The Relevance of Power in International Relations*

Erik Gartzke†

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Abstract

Power is widely considered to be the quintessential determinant of interstate conflict. Still, little consensus exists about how power actually influences war and peace. Realists and others view power as a source of state preferences. Affinities and animosities form around power relations, which in turn determine which nations fight, and when. Political geographers emphasize the role of power in conditioning distance. A loss-of-strength gradient discourages nations from fighting far from home. Bargaining theories treat power interchangeably as the probability of victory or as influence. I argue for a synthesis of political geography and bargaining theory. After modeling the effect of geography on bargaining, I offer evidence of a non-linear relationship between capabilities, proximity, and conflict. Weak states are less likely to fight in distant dyads, while capable countries do the opposite, increasing conflict behavior as distance increases. Rather than determining who fights whom, power appears to matter most for where nations fight.

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†University of California, San Diego, Department of Political Science, 9500 Gilman Ave., Room 327 Social Sciences Bldg., La Jolla, CA 92037, USA. E-mail: egartzke@ucsd.edu.
The most important events in international politics are explained by differences in the capabilities of states.

Waltz (2000, page 52)

The causes of war and peace are mainly a function of the balance of power.

Mearsheimer (1995, page 13)

1 Introduction

When (and how) does power matter in world affairs? Existing conceptions offer at least three distinct approaches to the study of politics, power, and peace. First, power can be seen as influence, governing the kinds of settlements nations can achieve, or circumstances nations must endure, with or without fighting. Second, power could construct political geography, varying the impact of physical distance and differentiating conflicts among nations that are possible from those that are very unlikely. Third, power may be viewed as determining state preferences, causing the same countries under different circumstances to cooperate or to oppose one another. Of these three avenues linking power and conflict, the last — power as preferences — has received by far the most attention from students of international relations. Work by scholars like Kenneth Waltz and John Mearsheimer epitomize the widespread belief that power relations determine who fights whom, and when. The association between power, interests, and war is also ancient, threading through the scholarship of Morgenthau, Mahan, Clausewitz, Machiavelli, Thucydides, and Sun Tzu. Power as preferences theories blanket the intellectual landscape in world politics. Virtually every relationship between power and conflict has an advocate, with the possible exception of no relationship at all.

The idea that power tells us relatively little about the motives for war, independent of proximity, will be controversial, if not entirely new. Bargaining theorists are well aware of the problematic connection between power and conflict. However, there remains considerable diversity of thinking even among bargaining theorists as to how power matters. I provide a theory and formal model containing elements of both bargaining theory and political geography. I then demonstrate a curvilinear relationship between power, proximity and the probability of militarized disputes. Power conditions where nations fight more than who fights with whom. The weak seldom fight far from home, while the powerful, which can fight whom they choose, dispute more with distant states.
2 Everyone Likes a Good Bargain

Harold Lasswell famously defined politics as “who gets what, when, and how.” For students of international politics, however, “who gets what” has been viewed as relatively unimportant, with most attention focused on questions of “how.” In the perennial comparison of means and ends, international relations fixates on the former to the detriment of the latter. Warfare is studied, not as a method of achieving political goals as Clausewitz advised, but as an outcome in its own right.

The realist perspective in particular associates power relations with the prospect of interstate conflict. Structural realists argue that local, regional, or systemic (major power) parity translates into more stable interstate relationships. Since rough equality in capabilities ensures that states are maximally uncertain about which side will win a contest, war is less likely to occur (Waltz 1979). Other realists view disparity, preponderance, or global hegemony as more desirable (Organski 1958; Organski and Kugler 1980; Gilpin 1981; Blaney 1973). Imbalances minimize uncertainty about the likely military victor (assuming competitors are equally resolved), making the weaker more docile. Still others argue that multipolarity is more stable than bipolarity, as nations face the danger that enemy coalitions formed or revealed in wartime will dominate their own (Deutsch and Singer 1964).

Realist theories have plenty of detractors. Liberals argue that realists underestimate the prevalence of cooperation under anarchy (Axelrod 1984; Moravcsik 1997), and are excessively pessimistic about the ability of international institutions to rein in externalities (Keohane 1986, 1998; Oye 1985). Constructivists claim that realists discount the role of community (Ruggie 1998; Barnett and Duvall 2005), or that realists ignore the social-transformative effects of ideas and identities (Wendt 1999). Rational theorists dispute the deductive rigor of realist claims (Niou and Ordeshook 1986, 1994; Niou, et al. 1989), while empirical challenges abound (Bueno de Mesquita and Lalman 1988, 1992; Bueno de Mesquita 2003; Huth, et al. 1993; Stam and Reiter 1998; Schroeder 1994).

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1It is often argued that structural realism is a “systemic theory” that must be studied and tested at the system level. This is simply not correct. Like all realists, Waltz emphasizes the atomistic behavior of egoists operating under anarchy. “A balance-of-power theory, properly stated, begins with assumptions about states” (Waltz 1979, page 118). System structure evolves up from individual units (states) only because the units are enmeshed in pre-existing dyadic power relations. To form blocs (poles), states must be motivated by the local balance of power. “Balance-of-power theory is microtheory precisely in the economist’s sense. The system, like a market in economics, is made by the actions and interactions of its units, and the theory is based on assumptions about their behavior” (1979, page 118).

2Contrasting claims about polarity involve different assumptions about risk propensity (Bueno de Mesquita 1981).

Given the scope and intensity of criticism from multiple perspectives, it is surprising to note the near absence of attacks aimed at the bedrock realist association between power and conflict. Indeed, traditional critics generally adopt realist interpretations to explain why states do occasionally fight. Opponents find themselves making normative (“power should not matter so much”), or inclusionist (“other variables also matter”) arguments against the realist assertion of the centrality of war.\footnote{Even the “lawlike” democratic peace observation is characterized by proponents as adjunct to power politics. “Of course, realist principles still dominate interstate relations between many states” Oneal, et al. (2003, page 389).} Much less attention has been devoted to questioning the basic premise that conflict itself, whether ubiquitous as realists claim or exceptional as critics charge, is a creature of power. This consensus is doubly surprising considering that realism does not appear to provide a coherent theory of conflict.

To understand why power as preferences theories fall short in rationalizing the onset of war, it will help to use as an illustration the storyline from an episode of the adult cartoon series \textit{South Park}. In “Gnomes (Underpants Gnomes)” [episode # 217], a group of gnomes are busily engaged in appropriating the undergarments of children in the community. The gnomes have the following business model: 1.) Collect underpants. 2.) ??? 3.) Profit! Of course, the flaw in their plan, as even the \textit{South Park} kids quickly recognize, is that there is no second step. The gnomes have failed to develop the causal connection between stockpiling underwear and revenue. They have simply assumed that profits follow from used underpants. Presumably, the underwear must be sold, but to whom, for what, and how? This oversight renders the entire enterprise futile, absurd, and funny.

Now imagine that instead of profits, the underpants gnomes are intent on world domination. Their plan could look something like this: 1.) Collect power 2.) ??? 3.) War! Without a clear understanding of how power begets conflict, the gnomes’ efforts lead to the same kind of non-sequitur logic as stockpiling underpants. Power can lead to war, or it can create influence. It can manifest \textit{either} as force or the shadow of force. The presence of a duality between power and conflict, and the lack of a clear causal connection between the accumulation of power and the probability of war reflects widespread scholarly inattention to the second critical step. It is as if researchers have lavished their efforts on constructing the abutments to an elegant bridge, but forgotten the bridge itself. The very ambiguity with which power as preferences theories collectively confront precipitant conditions (i.e. different juxtapositions of power) is emblematic of the problem.
Blainey (1973) was among the first to address the problem of the missing middle step. Whatever causes conflict must be resolved by fighting in order for a contest to end. Blainey rejects the idea that power relations first foment, and later remove, the need for force. Instead, he argues that conflict is resolved by the revelation of information about power. War is a ruthless teacher. Nations learn by fighting. Contests result from misperceptions about the balance of power. Misperceptions are remedied as fighting reveals actual capabilities. Force comes full circle as nations agree about the likely consequences of continued fighting. Indeed, to the degree that nations agree about relative power in peacetime, force is redundant. Variation in the status of knowledge about power relations, rather than the relationships themselves, resolves the duality between war, peace, and power.

Fearon (1995) extends Blainey’s initial insights, reformulating them within a rationalist theoretical framework, and providing a more comprehensive logical typology of the causes of war. According to Fearon, three mechanisms exist that can make countries prefer force to diplomacy. Briefly, nations can clash when they are uncertain about the probability of victory, or when influence cannot be exercised through peaceful means due to indivisibilities or commitment problems. Leaders need not be deluded about an opponent’s weaknesses, or irrationally optimistic about their own martial potency. Instead, leaders can simply err or be misinformed. Again, power relations are not the cause of war per se. It is what nations know, or don’t know, about power that can hurt them, and the dynamic process of changing relative power that are said to cause costly contests.

A different way to motivate the bargaining/informational argument is to look at relative gains. The “relative gains debate” clarified an important set of issues relevant to world politics (Axelrod 1984; Grieco 1988, 1990). Realist theory emphasized that sovereigns must care about, not just whether nations benefit from cooperation, but which benefit most. States must worry, not about doing well, but about doing better than other nations. A country could even prefer becoming poorer or less capable if by doing so, the state disproportionately damaged competitors (Waltz 1959).

The problem with this thinking is that competition in world politics does not involve just two countries. Nations that undermine one another in the pursuit of relative gains are worse off in both absolute and relative terms in relation to non-participating states. As Duncan Snidal and

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5 Countries can also be uncertain about war costs or about relative resolve. These factors can be subsumed in the probability of victory. Nations that quit fighting due to high costs or low resolve have a zero probability of victory.
Robert Powell explained in separate articles in the *American Political Science Review*, two nations that undercut one another in competition are simply weakening both states in relation to other, third-party countries (Powell 1991; Snidal 1991). As the number of countries in a notional world increases, the incentive to cooperate also increases, as absolute and relative gains are more similar.

Military contests constitute the ultimate arena for relative gains. Nations expend time, lives, and treasure to inflict harm on an opponent in order to obtain disputed benefits. A country that cedes something of value to an opponent is strictly worse off, while snatching resources or political prerogatives from an enemy presumably makes a country more powerful. Yet, while fighting may be justified by the stakes, contests also deplete state resources. In a multi-state world, competitors are better off if they can limit their losses, since effort expended in fighting one competitor is not available to compete with others. Paradoxically, the more nations care about relative gains, the stronger should be their incentive to find alternatives to war. In a world of egoists, at least some contests fail to occur as potential combatants identify bargains that preempt the use of force. Diplomatic success or failure, then, is the critical middle step linking power to war or influence.

Even if the reasoning of power as preferences theorists is correct up to a point, it must be incomplete. Power relations create conditions in which war may or may not occur, depending on how states and other actors respond diplomatically to the balance of power. Since wars almost invariably end in some form of negotiated settlement, the question of why states fight really comes down to explaining the timing of bargains, rather than to the status of power relations. This in turn implies the need for a theory of diplomacy, something that remains strangely vestigial in the study of world politics. I also set this task aside for the time being to focus on a more finite objective.

While logically compelling, theoretical applications of the bargaining approach have proven difficult to test (Schultz 2001). Several studies have sought evidence of signaling (Fearon 1994; Schultz 1998; Partell and Palmer 1999). Others focus on the relationship between power and the distribution of resources (Powell 1999; Reed, et al. 2008). Despite these and other studies, bargaining theories still rest heavily on logical plausibility and lightly on systematic empirical support. Details about how bargaining actually functions remain vague. To move forward, researchers must unearth novel, testable implications of bargaining theory, which in turn prompt theoretical refinements.
3 Beam me Up, Scotty

For a subject so often identified with an image of the globe, mainstream international relations pays remarkably sparse attention to geography. Place is not so interesting to students of politics as are questions of agency or structure. Yet, geography clearly conditions which enemies a nation can fight easily, and which are more difficult to reach. Paradoxically, it is precisely because distance is not amenable to politics that geography has special salience for the advent of war and peace.

In the original television series *Star Trek*, the five year mission of the starship *Enterprise* to explore strange new worlds placed Captain James T. Kirk and his crew in serial jeopardy. Each episode, Kirk would call on his trusty engineering officer for “more power, Scotty” only to be told that the capabilities of the *Enterprise* were at their limits. Sometimes, power was used to inflict damage or defend against harm (shields, phasers, photon torpedoes). On other occasions, Scotty’s warp drives were used to move the *Enterprise* across the vast distances of space. These two uses of power differ, not only in terms of engineering, but also in ways relevant to violent political conflict.

To the degree that competition is zero sum, variables such as power or capabilities that strengthen (weaken) a given actor have the converse effect on opponents. A country is only more powerful in relation to another nation that is by the same degree less powerful. If we weaken one country, this need not decrease the probability that it experiences war, since weakness invites aggression from opponents. Conversely, increasing a nation’s capabilities may diminish the prospect that the country will be attacked, but only by increasing the temptation for the newly capable country to act aggressively. Conflict can be avoided if strength is combined with caution, timidity, or satisfaction with the status quo, but peace then relies on factors outside the realm of power.

Distance or proximity are not zero sum; geographical conditions that make it harder for one country to assail another also make it harder for the second country to attack the first. It is impossible for a nation to be proximate to its adversary, while the adversary is at the same time far from the first nation. The non-zero sum nature of changes in proximity make it possible for distance to affect the probability of warfare, at least when both nations are weak. This distinction

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6Exceptions include Most and Starr (1990); Bremer (1992); Brecher and Wilkenfeld (1997); and Lemke and Reed (2001). Classical works include Mahan (1915; 1987[1890]), Mackinder (1962[1919]), and Spykman (1942; 1944).
helps to explain why geography can discourage conflict more effectively than power relations. Two nations that are notional neighbors may be willing to fight each other, but as we increase the distance between the states, both nations will eventually prefer the status quo to initiating a war.

If space proves more peaceful than most episodes of Star Trek, it will be because there is so much of it. Habitable planets are separated by vast distances that are bound to keep interplanetary contact, let alone conflict, to a minimum. To induce conflict, the writers on Star Trek were forced to fudge their physics (warp speed) and make space much more crowded. Entire episodes in which the Enterprise traversed galactic nothingness were not going to sell aftershave or dishwasher detergent. Terrestrial conflict is bound to differ from war in space in part because we are much closer together. Human beings on earth travel relatively short distances before bumping into one another. Countries cannot be moved around so that all are so far apart that no nation is willing to fight. Nor is the Earth sufficiently large (any longer) so that all nations find some opponents too distant.7

The concept of a loss-of-strength gradient, most notably pursued by Kenneth Boulding (1962), captures the variable impact of capabilities across space. Powerful states can overcome logistical or geographic barriers, while opponents that are weak and distant are incapable of aggression. Even capable countries find their ability to influence diminished by distance, while defenders are not much affected by whether invaders are neighbors or are far from home. Whatever the functional relationship between power and war, geography is likely to ensure that the relationship is maintained in some contexts and fails under other circumstances. The variable impact of power and distance implies the need to interact capabilities with proximity to create a rudimentary political geography.

Embrace for the moment the realist view that rough parity makes states less likely to fight. Should this claim apply equally to both proximate and distant country pairs? If so, then Boulding’s framework implies that the capabilities of proximate and distant dyads achieving parity must be quite different. Under the logic of parity makes peace, neighboring nations must have about equally capable armies in order to deter one another. More distant countries need not conform so closely to this constraint, as the power exerted far from home must be diminished by distance. If comparably capable states are separated by considerable space, then for A to attack B, A must accept a

7It was not until 1839 that China and Europe experienced their first conflict in the Anglo-Chinese “Opium Wars.”
significant *inferiority* in terms of what can actually be brought to bear on its opponent. Similarly, B will be weak relative to A if B seeks to prosecute a war on or near A’s territory. In effect, distance has taken a dyad in which states are roughly equally matched and created two directed dyads, each of which contains a potential attacker that is weak relative to its prospective target. If instead A or B is stronger in military terms than its opponent, physical separation can create conditions *equivalent to parity*, assuming an appropriate gradient for the stronger state’s loss-of-strength.

Bargaining theories face an analogous, though different, confrontation with geography. While at least one of Fearon’s (1995) typology of three causes may be necessary for war to occur, it does not follow that these rationalist explanations are sufficient for the onset of a contest. Nations that are weak and/or physically distant from each other are unlikely to go to war, regardless of whether either faces strategic uncertainty, indivisibilities, or a problem committing to international agreements. Bhutan and Costa Rica are just not going to fight each other. More generally, the effect of the loss-of-strength is to prevent contests among states whose power projection capabilities are weak or modest, regardless of any other motives states may have to use force. Only nations that are physically capable of projecting power are likely to respond according to Fearon’s typology.

If war among the weak is less likely in distant dyads, the use of force by powerful non-proximate states could actually increase. There are at least three factors leading powerful countries to be more warlike with non-neighbors. First, as distance is not a binding constraint for capable states, more and more nations are possible adversaries. This in turn implies that there can be greater uncertainty about which opponents will become the targets of a powerful state’s aggression. Since so many countries could be attacked by a given powerful state, uncertainty about which nation will be the target increases the risk of bargaining failure, and thus the prospect that some country will be forced to fight. Second, a lower probability that any nation will be willing to pay higher costs for fighting as distance increases makes it more likely that an opponent will underestimate a capable opponent and thus that war is more likely for non-proximate states when at least one state is powerful. Third, disputes among proximate state will have been settled — typically to the advantage of the capable country — while distant conflicts emerge at the frontier of power, interest, and information. I explore these possibilities in formal models presented in the next section.
4 Model

Power can conceivably impact conflict in several ways. I explore several possibilities below.

4.1 The Baseline – Loss-of-Strength

Imagine a world of two countries \((A, B)\). Nature \((N)\) randomly assigns these countries to the role of potential challenger \((i)\), or target \((j)\). Assume that each state has some finite capability to harm its opponent \(c_{(i,j)}\). Imagine a loss-of-strength gradient \(g\) \((0 \leq g \leq 1)\), bounded so that the product of the gradient and capabilities equals some fraction of the initiating state’s capabilities.\(^8\) In the model, players compete over an issue space of unit interval. Without loss of generality, I can place player \(i\)’s ideal point at zero, while \(j\) most prefers a point \(x_j\) \((0 \leq x_j \leq 1)\). Players have linear loss utility functions. Each player has a type \((t_{(i,j)})\), drawn randomly by \(N\), that affects the “slope” of the decline in value from the player’s ideal point to any other point on the issue space. I assume that the distribution of types for each player is uniform over the interval \(t_{(i,j)} \in [1, \bar{t}]\).\(^9\)

The sequence of play is as follows: \(N\) first maps players \((A, B)\) onto the challenger and target pair \((i, j)\). \(N\) then assigns types to each player. For simplicity, I assume that the status quo point \(q\) is at \(j\)’s ideal point \((q = x_j)\). The Pareto criterion suggests that \(q\) should always be bounded by the interval \((0, x_j)\). Assuming a status quo point in the interior of this domain implies that both states can be revisionist. Allowing both players to seek to alter the status quo requires a more complex bargaining setup, and does not add much to the insights provided by the model.

After nature assigns players roles and types, the target then decides what to offer the potential challenger \((d, 0 \leq d \leq x_j)\). If \(i\) accepts \(d\), the game ends with payoffs \((-\frac{d}{t_i}, \frac{(d-x_j)}{t_j})\). If \(i\) refuses the demand, then a contest is assumed to occur where state \(i\) fights with capabilities \(g \cdot c_i\), while the target fights with capabilities \(c_j\). Challengers suffer the loss of strength gradient because they must “take the fight to the enemy.” The probability of victory for \(i\) is equal to \(\left(\frac{c_i \cdot g}{c_i \cdot g + c_j}\right)\), while \(j\)’s odds of victory are just the converse. Combatants also pay a cost \((k_{i,j})\) for fighting. The winner of the contest receives all of the stakes \((s)\). If \(i\) wins, \(i\) obtains \(-k_i\) and \(j\) receives \(-\frac{x_j}{t_j} - k_j\).

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\(^8\)In the empirical sections, I will assume that \(g\) is at least weakly decreasing in geographic distance.

\(^9\)The interval chosen is entirely arbitrary, but these results should generalize to any other choice of interval.
for \( j \) is equal to \(-k_j\), while \( i \) receives \( \frac{-x_j}{t_j} - k_i \). Players’ utility functions appear below:

\[
U_i = f \left( (1 - p) \left( \frac{-x_j}{t_i} \right) - k_i \right) + (1 - f) \left( \frac{-d}{t_i} \right) \tag{1}
\]

\[
U_j = f \left( p \left( \frac{-x_j}{t_j} \right) - k_j \right) + (1 - f) \left( \frac{(d - x_j)}{t_j} \right) \tag{2}
\]

where \( f \) is \( i \)'s fight decision, and where \( p = \left( \frac{c_j * g}{c_i * g + c_j} \right) \).

The game if solved using the Bayesian Perfect Equilibrium solution concept. Backward induction, \( i \) must decide whether to fight. Define \( t_i^* \equiv \frac{c_j * d + c_i * d + c_i * g - c_j * x_j}{c_i * k_i + c_j * g + k_i} \) as the type \( i \) just indifferent between fighting and accepting \( j \)'s demand. If \( t_i < \bar{t}_i \), then \( i \) fights. Else, \( i \) prefers to accept \( d \).

Before \( i \)'s fight decision, \( j \) must choose an optimal offer. Since \( j \) does not know \( t_i \), \( j \) must have beliefs about its opponent. Given the circumstances, \( j \)'s beliefs are just the same as the typespace for \( t_i \). The target \( j \) can calculate the probability that \( i \) will reject a given offer as the proportion of types that prefer to fight, \( \text{Prob}(f = 1|d) = \left( \frac{t_i^* - 1}{t_i - 1} \right) \). Substituting \( \text{Prob}(f = 1|d) \) for \( f \) in equation (2), taking the partial with respect to \( d \), and solving for \( j \)'s optimal demand, we get:

\[
d^* = \frac{c_j * k_i + c_i * g * k_i - c_j * k_j * t_j - c_i * g * k_j * t_j + 2 * c_j * x_j}{2 * c_i * g + 2 * c_j} \tag{3}
\]

Substituting \( d^* \) back into \( t_i^* \), we obtain an explicit description of the threshold for a contest:

\[
t_i^* = \frac{k_i - k_j * t_j}{2 * k_i} \tag{4}
\]

<< Note: This section is not yet completed. >>

5 Research Design: What is power?

Scholars disagree about what power is, how it operates, how to measure it, and how to interpret or weigh disparate empirical results using different measures (Sullivan 1990; Geller and Singer 1998). The lack of coherent guidance concerning this supposedly central variable in the field is not only disconcerting, but also tacitly shifts the onus from theoreticians to empirical analysts. Waltz
discusses a list of ingredients of power, “size of population and territory, resource endowment, economic capability, military strength, political stability and competence” (Waltz 1979, page 131), without offering an explicit recipe. It would certainly be inappropriate to accept claims because they are poorly conceptualized. Waltz’s list is also pretty close to the components of national material capabilities discussed below. So, I proceed while acknowledging the limitations of my efforts.

A distinction can also be made between power that is latent and manifest (Mearsheimer 2001). Power represents either the ability to influence or actual acts of influencing. Potential and kinetic versions of power can differ in one of two ways. First, since scholars disagree about which variables constitute the inputs to power, particular operationalizations could bias estimates of the effects of power on conflict if in fact omitted determinants correlate poorly with the included factors. While possible, advocates of more inclusive conceptions of power have yet to make the case that omitting these elements biases estimates of the relationship between power and conflict, as opposed to simple inefficiency (Nye 2004). Since the focus here is on explaining militarized force rather than more subtle forms of influence, use of material capabilities as a measure of power is arguably sufficient.

Second, some process might intervene between nominal capabilities and national policy. This possibility is more demanding of attention in pursuing empirical analysis of power and conflict, especially since I have proposed two such processes myself. Diplomacy can short-circuit the effects of power on conflict. Influence also occurs if targets act in anticipation of the application of military capabilities, rather than after an actual use of force. I have incorporated this possibility into the analysis by considering factors that might account for a failure to anticipate capabilities (and thus that invite a use of force). More elaborate treatments of these effects awaits a theory of diplomacy.

The other intervening process proposed in this study is geography. This is explicitly integrated into the statistical model, both directly and in its interactive effect on capabilities. While certainly not complete, I assume that an adequate operationalization of power as influence, rather than simple nominal capabilities, can be had by interacting capabilities and geographic distance. For the purposes of this study, power can be defined either as the ability to influence — either through the use of military force, or the shadow of force — or as actual influence. While power as preferences theories are ambiguous about whether capabilities equal power, or whether power is capabilities
discounted by distance, an assessment of both alternatives is the task at hand in this analysis.

Having dutifully discounted expectations, let me note that this study intentionally relies on the most conventional data, variable constructions, model specifications, and estimation procedures so that the findings will not be viewed as a product of peculiarities of the approach. I use probit estimation to assess the effect of national material capabilities on wars and militarized disputes in the period 1816-2000. Analyses were conducted using both directed and undirected dyad years.\textsuperscript{10}

5.1 Data

The variable list is conventional to limit the risk that findings result from unusual “control variables” or model specifications.\textsuperscript{11} Unless otherwise noted, data are from \textit{EUGene} (Bennett and Stam 2000).

\textit{Dependent Variables:} I use Zeev Maoz’s construction of dyadic militarized interstate disputes (DYMID) as the basis for three versions of the dependent variable, with a standard dichotomous coding of “1” for the initial year of a MID, a fatal MID (a militarized dispute involving at least one battle-related death), or a war (at least 1000 battle deaths) in the dyad and “0” otherwise (Gochman and Maoz 1984; Jones, et al. 1996). The Maoz data are formatted for dyadic analysis.\textsuperscript{12}

In addition to conflict onset or initiation, I examine the location of a militarized dispute as a dependent variable. If the arguments about political geography are correct, then power should be a particularly potent predictor of where, as opposed to whether, nations fight. Braithwaite (1008) identifies the latitude and longitude of each MID in the Correlates of War (COW) dataset.

\textit{Capabilities:} COW offers the Composite Index of National Capabilities (CINC) based on six components: military spending and personnel, total and urban population, and iron & steel production and energy consumption (Singer, et al. 1972, Singer 1987). While these data are certainly not perfect (Leng 2002), they are the most widely used quantitative measures of power in international relations (c.f. Bueno de Mesquita and Lalman 1988; Bremer 1992; Maoz and Russett 1993). Data coverage extends from 1816 to 2000 (Correlates of War Project 2005). Controversy continues about how best to measure power (c.f. Organski 1958; Schweller 1998), but there is no reason to

\textsuperscript{10}A \textit{STATA} “do” file is available from the author that reproduces all aspects of data manipulation and analysis.
\textsuperscript{11}For a discussion of methodological problems with control variables, see Achen (2005); Ray (2005); Clarke (2005).
\textsuperscript{12}The codebook and DYMID dataset are at: \url{http://psfaculty.ucdavis.edu/zmaoz/}. I use the \textit{EUGene} version.
believe, ex ante, that these data are biased in favor of my hypotheses, particularly given that the data collection effort was predicated on the conviction that power was a key determinant of war (Singer 1963; Wayman et al. 1983). I include variables for each state’s CINC score and for the dyadic interaction between CINC scores. To distinguish between the direct and indirect effects of power, I introduce interaction terms between monadic CINC scores and geographic distance.

There are certainly many other ways to operationalize power relationships. For example, researchers often include a measure of the ratio of capabilities of the stronger state to the weaker state in a dyad (Bremer 1992, 1993; Oneal and Russett 1997, 1999). However, such a formulation assumes a particular structure to power relations. A ratio also conflates rough parity of two weak states with that of two strong states, of critical concern when examining the interaction of power and distance (Hegre 2006). Allowing each CINC score to make its own contribution is more general.

**Geographic Contiguity and Distance:** States that are far apart are less likely to fight each other (Bremer 1992; Maoz and Russett 1992; Buhaug and Gleditsch 2006). One of the contentions of this study is that much of the apparent effect of capabilities in influencing conflict is really power mitigating distance. To assist in interpreting the results, I use the metric distance between national capitals. I also include a measure of contiguity that codes the proximity of land borders and the distance separating countries by water. The contiguity variable is expected to increase MID likelihood while distance should decrease militarized disputes and wars (Diehl 1985; Senese 2005).

**Military Alliances:** Alliances are formal agreements intended to influence conflict behavior. The alliance variable is dichotomous, coding the presence of a defense pact in the dyad based on the COW Alliance Dataset (Singer and Small 1966; Small and Singer 1990; Gibler and Sarkees 2004).

**Major Power Status:** Powerful countries are more active internationally, leading more often to warfare. The major power variable is a dummy coded “1” if at least one state in a dyad is a major power according to the COW list. Since the variable confounds some of the distinctions I make between interests and distance, I only include major power in some of the econometric models.

**Democracy:** The Polity IV project codes regime type (Jaggers and Gurr. 1995). I construct annual democracy scores for each state as the difference between Polity’s DEMOC and AUTOC variables, as is conventional. I adopt the method recommended in the Polity codebook (Marshall
and Jaggers 2002, pages 15-16) for recoding cases of interregnum and transition. To compute a dyad-level democracy score, I apply Dixon’s (1994) weak-link logic (in dyadic analysis), or the monadic values plus an interaction term (in directed dyads), much as with the capabilities variables.

Temporal Splines: A well-established problem in Time-Series–Cross-Section Analysis (TSCS) is the non-independence of observations. Beck et al. (1998) recommend the use of a set of lagged dependent variables to control for temporal dependence. This approach has become the standard in the literature. I create four “spline” variables for each of the three dependent variables.\(^{13}\)

6 Analysis

Results for the study are organized into four tables and one figure. The first two tables contain six regressions each, while the third table includes four regressions and the fourth table lists two regressions. Table 1 reports dyadic regressions of “All MIDs”, “Fatal MIDs”, and “Wars” in sets of two regressions each. In each pairing, the first regression examines the effect of aggregate material capabilities, while the second regression interacts capabilities and distance. Table 2 continues the analysis of power and conflict in a sample of directed dyads, this time focusing on “MID Initiations”, “Fatal MID Init.” and “War Initiations.” Details of Tables 3 and 4 are discussed later in the text.

The first two regressions in Table 1 involve all dispute behavior among pairs of states. The “All MIDs” models include the minimum of right-hand-side variables, just monadic CINC scores, distance, contiguity, and the temporal splines (which are suppressed in the table to save space). As the first column of coefficients and standard errors appear to demonstrate, power (or at least capabilities) has a statistically and substantively meaningful impact on whether states fight. The greater the power of either state in a dyad, the more likely it is to experience a MID with the other state. Contiguity and distance are also significant predictors of conflict (higher contiguity values imply a looser definition of contiguity). Still, this specification assumes that the effect of power on conflict is independent of proximity, a claim that is contradicted by the theoretical analysis.

The second column of coefficient estimates and standard errors in Table 1 adds interaction terms between the two monadic CINC variables and the distance variable. This makes it possible

\(^{13}\)Coefficients and standard errors for spline variables are not reported since they lack a substantive interpretation.
Table 1: The Effect of Capabilities and Other Variables on Conflict (Probit, Dyad years)

<table>
<thead>
<tr>
<th>Variable</th>
<th>All MIDs</th>
<th>Fatal MIDs</th>
<th>Wars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff</td>
<td>Coeff</td>
<td>Coeff</td>
</tr>
<tr>
<td></td>
<td>(S.E.)</td>
<td>(S.E.)</td>
<td>(S.E.)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;A&lt;/sub&gt;</td>
<td>3.721***</td>
<td>0.501</td>
<td>2.834***</td>
</tr>
<tr>
<td></td>
<td>(0.301)</td>
<td>(0.609)</td>
<td>(0.481)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;B&lt;/sub&gt;</td>
<td>4.446***</td>
<td>-0.362</td>
<td>2.286**</td>
</tr>
<tr>
<td></td>
<td>(0.450)</td>
<td>(1.230)</td>
<td>(0.773)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;A&lt;/sub&gt; × Distance</td>
<td>0.520***</td>
<td>0.472***</td>
<td>0.001***</td>
</tr>
<tr>
<td></td>
<td>(0.082)</td>
<td>(0.113)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;B&lt;/sub&gt; × Distance</td>
<td>0.731***</td>
<td>0.664***</td>
<td>0.001***</td>
</tr>
<tr>
<td></td>
<td>(0.153)</td>
<td>(0.153)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;A&lt;/sub&gt; × CINC&lt;sub&gt;B&lt;/sub&gt;</td>
<td>11.566</td>
<td>5.908</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(8.274)</td>
<td>(5.757)</td>
<td></td>
</tr>
<tr>
<td>Distance (ln)</td>
<td>-0.165***</td>
<td>-0.197***</td>
<td>-0.097***</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.006)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Contiguity</td>
<td>-0.117***</td>
<td>-0.114***</td>
<td>0.671***</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.019)</td>
<td>(0.120)</td>
</tr>
<tr>
<td>Alliance</td>
<td>-0.136</td>
<td>-0.148†</td>
<td>-0.130</td>
</tr>
<tr>
<td></td>
<td>(0.078)</td>
<td>(0.074)</td>
<td>(0.111)</td>
</tr>
<tr>
<td>Major Power</td>
<td>-0.059**</td>
<td>-0.061**</td>
<td>0.309*</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.020)</td>
<td>(0.110)</td>
</tr>
<tr>
<td>Democracy Low</td>
<td>0.032†</td>
<td>0.028</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
<td></td>
</tr>
<tr>
<td>Democracy High</td>
<td>-0.374**</td>
<td>-0.197</td>
<td>-2.277***</td>
</tr>
<tr>
<td></td>
<td>(0.130)</td>
<td>(0.123)</td>
<td>(0.160)</td>
</tr>
<tr>
<td>N</td>
<td>656621</td>
<td>656621</td>
<td>656621</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-12279.445</td>
<td>-12063.424</td>
<td>-2979.71</td>
</tr>
<tr>
<td>Χ²&lt;sub&gt;(9,11,11,13,13,15)&lt;/sub&gt;</td>
<td>1572.343</td>
<td>1979.258</td>
<td>884.389</td>
</tr>
</tbody>
</table>

Significance levels: † : 5%  * : 1%  ** : 0.5%  *** : 0.1%  Splines suppressed to save space.
to differentiate the effect of power on opportunity, and on willingness (Most and Starr 1990; Siverson and Starr 1990). These results suggest that the major impact of capabilities is in the ability to overcome distance. The interaction terms between distance and CINC scores are both highly statistically significant, while the CINC scores themselves are no longer significant determinants of whether states fight. The distance variable, however, continues to significantly influence dispute propensities. Contiguity also remains substantially as before. By parsing out the portion of capabilities impacting the ability to fight, and the portion associated with willingness, we find that there is not much of the latter. State power does not seem to matter much in motivating disputes.

Many of the disputes in the all MIDs sample involve relatively minor clashes. Non-fatal MIDs may fail to represent the kinds of cases of violent conflict theories of power in international relations seek to explain. To address this concern, the third and fourth columns list coefficient estimates and standard errors for the determinants of militarized disputes involving at least one battlefield fatality. I also add two variables to the previous (minimal) model specification. First, I include a measure of the interaction between the capabilities of states in the dyad. Second, I add the dummy variable for alliance status. The monadic CINC scores do not appear to interact in a statistically significant manner. Alliance ties are marginally statistically significant only in the second (with CINC × Distance) model. These results parallel those reported for the all MIDs sample. The impact of power on fatal MID onset appears to be largely a function of how power mitigates distance.

The last two regressions in Table 1 examine an even more restricted sample of conflicts. The “Wars” regressions again pair a baseline model with a model with the CINC × Distance interaction terms. I drop the interaction term between monadic CINC scores because it was not statistically significant and because I want to limit the number of non-linearities imposed on the model. I add controls for major power status and regime type. The results are familiar. Monadic CINC scores are not significant once the interaction terms between capabilities and distance are introduced. Major power dyads are more warlike, while democratic dyads are less inclined to experience wars.

Figure 1 provides a better intuition about the nature of these relationships. I use the results of the last regression from Table 1 (“Wars”, with the $CINC \times Distance$ interaction terms) to construct a plot of the probability of war under different conditions as outlined on the $x$ axis (“CINC A”) and
The y axis ("Distance"). These data most closely reflect the emphasis of power as preference theories on explaining war, rather than smaller contests, though the results do not differ much for a broader sample of disputes. Because it is difficult to depict relationships in more than three dimensions, I fix State B’s CINC score at the global mean (just short of 1% of global capabilities). All other interval variables are held at their means, while dummy variables take on their modal value.

Figure 1: The Impact of Power and Proximity on War (Probit Estimates, Model 6, Table 1)

The surface representing the probability of a war is curled up at opposite ends, like a piece of paper wafting on the wind. The high points, where war is most likely, occur at the front and back of the image, between weak-proximate states, and between distant states when at least one member of the dyad is powerful. On one end of the distance scale, proximate states experience slightly fewer disputes as one country in the dyad becomes more powerful. On the other end of the scale, distant countries are much less likely to fight if both states in the dyad are weak. The constraining effect of geography on weak states is so strong that the increase in disputes for distant powerful states is swamped by the pacifying tendencies of distance for weaker pairings. Thus, power is conditioned by proximity. If one simply estimates the effect of power on conflict — ignoring the interaction

\[14\text{Other values of CINC}_B\text{ can be used, or State A can be the state with fixed CINC score, with equivalent results.}\]
between proximity and power — then it looks as if power increases conflict propensity. In fact, the effect of power on dispute propensity is almost wholly explained by the effect of power on distance.

Figure 1 shows that the probability of a war decreases in distance for weak states (as Boulding’s loss-of-strength gradient predicts), but increases in distance when there is a powerful state in the dyad (contrary to Boulding). Powerful states are slightly less likely to fight their neighbors but much more likely to fight far from home. The effect of proximity on the weak is intuitive, but the role of power in increasing conflict among distant states merits additional explanation. For weak states, the binding constraint is the lack of capacity; fighting seldom occurs far from home because it cannot. For powerful states, capabilities make it possible, but not necessary, to fight distant opponents. Since many states will not fight even if they are physically capable of doing so, there is greater uncertainty (among both researchers and participants) about whether powerful states are willing to attack any given opponent, even as the larger number of non-proximate countries increases the complexity of choosing friends and enemies. Powerful nations may have also managed to resolve differences with their weaker neighbors, either through force or diplomacy. Neighbors of powerful countries will have developed a strong sense of what is permissible, and what is not. These results offer provocative evidence in support of informational bargaining approaches, which argue that wars are more likely the more uncertain states are about one another’s intentions.

Table 2 extends the analysis to directed dyads, making it possible to examine separately the effect of power on potential initiators of conflict, and on possible targets. Table 2 again lists three pairs of regressions. Each pair of regressions roughly conforms to the regressions in Table 1, but with additional control variables and with more information about the distinct effects of capabilities, distance, and other variables on initiators and targets. The first pair of regressions examines the impact of these variables on “MID Initiations” for all intensities of militarized disputes. In the absence of the $CINC \times Distance$ interaction terms, capable states appear more likely to initiate disputes, and more likely to become targets of MIDs. Introducing the interaction terms again leads the direct effects of capabilities to become statistically insignificant. As a comparison of the two sets of coefficients and standard errors makes clear, capabilities again influence conflict primarily through mitigating distance. The other independent variables perform substantially as expected.
Table 2: The Effect of Capabilities and Other Variables on Conflict (Probit, Directed dyad years)

<table>
<thead>
<tr>
<th>Variable</th>
<th>MID Initiations</th>
<th>Fatal MID Init.</th>
<th>War Initiations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff (S.E.)</td>
<td>Coeff (S.E.)</td>
<td>Coeff (S.E.)</td>
</tr>
<tr>
<td>CINC_A</td>
<td>2.257*** (0.338)</td>
<td>1.864*** (0.552)</td>
<td>-1.035 (0.717)</td>
</tr>
<tr>
<td>CINC_B</td>
<td>2.375*** (0.474)</td>
<td>-0.318 (0.633)</td>
<td>1.969*** (0.538)</td>
</tr>
<tr>
<td>CINC_A × Distance</td>
<td>0.001*** (0.000)</td>
<td>0.001*** (0.000)</td>
<td>0.001*** (0.000)</td>
</tr>
<tr>
<td>CINC_B × Distance</td>
<td>0.001*** (0.000)</td>
<td>0.001*** (0.000)</td>
<td>0.001*** (0.000)</td>
</tr>
<tr>
<td>Distance</td>
<td>0.000*** (0.000)</td>
<td>0.000*** (0.000)</td>
<td>0.000*** (0.000)</td>
</tr>
<tr>
<td>Contiguity</td>
<td>-0.205*** (0.010)</td>
<td>-0.191*** (0.012)</td>
<td>-0.212*** (0.012)</td>
</tr>
<tr>
<td>Alliance</td>
<td>-0.009 (0.039)</td>
<td>-0.027 (0.045)</td>
<td>-0.164*** (0.043)</td>
</tr>
<tr>
<td>Major Power_A</td>
<td>0.443*** (0.059)</td>
<td>0.514*** (0.087)</td>
<td>0.376*** (0.085)</td>
</tr>
<tr>
<td>Major Power_B</td>
<td>0.185* (0.072)</td>
<td>0.266*** (0.071)</td>
<td>0.438*** (0.079)</td>
</tr>
<tr>
<td>Major_A × Major_B</td>
<td>-0.130 (0.100)</td>
<td>-0.079 (0.078)</td>
<td>-0.106 (0.108)</td>
</tr>
<tr>
<td>Democracy_A</td>
<td>0.051*** (0.006)</td>
<td>0.046*** (0.006)</td>
<td>0.046*** (0.006)</td>
</tr>
<tr>
<td>Democracy_B</td>
<td>0.059*** (0.006)</td>
<td>0.055*** (0.006)</td>
<td>0.055*** (0.006)</td>
</tr>
<tr>
<td>Dem_A × Dem_B</td>
<td>-0.010*** (0.001)</td>
<td>-0.010*** (0.001)</td>
<td>-0.010*** (0.001)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.428*** (0.060)</td>
<td>-1.300*** (0.058)</td>
<td>-0.734*** (0.077)</td>
</tr>
</tbody>
</table>

N          | 1066194 | 1066194 | 1311994 | 1311994 | 1313242 | 1066194 |
Log-likelihood | -14063.79 | -13828.073 | -11822.855 | -11588.521 | -1361.829 | -1262.026 |
$\chi^2_{(16,18,13,15,13,18)}$ | 3076.052 | 3288.876 | 2380.902 | 2172.78 | 970.675 | 530.513 |

Significance levels: †: 5%  *: 1%  **: 0.5%  ***: 0.1%  Splines suppressed to save space.
The third and fourth columns of estimated coefficients and standard errors in Table 2 examine dispute initiation involving fatal MIDs, while the final paired columns of coefficient estimates and standard errors predict MID war initiation. I vary the model specifications in different regressions, but the results for the key variables (capabilities, distance, and the interaction terms) are the same for all of the models.\textsuperscript{15} Ignoring the relationship between geography and power makes it appear that power predicts conflict. Introducing a very simple representation of the interaction between distance and power causes the effect of power relations on conflict to disappear. These results seem to capture some of Boulding’s concept of the loss-of-strength gradient, though additional research will be necessary to refine the relationship and improve the precision of the econometric model.

Several interesting relationships emerge from the other independent variables. First, in most cases major power status is a significant determinant of dispute initiation, though not for targets of MID wars.\textsuperscript{16} This finding may reflect Snyder’s (1965) stability-instability paradox.\textsuperscript{17} Opponents are modestly deterred from initiating full-scale contests against major powers. Instead, there is an increase in smaller-scale conflict, perhaps involving brinkmanship (chicken). Indeed, pairs of major powers are less likely than other dyads to experience MIDs, though the relationship is not statistically significant. This brings into question the traditional focus on major powers, since relations among major powers appear no more dispute prone, while most of the impact of major power status on conflict occurs in interacting with non-major powers. Finally, the effects of regime type appear to vary with conflict intensity. The democratic peace relationship most nearly manifests in estimating MID wars. This relationship is more ambiguous as the intensity of conflict declines. Democratic dyads are disproportionately peaceful, but democracy actually predicts increases in disputes in the all-MIDs sample. These two tendencies appear to cancel one another out in aggregate.

The proximity of sovereign powers seems to be more important in conditioning the impact of capabilities than is power itself. Still, countries could fight in places distant or distinct from the homeland, and the most powerful nations are the most likely to relocate their contests. Since

\textsuperscript{15}In examining many combinations of models I found that the interaction terms are always statistically significant. One or both of the monadic CINC scores can sometimes become statistically significant in certain model specifications, typically when the sample of disputes is small (i.e. MID war initiations), and when I fail to include control variables.

\textsuperscript{16}Subjective coding of major power status reflects capabilities and active involvement in the international system.

\textsuperscript{17}For a recent study documenting the stability-instability paradox in nuclear weapons, see Rauchhaus (2009).
disputes can occur far from any participant, a more precise test of the claim that power conditions
distance can be had by looking at the location of disputes. Locating where MIDs happen, as
opposed to identifying the countries that fight one another, is a time-consuming and complex task.
Fortunately, a new dataset does precisely this (Braithwaite 2010). Additional work by Braithwaite
and this author produced a dataset of distances from the latitude and longitude of every MID
to the location of the capital cities of each dispute participant. Since these data select on the
dependent variable (how does one assign a location to a non-dispute?), it is not possible to evaluate
the MID location data in the same manner as when studying dispute onset or initiation. I adopt
two approaches to assess the impact of capabilities and other variables on dispute location. First,
I examine the determinants of location in the sample of disputes. Next, use two-stage regression,
first estimating the probability of a MID, and then modeling the location of any resulting conflict.

Table 3 provides four regressions in which capabilities, dyadic distance and other variables pre-
dict the distance from the capital of the initiating country to the location of the militarized dispute.
Ordinary Least Squares (OLS) is used, since the dependent variable is metric and continuous. The
first regression is “monadic” in the sense that only the CINC score of the initiating state and
monadic control variables are included (in a sample of all disputes). The more capable the country
starting a contest, the more distant is the dispute from the capital of the initiating nation. Having
more neighbors tends to cause a country to fight closer to home, while increasing the sample of
countries in the world leads contests to become more distant from the initiator’s capital. This latter
finding reflects decolonization. The same disputes occurring during colonial times were not “inter-
national” according to COW coding rules. The number of countries variable helps to ensure that
the analysis is not driven by evolving national boundaries. The number of great powers appears to
decrease the distance to disputes, but as we shall see, the result is really an artifact of time.

The second regression in Table 3 introduces “dyadic” variables, though the model is again
minimalist to show that relationships are not contingent on model specification (Ray 2005; Clarke
2005). While the capabilities of the initiator continues to significantly increase the distance between
the initiator’s capital and the location of the dispute, the CINC score of the target does the opposite.
Capable targets tend to force initiators to fight closer to home, or not to fight at all. This finding
<table>
<thead>
<tr>
<th>Variable</th>
<th>“Monadic”</th>
<th></th>
<th>“Dyadic”</th>
<th></th>
<th>Distance to Initiator</th>
<th></th>
<th>Distance to Target</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff</td>
<td>(S.E.)</td>
<td>Coeff</td>
<td>(S.E.)</td>
<td>Coeff</td>
<td>(S.E.)</td>
<td>Coeff</td>
<td>(S.E.)</td>
</tr>
<tr>
<td>CINC_A</td>
<td>24921.559</td>
<td>(2465.076)</td>
<td>14774.126</td>
<td>(1614.377)</td>
<td>12625.147***</td>
<td>(1725.410)</td>
<td>-7724.105***</td>
<td>(1677.523)</td>
</tr>
<tr>
<td>CINC_B</td>
<td>-8468.599</td>
<td>(1796.777)</td>
<td>-7610.078</td>
<td>(1670.021)</td>
<td>-7610.078***</td>
<td>(1670.021)</td>
<td>12972.698***</td>
<td>(1810.280)</td>
</tr>
<tr>
<td>CINC_A × CINC_B</td>
<td>33957.071</td>
<td>(21090.838)</td>
<td>27219.426</td>
<td>(17312.907)</td>
<td>27219.426</td>
<td>(17312.907)</td>
<td>26965.457</td>
<td>(17673.494)</td>
</tr>
<tr>
<td>Distance</td>
<td>0.725</td>
<td>(0.056)</td>
<td>0.741**</td>
<td>(0.048)</td>
<td>0.731*</td>
<td>(0.049)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy/Pop._B</td>
<td>-60.108**</td>
<td>(19.809)</td>
<td>179.566†</td>
<td>(82.111)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/P_A × E/P_B</td>
<td>186.237†</td>
<td>(78.802)</td>
<td>179.566†</td>
<td>(82.111)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population_A</td>
<td>-0.001</td>
<td>(0.001)</td>
<td>0.002*</td>
<td>(0.001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population_B</td>
<td>0.002**</td>
<td>(0.001)</td>
<td>-0.001</td>
<td>(0.001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy_A</td>
<td>97.402***</td>
<td>(22.814)</td>
<td>-79.120*</td>
<td>(25.081)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy_B</td>
<td>-79.183*</td>
<td>(25.020)</td>
<td>97.167†</td>
<td>(25.051)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dem._A × Dem._B</td>
<td>-1.000</td>
<td>(3.678)</td>
<td>-1.202</td>
<td>(3.734)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Neighbors_A</td>
<td>-115.054***</td>
<td>(25.791)</td>
<td>-48.169†</td>
<td>(20.160)</td>
<td>-1.232</td>
<td>(17.459)</td>
<td>-21.186</td>
<td>(17.940)</td>
</tr>
<tr>
<td># Neighbors_B</td>
<td>47.740†</td>
<td>(19.079)</td>
<td>-14.126</td>
<td>(16.975)</td>
<td>-14.126</td>
<td>(16.975)</td>
<td>4.152</td>
<td>(18.783)</td>
</tr>
<tr>
<td># Great Powers</td>
<td>-100.880†</td>
<td>(43.649)</td>
<td>-16.959</td>
<td>(41.974)</td>
<td>-16.959</td>
<td>(41.974)</td>
<td>-17.906</td>
<td>(40.790)</td>
</tr>
<tr>
<td>System Con.</td>
<td>-2772.117</td>
<td>(2051.542)</td>
<td>-3626.841</td>
<td>(2278.698)</td>
<td>-3626.841</td>
<td>(2278.698)</td>
<td>-3590.522</td>
<td>(2277.471)</td>
</tr>
<tr>
<td># Countries</td>
<td>5.972***</td>
<td>(1.759)</td>
<td>-3.566</td>
<td>(2.248)</td>
<td>-3.566</td>
<td>(2.248)</td>
<td>-3.481</td>
<td>(2.243)</td>
</tr>
<tr>
<td>Intercept</td>
<td>1771.106***</td>
<td>(342.853)</td>
<td>1620.980</td>
<td>(848.196)</td>
<td>2175.385†</td>
<td>(1031.033)</td>
<td>2167.781†</td>
<td>(1032.463)</td>
</tr>
</tbody>
</table>

N: 5837  | R²: 0.244  | F(4,1426;8,1426;17,1336): 32.94 | 5837  | 0.432  | 59.98  | 5627  | 0.51  | 43.741 | 5627  | 0.505  | 39.765 |

Significance levels: †: 5%  *: 1%  **: 0.5%  ***: 0.1%
reverses the nominal relationship of target capabilities observed in the dispute regressions. Capable targets are constraining where opponents fight, but not whether opponents fight. This is not a balance of power, but rather a balance of location. The interaction between capabilities is not statistically significant. The location of contests is determined by, in effect, a tug-o-war between the absolute capabilities of the respective disputants, not by the relative power of the two nations.

I add a conventional dyadic distance variable in the second regression. The distance between disputants shows that the relationship between capabilities and distance-to-dispute is not just a by-product of correlation between power and proximity. Powerful states could cluster closer together (Gleditsch 2003). Alternately, powerful states could cause neighbors to become weaker, endogenously generating a correlation between capabilities and distance. Whatever the relationship, it does not appear to confound the current analysis. The distance between capital and conflict increases with the distance between states, but the effect of power on distance remains statistically significant. The respective effects of the \# Neighbors variables are also informative. While having more neighbors forces an initiator to stay closer to home in fighting a given opponent, it does the opposite for a target. Neighbors make a target more vulnerable to contagion effects or side-disputes, allowing the initiator to be bolder in incurring on the target’s territory or sphere of influence. While not significant, I replace the \# of Great Powers variable with the COW System Con. variable, which measures the concentration of global capabilities within the group of powerful nations.

The third regression in Table 3 introduces additional variables to address the effects of heterogeneity in development, population and regime type. Tremendous changes in the last century risk generating a spurious correlation between power and proximity. Economic development has increased exponentially. Advances in technology diminish the impact of distance, even as they alter national priorities (Gartzke and Rohner 2009). The average population of a country has more than tripled in the sample, from roughly 10 million before 1850, to more than 32 million today. Research also emphasizes differences in democratic foreign policy (c.f. Doyle 1986; Owen 1997; Russett and Oneal 2001). While these variables do have an impact on the location of contests, they do not appear to alter the effects of power on location in any fundamental way. Capable initiators still fight farther from home, while powerful targets force fighting to occur closer to the initiator’s capital.
Energy consumption per capita correlates closely with economic development, but allows the analysis to extend well into the 19th century. Intensive energy consumption does not appear to affect the location of contests for initiators, but initiators are likely to fight closer to home when the target is a developed state. Development slightly increases the distance from the initiator’s capital to disputes. The population size of initiating countries does not much matter for the location of contests, but populous targets tend to encourage the initiator to fight a bit farther from home. Perhaps because they desire to secure domestic populations from harm, democratic initiators tend to fight at greater distances from the homeland. Democratic targets in contrast force initiators to shorten the distance from the initiator’s capital to the dispute. Again, this may reflect a “not in my back yard” bias resulting from popular rule. Other variables perform largely as expected.

The fourth regression in Table 3 uses distance from the target state to the MID as a further test of the effects of power on the proximity of contests. All independent variables are as in the previous regression model. If power is conditioning distance, then we should expect the two monadic capability variables to swap signs and coefficient magnitudes, while most other variables remain unaffected. This is exactly what we observe. The CINC score of the initiator now decreases the distance between a dispute and the target’s capital, while a capable target forces the fight to occur farther from its home. The monadic development, population, and regime type variables also change signs, magnitudes and statistical significance levels, indicating that the distance to dispute dependent variable is probably capturing distance and not some other process (such as time).

One potentially significant objection involves selection. An assessment of the location of contests may lead to biased estimates if the determinants of dispute distance are related to the determinants of disputes. Obviously, many of the variables used in Table 3 to predict location are identical to those used in Tables 1 and 2 to model onset or initiation. Heckman (1978) offers the classic exposition of a solution to this problem in the form of two-stage regression. Estimates of wage disparities between male and female workers are biased downward because women who are likely to suffer most from the disparity in income are unlikely to enter the workforce. Heckman’s two-stage estimator first models the biasing effect of participation in the workforce, and then corrects for this bias in estimating the wage differential. Similarly, in estimating differences in location between
weak and capable nations, we want first to correct for any disparity in the propensity of weak and capable countries to experience disputes. If the incapable are less (or more) likely to experience conflict, then this will tend to underestimate (or overestimate) the effect of capabilities on location. Not coincidentally, the dispute onset stage estimation is also a useful test of the original hypotheses.

Table 4 lists two two-stage Heckman regressions, in which the first stage (selection equation) estimates the probability of MID onset, and the second stage (outcome equation) predicts the location of disputes. These regressions repeat the format of the third and fourth regressions in Table 3, with the first set of coefficients and standard errors predicting the distance from the capital of the initiator to the location of the dispute and the second set of coefficients and standard errors modeling dispute locations relative to the target. As these results make clear, selection bias is not interfering with the results in Table 3. The size and significance levels of coefficients in the outcome equation are essentially unchanged. Nor is Heckman’s selection statistic ($\rho$) significantly different from zero. Equally salient, CINC scores in the selection equation are statistically insignificant; capable nations are not more likely to fight. Instead, distance continues to interact with capabilities in the selection stage. Powerful countries are more likely to fight if the dispute occurs far from home, while weak nations are slightly more dispute prone when contests are more proximate.

7 Conclusion: Boulding, Waltz, and Fearon

Three approaches to power and conflict can be personified in the work of Kenneth Waltz, Kenneth Boulding, and James Fearon, respectively. Of these, Boulding offers the most limited view of the scope of power in international politics, a view that is most nearly correct, if also in need of some revision. Power conditions distance. The weak and the distant are at peace, if only because they must be. The proximate and powerful can fight, but may or may not need war to achieve what they merit or desire. A problem for Boulding is that the capable appear to exhibit a “gain of strength gradient,” becoming more prone to exercise force the farther an opponent is from the homeland.

Waltz’s conception of international politics is the least sustainable in terms of the findings here and because of contradictions in the theory between capabilities, preferences, and agency. The most important events in international politics may indeed be explained by differences in the
Table 4: Two-Stage Models of Dispute Distance (Heckman, Directed Dyads)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coeff (S.E.)</th>
<th>Coeff (S.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equation 1:</strong> Distance to Initiator &amp; Distance to Target</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CINC&lt;sub&gt;A&lt;/sub&gt;</td>
<td>12638.195 *** (1729.322)</td>
<td>-7685.915 *** (1682.046)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;B&lt;/sub&gt;</td>
<td>-7597.539 *** (1673.353)</td>
<td>13009.664 *** (1804.921)</td>
</tr>
<tr>
<td>CINC&lt;sub&gt;A&lt;/sub&gt; × CINC&lt;sub&gt;B&lt;/sub&gt;</td>
<td>27396.796 (17300.387)</td>
<td>27486.538 (17696.652)</td>
</tr>
<tr>
<td>Distance</td>
<td>0.740 *** (0.054)</td>
<td>0.726 *** (0.055)</td>
</tr>
<tr>
<td>Energy/Pop.&lt;sub&gt;A&lt;/sub&gt;</td>
<td>26.249 (21.873)</td>
<td>-59.355 ** (20.311)</td>
</tr>
<tr>
<td>Energy/Pop.&lt;sub&gt;B&lt;/sub&gt;</td>
<td>-60.249 ** (20.290)</td>
<td>27.128 (22.071)</td>
</tr>
<tr>
<td>E/P&lt;sub&gt;A&lt;/sub&gt; × E/P&lt;sub&gt;B&lt;/sub&gt;</td>
<td>187.732 † (86.096)</td>
<td>183.956 † (87.443)</td>
</tr>
<tr>
<td>Population&lt;sub&gt;A&lt;/sub&gt;</td>
<td>-0.001 (0.001)</td>
<td>0.002 *** (0.001)</td>
</tr>
<tr>
<td>Population&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.002 ** (0.001)</td>
<td>-0.001 (0.001)</td>
</tr>
<tr>
<td>Democracy&lt;sub&gt;A&lt;/sub&gt;</td>
<td>97.953 *** (21.951)</td>
<td>-74.500 ** (24.466)</td>
</tr>
<tr>
<td>Democracy&lt;sub&gt;B&lt;/sub&gt;</td>
<td>-78.628 ** (24.968)</td>
<td>98.797 *** (21.577)</td>
</tr>
<tr>
<td>Dem.&lt;sub&gt;A&lt;/sub&gt; × Dem.&lt;sub&gt;B&lt;/sub&gt;</td>
<td>-1.113 (3.497)</td>
<td>-1.533 (3.496)</td>
</tr>
<tr>
<td># Neighbors&lt;sub&gt;A&lt;/sub&gt;</td>
<td>-1.240 (17.418)</td>
<td>-21.208 (17.894)</td>
</tr>
<tr>
<td># Neighbors&lt;sub&gt;B&lt;/sub&gt;</td>
<td>-14.144 (16.933)</td>
<td>4.098 (18.744)</td>
</tr>
<tr>
<td># Great Powers</td>
<td>-17.176 (42.153)</td>
<td>-18.545 (40.955)</td>
</tr>
<tr>
<td>System Con.</td>
<td>-3607.516 (2271.494)</td>
<td>-3533.742 (2268.683)</td>
</tr>
<tr>
<td># Countries</td>
<td>-3.549 (2.224)</td>
<td>-3.430 (2.217)</td>
</tr>
<tr>
<td>Intercept</td>
<td>2150.140 † (1042.964)</td>
<td>2093.615 † (1039.947)</td>
</tr>
</tbody>
</table>

| **Equation 2:** MID Onset & MID Onset | | |
| CINC<sub>A</sub> | 0.136 (0.548) | 0.125 (0.547) |
| CINC<sub>B</sub> | 0.168 (0.554) | 0.176 (0.548) |
| CINC<sub>A</sub> × Distance | 0.001 *** (0.000) | 0.001 *** (0.000) |
| CINC<sub>B</sub> × Distance | 0.001 *** (0.000) | 0.001 *** (0.000) |
| Distance | 0.000 *** (0.000) | 0.000 *** (0.000) |
| Contiguity | -0.192 *** (0.010) | -0.192 *** (0.010) |
| Alliance | 0.009 (0.035) | 0.009 (0.035) |
| Major Power<sub>A</sub> | 0.411 *** (0.062) | 0.410*** (0.063) |
| Major Power<sub>B</sub> | 0.408 *** (0.063) | 0.410 *** (0.062) |
| Major<sub>A</sub> × Major<sub>B</sub> | -0.091 (0.095) | -0.091 (0.095) |
| Democracy<sub>A</sub> | 0.061 *** (0.006) | 0.061 *** (0.006) |
| Democracy<sub>B</sub> | 0.061 *** (0.006) | 0.061 *** (0.006) |
| Dem.<sub>A</sub> × Dem.<sub>B</sub> | -0.012 *** (0.001) | -0.012 *** (0.001) |
| Intercept | -0.861 *** (0.062) | -0.860 *** (0.062) |

| athrho | 0.004 (0.049) | 0.012 (0.048) |
| lnsigma | 7.639 *** (0.035) | 7.644 *** (0.035) |

| N | 1062585 | 1062585 |
| Log-likelihood | -73075.39 | -73104.893 |
| $\chi^2_{(17, 17)}$ | 720.823 | 642.476 |

Significance levels: †: 5%  *: 1%  **: 0.5%  ***: 0.1%  Splines suppressed.
capabilities of nations, but justifying this claim requires a re-definition of what is important to practitioners, rather than to academics. Nations in competition seek the redistribution of benefits and prerogatives. Power relations fundamentally affect the division of the resource pie. Though we lack the ability to map the preferences of nations and to plot the progress of international horse trading, power certainly determines what nations acquiesce to and what they will dispute. Yet, the boundaries on spheres of influence are moving much more than the nominal probability of fighting. The powerful are not challenged close to home. Disputes begin when, and more importantly where, influence is uncertain or control disputed. To paraphrase Mearsheimer, the locations of contests are mainly a function of the balance of power, though the causes of war and peace lie elsewhere.

Fearon embraces agency, offering a theory of international politics that invites us to explore diplomacy much more directly, though he too discounts geography. Uncertainty is necessary but not sufficient. A clash of intentions must accompany the capacity to act. Boulding’s insight is that weakness is relative, not so much to power, as to proximity. Distance is something that nations cannot dispel through diplomacy. Nations that are both enemies and neighbors would be better off if they could agree to separate, like a divorced couple with a restraining order. Unfortunately, space on Earth is limited, with most other locations already taken. Making conflict more costly by increasing the distance between countries is not practical. Instead, nations seek to impose weakness through other means, like arms control treaties or third-party guarantees. These, however, have structural flaws, since it is difficult to contract to impair both parties equally. The weakness of distance has the advantage of being symmetric, equally impairing both sides in a potential dispute.

If Boulding helps by imparting geographic context to Fearon’s bargaining space, improving the empirical fit, Fearon resolves an empirical anomaly for Boulding by explaining why the powerful appear to gain strength with distance. Though Boulding understood that distance degrades capabilities, he still assumed that capabilities cause conflicts. If, as Fearon suggests, war is more a product of error than power, then the increase in distant disputes among the powerful is really a reflection of uncertainty. There is no more reliable prediction in international politics than that Brunei and Burundi will not become belligerents. This certainty that the mutual loss-of-strength exceeds the ability of either nation to fight makes it easy for both observers and participants to
discount the probability of a contest. In contrast, nations capable of projecting power expose the physical possibility of conflict. Uncertainty about whether the powerful will resort to force increases the risk of violence because its possibility can be underestimated. Capabilities make for more possibilities and thus greater uncertainty and more war. The apparent effect of powerful nations “climbing the slope” of the loss-of-strength gradient in reverse reflects growing uncertainty with distance about what the powerful are willing to do, given that they are able to do many things.
References


Braithwaite, Alex. 1008. “Codebook for the Militarized Interstate Dispute Location (MIDLOC) Data, v 1.0.” University College London.


