executive was selected by heredity or in rigged, unopposed elections, suggesting dependence on few people. Code values of 2 and 3 refer to greater degrees of responsiveness to supporters, indicating a larger winning coalition. XROPEN, the openness of executive recruitment, contributes an additional point to W if the executive is recruited in a more open setting than heredity (that is, the variable's value is greater than 2). Executives who are recruited in an open political process are more likely to depend on a larger coalition than are those recruited through heredity or through the military. Finally, one more point can be contributed to the index of W if PARCOMP, competitiveness of participation, is coded as a 5, meaning that the state has stable, enduring organized political groups that regularly compete in national politics. This variable is used to indicate a larger coalition on the supposition that stable and enduring political groups would not persist unless they believed they had an opportunity to influence incumbent leaders; that is, they have a possibility of being part of a winning coalition.
No one variable in our index alone indicates a large coalition size, but polities that meet more of the criteria seem to be more likely to have a larger coalition than polities that meet fewer criteria because the criteria speak directly to dependence on more or fewer people in gaining and holding office. We divide the score generated by the above procedure by the maximum value of the W index, which is 4. The normalized minimum value, then, is 0 and the maximum is 1. The progression from 0 to 0.25 to 0.50 to 0.75 and up to 1.0 is not linear. We believe that the indicator W is more likely to be exponential in its reflection of order of magnitude changes in coalition size rather than linear. The data and relevant programs for replicating our results are found at http://www.nyu.edu/gsas/dept/politics/data.shtml.

To assess the impact of larger coalition size on war effort at each of the three phases of war (War1, Existing, and End) we interact W with each of the war dummy variables. Then War1 by itself assesses the effort of smaller coalition states once they find themselves at war while War1 + War1W evaluates the effort made by large coalition systems. Likewise Existing + ExistingW is the indicator of the effort level made by large coalition regimes once it is evident that they are committed to a protracted fight that was not terminated within the first year of the war. Finally, EndW is the incremental effort presumably needed to sustain the peace by large W states once the war has ended while End evaluates the general effort level expected at the close of a war.

To alleviate the possibility that our empirical results might be the consequence of spurious temporal or spatial effects we include the interaction of geographic region and year as a set of fixed effects dummy variables. Thus, each analysis includes a control variable for Europe in 1950, Europe in 1951, North America in 1950, North America in 1951, etc. We include these fixed effects because
there may be spatial or temporal dependence in our data resulting, for instance, from factors that influence fluctuations in economic growth rates, war-proneness or other factors in particular parts of the world in particular years. In this way we recognize that environmental factors outside any government’s control, such as drought, the business cycle, bellicose activities by neighbors not aimed directly at the state in question, and a host of other factors have an exogenous impact on government decisions during wartime and peacetime (Green, Kim, and Yoon 2001).

We specify six geographic regions based on the Correlates of War region coding. These are: Europe, South and Central America, North America and the Caribbean, Asia, the Middle East, and Africa. We do not discuss the fixed effects in the text as they are strictly statistical corrections of no substantive interest regarding the tests of our theory. Their presence, however, makes our analysis especially demanding as we have removed any temporal and spatial factors that might be the actual explanation for shifts in the values of our dependent variable. The number of fixed effects variables can be large, so the analysis is quite demanding.

As an alternative, even more demanding fixed-effect control, we replicate our results using country fixed effects (based on the country’s standard three-digit code as assigned by COW). This test controls for the steady-state characteristics of particular countries. For instance, population size does not change dramatically from year to year within a country and so is controlled for by the country-specific fixed effects. As such, these fixed effects create an even more demanding test than the region-year fixed effects test.

Our first two hypotheses require different variables from hypotheses 3-5. Here we need to evaluate disputes in terms of ex ante beliefs about the prospects of victory. We do so in several
different ways. We create variable called Tough_60, Tough_70, Tough_80, and Tough_90. Each of these is a dummy variable that assesses whether a country and its allies at the outset of a dispute had total COW capabilities that were less than 60 percent, 70 percent, 80 percent, or 90 percent respectively of the capabilities controlled by the two sides to the dispute. A second set of dummy variables evaluate whether the country in question on its own had less than 60 percent, 70 percent, 80 percent, or 90 percent respectively of the COW composite capabilities for the dispute dyad in question. As the general results are the same in each case, we report in the text only the findings for Tough_70. The results from the other tests can be downloaded from the website provided above. To recapitulate, Tough_70 is coded as 1 if the country in question anticipates that if there is a war it will be a tough, costly war in that the country and its allies combined account for less than seventy percent of the total expected power to be available to the two sides in the war. We reiterate that raising or lowering the bar on toughness does not materially alter the findings.

Testing the Predictions

With the theory and coding procedures in mind, we turn now to the empirical results. These plus the results from many additional tests are available at the website that contains the data used and the programs used to generate the variables.

Regime Selectivity in Disputes and in War

The first hypothesis maintains that larger coalition systems exert greater selectivity in the decision to wage war than do smaller coalition systems so that few democracies are expected to be
observed waging war when their ex ante military advantage over the rival is not overwhelming. The second hypothesis suggests that the selectivity of large coalition regimes, though still present, is attenuated when it comes to disputes that do not escalate to the level of warfare. Table 1 summarizes the comparison of coalition size to willingness to participate in a war depending on whether by the Tough_70 criterion, the state in question has overwhelming odds of victory (Tough_70 = 0) or not (Tough_70 =1). The cases that are included are all instances in which the COW variable called Hostlev is coded as 5, indicating that the state in question met the COW criteria for waging war. Hostlev scores range between 1 and 5, with scores lower than 5 representing progressively lower levels of threat.

Table 1 About Here

The evidence in Table 1 clearly shows that as coalition size increases there is a dramatic decline in the willingness of governments to participate in war when the road to victory is expected to be tough. In fact, Pearson’s $\chi^2$ for the table is 57.8 which, with four degrees of freedom, would occur by chance fewer than one time in a thousand. The likelihood-ratio $\chi^2$ is even larger. Indeed, even the ten cases of democracies that were willing to fight with relatively poor odds is instructive. These cases are Canada, the United Kingdom, France, Australia, and New Zealand in 1939; Greece in 1896, 1897, 1912, and 1913; and Israel in 1948. Israel in 1948 did not yet have an elected government and so had not yet established its democratic credentials. David Ben Gurion and the first Knesset were not elected to office until 1949. The World War II cases highlight a feature of the selectorate theory. Although Britain and France (along with Britain’s Commonwealth allies) found themselves at war with Germany in 1939, they desperately tried to find a negotiated accommodation for Hitler’s ambitions. The onset of war had been postponed by Britain’s and France’s acquiescence to Germany’s over-running of Czechoslovakia
and Austria. Even after the Germans invaded Poland, the Chamberlain government resisted declaring war, indeed at the cost of its eventual loss of power to Churchill. Thus even most of the few apparently exceptional cases are consistent with the theory when examined in a bit more depth.

Recall that the second hypothesis makes three distinct claims. It says that large coalition systems facing a tough fight are more selective than small coalition regimes in the same circumstance when it comes to involvement in disputes that do not rise to the level of war. It also indicates that large coalition systems are more selective about fighting in a war than they are about becoming engaged in disputes when the war or dispute is expected to be tough to win. Finally, it indicates that small coalition states facing a tough situation are no more or less selective about war-fighting than they are about becoming embroiled in lesser disputes. These claims are evaluated in Table 2 and in comparing the results in Tables 1 and 2.

Table 2 About Here

It is evident that the second hypothesis is supported by the evidence. This hypothesis makes the three claims just summarized. With regard to the first claim, the Pearson’s $\chi^2$ and the likelihood ratio $\chi^2$ are each greater than 67 (with four degrees of freedom) and would occur by chance fewer times than once in a thousand samples, strongly supporting the selection argument for disputes that fall short of war. The second and third claim is tested by comparing the distribution of non-war dispute participation and war participation for states with smaller coalitions ($W < 0.75$) and states with larger coalitions ($W \geq 0.75$). About 63 percent of the disputes short of war in which smaller coalition systems become involved are tough. For disputes that escalate to war, the comparable figure is about 59 percent. These are not statistically different from each other. Looking at larger coalition systems, the percentage of
disputes short of war that are expected to be tough is about 52. In the case of wars, the comparable figure is about 32 percent, a highly significant difference. If we make equivalent comparisons, but restricting ourselves to the smallest (W = 0) and the largest (W = 1) coalitions systems, the results are even more striking.

While democracies are less likely than autocracies to become involved in crises in which they do not have exceptionally good prospects of victory, the degree of selectivity is magnified when it comes to making a decision to wage war. Democracies engage in disputes, but when the prospects of military success are not overwhelming they try to avoid war and seek a negotiated settlement. Autocracies do not behave in the same way. They are more willing to become embroiled in disputes when the odds of victory are not great and, once engaged they show no reluctance to go on and wage war under these circumstances. They are no more selective about fighting wars than they are about picking disputes.

Regimes and War Effort

Regime type influences how nations fight wars. Our remaining three hypotheses draw out distinctions in the effort made by large and small coalition regimes to win the wars in which they are engaged. Sun Tzu reminds us that leaders should not reprovision their wagons more than twice. He was, of course, addressing a monarch. Caspar Weinberger offers different advice, asserting that democracies should continually reassess what resources are needed to win. We hypothesize that in the first phase of war (indexed by War1 and War1W), democracies try at least as hard as autocracies. In the second phase of war, when fighting is prolonged (indexed by Existing and ExistingW), larger
coalition systems increase their effort to achieve victory by pouring more resources into the war while smaller coalition combatants do not. Finally, at the end of the war (indexed by End and EndW), democracies continue to make a significant effort to enforce the peace while smaller coalition leaders cut costs, returning to their pre-war allocation of resources.

Table 3 summarizes the results of two regression analyses of hypotheses 3-5. The first column of results is based on the region-year fixed-effects model. The second column shows the findings for the country fixed-effects analysis. The tests themselves control for the previous year’s military spending and for the institutional structure (that is, size of W) lagged by one year. The control for the lagged logarithm of military expenditures makes our tests especially demanding. The difference between the logarithm of the current year’s military spending and the previous years’s spending captures the proportionate change in military expenditures. Since virtually all the variance in a given year’s military spending level is likely to be explained by the previous year’s spending, controlling for lagged expenditures focuses attention on whether war participation and political institutions together account for the marginal change in spending.

By controlling for the previous year’s institutional structure (LagW) we correct for any disparity in peacetime military spending that is due to political institutions. Our interest here is in how institutional arrangements shape military expenditures during war participation. A positive coefficient on the LagW control variable, for instance, indicates how much more large coalition systems spend on the military compared to small W systems in general.

The tests reported in Table 3 are replicated, adding a control for the percentage of the capabilities possessed by the state in question to see whether power, rather than regime type, explains
differences in effort level. We also replicate our tests substituting the POLITY indicator for Democracy minus its indicator for Autocracy as a substitute for W. The inclusion of the power control variable does not alter any results and is itself statistically insignificant. Likewise, substituting Democracy-Autocracy for W produces substantively and statistically similar results. It is political institutions, not power, that shapes decisions regarding effort level in war. Because none of these additional tests alter any of our conclusions, we do not report the details here. They can be inspected by replicating our findings using the programs and data provided at our website (http://www.nyu.edu/gsas/dept/politics/data.shtml).

Table 3 About Here

The results reported in Table 3 (and the comparable regression analyses that substitute Democracy-Autocracy for W and that add further control for the proportion of military capabilities possessed by the country in question as compared to its adversary) support the three remaining hypotheses. In the first year of a war all belligerents, not surprisingly, spend more on the military than they were spending before the war (War1 is positive and significant). Regime type does not influence this initial effort level, except insofar as selection effects operate as demonstrated earlier. That is, smaller coalition regimes are willing to fight whether their expected prospects of victory are good or not. Larger coalition regimes only fight if they believe their chances of victory are substantial. Therefore, one might think that larger coalition governments – democracies – do not need to try hard in the wars they fight at least at the outset when they are confident of victory while autocrats could benefit from extra effort because many of their wars are highly risky. Yet, as expected, large coalition regimes, even when fairly confident of victory, try as hard, but no harder than small coalition systems in the first year of war. That is, War1W is not significant but War1+War1W is. All types of regimes put more resources behind
their military at the beginning of a war as compared to their pre-war effort.

Once a war has been underway for a while, the experiences of the battlefield give leaders an opportunity to update their beliefs about the prospects of victory. For democratic systems in particular the prolongation of fighting must indicate that victory will not come as easily as had been expected at the outset. Therefore, the selectorate theory leads to the prediction that at this stage in the war large coalition systems will put more resources into their war effort than will small coalition regimes. This predicted difference in effort is supported by the evidence. The variable Existing is not significant, indicating that small coalition regimes do not put increased effort into the war past the initial phase measured by War1. They maintain the initial level of effort but no more. The sum Existing + ExistingW indicates the effort level made by large coalition systems during the stage of prolonged fighting for those wars that do not end in the first year. This sum is highly significant due to the marginal impact of ExistingW, the indicator of the incremental effort by larger coalition systems. Indeed, the coefficient either with region-year or country-specific fixed effects is so large that it is evident that democracies almost redouble their high effort level from the first year of fighting.

When the war finally ends, more autocratic regimes are expected to cut back on their military spending to a level approximately equal to their pre-war effort. They are expected to take whatever spoils they can and they are expected not to invest more resources in maintaining the peace. More democratic governments, in contrast – and remember they win almost all wars they initiate – are expected to cut back more slowly, continuing to invest in sustaining the post-war peace. They must bear the costs of enforcing the peace because they typically fight over policy concerns rather than for spoils that are easily extracted and taken home. Thus, the selectorate theory leads us to expect that End
will be significant and have a negative coefficient of approximately the same size as the positive coefficient of War1 + Existing. In fact this is the case. End is negative and highly significant and the absolute value of the coefficient for End is statistically indistinguishable from War1 + Existing whether we evaluate it using country fixed effects or region-year fixed effects. These findings indicate that small coalition regimes return to their pre-war spending level when the fighting ends.

Conversely, the theory predicts that EndW will be positive and the sum of coefficients for War1 + War1W + Existing + ExistingW + End + EndW will be positive. That is, large coalition states are presumed to spend on maintaining the peace and so are predicted not to return to their prewar military expenditure level. These claims are also strongly supported by the evidence. EndW is significant and positive and the post-war spending level for large coalition states is significantly higher than the pre-war steady-state.

The impact of coalition size on military expenditures is displayed graphically in Figure 2. Using the estimates in model 2, we predict military expenditures during and after a one year war and during and after a two year war for both small and large coalition systems (W = 0, W = 1). Since the figures for military expenditures are in nominal dollars, there is an inflationary effect. This makes interpretation of the numbers difficult since the relevant comparisons become changes in slopes. Hence, for visual clarity, in Figure 2 we compare the predicted expenditures during and after war relative to predicted expenditures if no war occurs. Figure 2 assumes an initial baseline spending level of 100. If no war occurs then military spending remains at 100.\textsuperscript{5} Figure 2

\textsuperscript{5}This normalization biases the figure against the hypotheses since large W systems generally increase their expenditures each year by a greater amount than small W systems, as evidenced by the positive coefficient on the lagged W variable.
shows that in the first year of a war all regimes increase their military expenditure by, on average, about a third over peacetime expenditures. This increase is similar for both large and small coalition systems. However, this is where the similarity in wartime military expenditures ends. If the war continues for a second year then Figure 2 shows that a small coalition system makes no additional effort. In contrast, having failed to achieve victory in the first year, a large coalition government further increases its military expenditures. As Caspar Weinberger suggested, democracies reassess. When military expenditures are insufficient to win, as witnesses by the failure to achieve victory in the first year, democratic leaders shift additional resources towards the public goal of victory. As the selectorate theory predicts, this behavior is compatible with surviving in office in a large coalition system. Small coalition leaders do not make this extra effort because it is incompatible with the goal of political survival in small coalition systems.

The predictions of the selectorate theory, as we saw statistically and now see visually, are also borne out by post-war expenditures. Independent of the length of the war, in the year after the war, military expenditures in small coalition systems return to pre-war levels. The selectorate theory as expressed in Bueno de Mesquita et al (2003) suggests that small coalition leaders grab resources, land and other booty and then return home. The pattern of post-war expenditures in large W systems differs. Although military spending drops in large coalition systems following the conclusion of hostilities, they do not return to pre-war levels (Russett 1969). In order to sustain their policy victories, large coalition leaders need to continue to station troops and maintain pressure on their defeated foe.
Conclusion

We tested five novel hypotheses derived from the selectorate account of the democratic peace. The hypotheses point to subtle differences in selection effects that should operate during crises that fall short of war and during wars. Leaders of large coalition, democratic states were shown to be more selective than their small coalition counterparts in their willingness to fight wars when the odds of victory are not overwhelming. They are also more selective than their small coalition counterparts in their willingness to take part in disputes that fall short of war when the odds are not exceptionally favorable. Still, as predicted, they are less selective about this form of participation than they are about war. Small coalition leaders show no difference in their preparedness to engage in disputes short of war or in war as a function of their odds of victory. These results hold whether the odds of victory are assessed based on a 60 percent, 70 percent, 80 percent, or 90 percent threshold.

Once a war has begun, we demonstrated that the effort made to achieve victory changes as the war progresses. Large coalition leaders according to the theory almost always believe at the outset that their odds of victory are very high, while small coalition leaders tend to have less of a military advantage. Yet, both types demonstrate a significant increment in their military expenditures when at war even though the democratic leaders, given their exceptional odds, might be thought not to need to try as hard as their autocratic counterparts. Once the war fails to resolve quickly, democrats try even harder while autocrats do not. And when the war is over, democrats continue to spend more on the military than they were spending before the war began. Autocrats return to their pre-war spending level.

The selectorate theory provides a deductive foundation for each of the hypotheses tested here. Each hypothesis found strong support in empirical tests that span virtually every country in the world for
more than 175 years. These results seem to add credence to the selectorate account and highlight a few of its important differences from other assessments of the democratic peace.
Figure 1: Predicted Patterns of War Participation and Effort

Ex Ante Probability of Victory

High

All Regime Types are Willing to Fight

Low to Moderate

Large W Regimes are Reluctant to Fight

Victory Proves to be Difficult: Fighting is Prolonged

Large W Combatants Increase Their Effort

Small W Combatants Decrease Their Effort

Post-War Expenditures

Reduce Military Expenditures More Slowly than Small W Systems

Rapidly Reduce Wartime Military Expenditures

as a Function of Coalition Size
Figure 2: Military Expenditure, Winning Coalition Size and the Duration of War
Table 1: Winning Coalition Size and War Participation

<table>
<thead>
<tr>
<th>Tough_70</th>
<th>0</th>
<th>0.25</th>
<th>0.50</th>
<th>0.75</th>
<th>1.00</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>44 (33.3)*</td>
<td>78 (42.4)</td>
<td>74 (44.3)</td>
<td>79 (59.0)</td>
<td>57 (85.1)</td>
<td>332 (48.5)</td>
</tr>
<tr>
<td>1</td>
<td>88 (66.7)</td>
<td>106 (57.6)</td>
<td>93 (55.7)</td>
<td>55 (41.0)</td>
<td>10 (14.9)</td>
<td>352 (51.5)</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>184</td>
<td>167</td>
<td>134</td>
<td>67</td>
<td>684</td>
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</tbody>
</table>

* Values in parentheses are the percentage of the column that meets the row condition.
Table 2: Winning Coalition Size and the Participation in Disputes that Fall Short of War

Winning Coalition Size (W)

<table>
<thead>
<tr>
<th>Tough_70</th>
<th>0</th>
<th>0.25</th>
<th>0.50</th>
<th>0.75</th>
<th>1.00</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>241 (34.0)</td>
<td>603 (39.8)</td>
<td>516 (36.7)</td>
<td>652 (46.8)</td>
<td>451 (48.7)</td>
<td>2463 (41.4)</td>
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<tr>
<td>1</td>
<td>467 (66.0)</td>
<td>914 (60.3)</td>
<td>892 (63.4)</td>
<td>742 (53.2)</td>
<td>476 (51.4)</td>
<td>3491 (58.6)</td>
</tr>
<tr>
<td>Total</td>
<td>708</td>
<td>1517</td>
<td>1408</td>
<td>1394</td>
<td>927</td>
<td>5954</td>
</tr>
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</table>

* Values in parentheses are the percentage of the column that meets the row condition.
Table 3: Political Institutions and Effort Levels During War

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1: LnMilex</th>
<th>Model 2: LnMilex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Region-Year Fixed Effects</td>
<td>Country Fixed Effects</td>
</tr>
<tr>
<td>LagLnMilex</td>
<td>0.976 (0.002) 0.000</td>
<td>0.983 (0.002) 0.000</td>
</tr>
<tr>
<td>LagW</td>
<td>0.017 (0.014) 0.233</td>
<td>0.071 (0.020) 0.000</td>
</tr>
<tr>
<td>War1</td>
<td>0.284 (0.052) 0.000</td>
<td>0.317 (0.052) 0.000</td>
</tr>
<tr>
<td>War1W</td>
<td>-0.016 (0.086) 0.852</td>
<td>-0.002 (0.087) 0.982</td>
</tr>
<tr>
<td>Existing</td>
<td>0.010 (0.043) 0.811</td>
<td>0.037 (0.042) 0.380</td>
</tr>
<tr>
<td>Existing</td>
<td>0.207 (0.070) 0.003</td>
<td>0.271 (0.072) 0.000</td>
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<tr>
<td>End</td>
<td>-0.271 (0.054) 0.000</td>
<td>-0.237 (0.53) 0.000</td>
</tr>
<tr>
<td>EndW</td>
<td>0.194 (0.089) 0.029</td>
<td>0.151 (0.090) 0.095</td>
</tr>
<tr>
<td>Constant</td>
<td>0.310 (0.023) 0.000</td>
<td>0.209 (0.019) 0.000</td>
</tr>
<tr>
<td>Summary Statistics</td>
<td>( R^2 = 0.984 ), N = 8,896 with 853 Fixed Effects, F(8, 8035) = 30,517</td>
<td>( R^2 = 0.984 ), N = 8,896 with 180 Fixed Effects, F(8,8708) = 40,746</td>
</tr>
</tbody>
</table>
References


