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January 2008

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A Re-assessment of Democratic Pacifism at the Monadic Level of Analysis

Are democracies generally more peaceful than autocracies? Scholars of international relations often write in their international relations research and texts that democracies are no more or less likely to participate in war or lesser disputes than other regimes. Prominent publications making this claim include Small & Singer (1976), Doyle, who describes liberal states as 'warlike' (1983, 230), Maoz & Abdolali (1989), and Maoz & Russett (1993). Joshua Goldstein, a conflict scholar, writes in his introductory text on international relations:

IR scholars have examined empirical data for the idea that democracy is linked with a kind of foreign policy fundamentally different from that of authoritarianism. One theory they considered was that democracies are generally *more peaceful* than authoritarian governments (fighting fewer, or smaller wars). This turned out to be *not true* [italics are original author's]. (2005,164)

In contrast, Ray (1995) and Russett & Oneal (2001) have concluded that enough evidence exists to argue that democracies *are* in general more peaceful than autocracies. The *Democratic Pacifism Proposition*, or DPP hereafter (Benoit 1996), affirms that democratic states are less conflict-prone than nondemocratic states. This is a distinct proposition from the democratic or liberal peace, where pairs of democracies or liberal societies share peace only with each other and not with autocracies.

Whether democracies are generally peaceful remains an important and fascinating question. First, as Benoit (1996) and others have pointed out, the foreign policy implications of regime type and conflict propensity are quite important, especially when

states commit vital resources to transforming themselves, but also other states, into functioning democracies. Second, if democracies are generally more peaceful than other states, then this has theoretical implications for the broader democratic or liberal peace in dyadic studies (Russett & Oneal 2001, 50). Because recent studies have begun to show that democracies are generally more peaceful than non-democracies, this requires further research explaining such. If the evidence for the DPP becomes more robust, I suspect that an answer to why this is so relates to the qualities of democratic societies and later take a first step to exploring such here.

However, uncertainty remains concerning evidence supporting the DPP. Some authors continue to rely on the conclusions of the above prominent studies noting no general differences between democracies and other regimes regarding interstate conflict, although both older and newer studies contradict this null finding. It is unsurprising that some scholars summarize the empirical evidence supporting the DPP as “mixed”. I contend that there is now more evidence to support the DPP as scholars begin to apply better data and methods to this topic that were not available in the past.

I will accomplish three goals in this research note. The first is to update the literature on the DPP and discuss why scholars continue to disagree, or even misunderstand, the empirical findings therein. The second goal is to present evidence supporting the DPP. I utilize the monadic, state-year level of aggregation research design, which has been less common over the past decade or so, and use improved data and estimation techniques unavailable to the earliest studies on this topic. The empirical analysis focuses on the propensity of democracies to initiate militarized conflicts. The third goal is to examine the subcomponents of the Polity IV data of the

democracy/autocracy measure to identify which has the strongest effect on interstate conflict. I find that the evidence supports the DPP.

Research on Democratic Pacifism

The evolution of the democracy and conflict literature is itself a fascinating topic, especially when one includes studies at multiple levels of aggregation and dependent variables. Here I focus on those studies making claims about the general pacifying effects of democracy at the monadic level of analysis. A monadic analysis entails the examination of the attributes of single states. Prominent studies have argued against the DPP, that democracies are no less conflict prone than other regime types (Wright, 1942; Babst, 1972; Small & Singer, 1976; Zinnes, 1980; Chan, 1984; Weede, 1984; Domke, 1988; Maoz & Abdolali, 1989; Hegre & Gleditsch, 1997). Yet, as Benoit (1996) and Chan (1997) pointed out, the research designs and statistical methods of most of these past studies were unsuitable, often plagued by limited data and underdeveloped theory. There have been past calls for a re-assessment (Ray, 1995; Rousseau et al., 1996; Benoit, 1996; Rummel, 1997; Russett & Oneal, 2001) showing continued interest and research on this topic. Moreover, new evidence is emerging in support of the DPP as studies have begun to rectify past flaws in theory, data, research designs, and estimation.

Studies making monadic claims about democracy employ one of three levels of aggregation: state-years, non-directed-dyads years or crises, or directed-dyads years or crises/disputes. However, these studies vary greatly in sampling, dependent variables, and data that make comparisons problematic, especially relative to studies on the dyadic liberal peace. I discuss research at each of these three levels of aggregation below.

I begin first with two studies, Bremer (1992) and Oneal & Russett (2001), which have argued that democracies are generally more peaceful than autocracies based on the

manipulation of the substantive predictions derived from their statistical models using a nondirected-dyad year unit of analysis. This is a less direct means of testing the DPP and even borders on ecological fallacy considering there is no direct measure of any monadic variables. “Apparently, democracies act according to realist principles in their dealings with autocracies but are no more prone to fight them than are other autocracies (Russett & Oneal, 2001, 116).” Although I agree with the sentiment of their conclusion when pertaining to conflict initiations, their statement may be incorrect in reference to overall war participation, and their evidence appears to be at best indirect support for the DPP.

Another approach to analyzing the DPP has utilized directed-dyad or crisis units of analysis. Bennett and Stam (2000a, 2004) advocate directed-dyad designs capable of capturing strategic behavior by distinguishing initiators from targets and allowing for the incorporation of state-level variables, which provides a more direct test of the DPP than tests using nondirected-dyads. One may define a monadic study as one that includes state-level variables, which includes those studies that use some form of directed-dyad unit of analysis. Rousseau and colleagues (1996) show, using data from the International Crisis Behavior Project (ICB), that democracies are less apt to initiate the use of military force than nondemocracies but are not less likely to escalate crises except against other democracies, supposedly because democracies are characteristically satisfied with the status quo. Leeds & Davis (1999) demonstrate that the structural attributes of democracies make them more cooperative generally and with other democracies (using the Conflict and Peace Data Bank data) than non-democracies.

Rousseau (2005) claims that the evidence for democratic pacifism exists at both the monadic and dyadic levels but that the timing of conflicts of all regimes is affected by

other variables such as opportunism, which indicates institutions do not have a static effect. He finds that democracies are both less likely to initiate conflicts as well as to fight each other. Huth & Allee (2002) also show that democracies are less likely to initiate and escalate disputes over territory and more apt to negotiate and make concessions relative to autocracies. Similarly, Schultz (2001) finds that democracies are less likely to initiate and escalate militarized conflicts. The deduced logic that multiparty competition increases credibility of signaled threats is supported, resulting in a reduced risk that the targets of democratic threats will reciprocate in a militarized manner.

Research has produced findings supporting the DPP using a state-year unit of analysis, although these studies have been few in number the past twenty years. Ray (1995, 11) cites studies from the 1960s and 1970s rarely cited by others in recent years that showed evidence for the DPP (Haas, 1965; East & Gregg, 1967; Salmore & Hermann, 1969; Zinnes & Wilkenfeld, 1971; East & Hermann, 1974). It appears that these studies have been excluded from recent literature reviews because some scholars in the field accepted the conclusion that democracies are no less conflict prone than autocracies. Ray (1995, 10-13) argues that Small & Singer's (1976) discussion stunted research on the democratic peace and skewed our view of the DPP. However, the DPP has not been doomed to the dustbin; evidence has again emerged supporting the DPP.

Rummel (1979, 1983, and 1997) has long claimed to provide evidence that democracies are peaceful and are particularly less violent toward their own citizens as well as with other states. Weede (1984) and Chan (1984) replicated but could not confirm Rummel's 1983 results and the DPP appeared to be false. We can now see though with the privilege of hindsight that the data and estimation techniques of these

earlier replication studies contained flaws. One of the first improvements in research design and testing was by Benoit (1996), who applied negative binomial regression to demonstrate that the analyses of Weede (1984) and others were unreliable and that democracies are indeed generally pacific. Nevertheless, the trade-off of replicating Weede was incorporating his flaws of research design, especially limited data and potential sample bias. Benoit bases his results on only a few years of observation (Chan, 1997) and he generally ignores observations where war did not occur (the non-barking dog problem).¹ Therefore, while Benoit's results disconfirmed Weede (1984), additional research was still required with a broader sample of state-years to dispel prior claims against the DPP.

Few studies since the 1970s have used the state-year level of aggregation to study the DPP, but interest has renewed and the evidence is now more supportive of the DPP as a variety of new data sets and estimation techniques have become available. Rioux (1998) found that while democracies are less likely to initiate crises (using ICB data), they are more likely to escalate and win once in a crisis. In contrast, Hewitt & Wilkenfeld (1996) found, also using the ICB data, that democracies often strike a less belligerent stand during crises. Caprioli & Trumbore (2006) similarly find using their new data that democracies are less likely to be the first to use violent force in militarized interstate disputes (MIDs). Souva & Prins (2006) likewise show that democracies are less likely to initiate MIDs that result in fatalities. Their study is also notable because it controls for a state's level of development, unlike most past studies evaluating the DPP.

To call the evidence "mixed" on the DPP at this point appears more open to question than ten years ago or so. Whereas Ray (1995) noted there was some evidence at

his writing to support the DPP, it was not yet so strong to trumpet it loudly. Russett & Oneal (2001) take a stronger stand six years later in support of the DPP. In the remainder of this section, I explore the reasons for why many in the field have not fully recognized the empirical evidence supporting the DPP.

The fact that scholars differ in their conclusions regarding the issue of democratic pacifism is itself intriguing. The first reason for the less than widespread acceptance of the DPP is that the studies that support it are spread over time and typically incommensurate in research designs and data, especially in comparison to the liberal peace at the dyadic level of analysis. Russett & Starr (2000) also offer three reasons for this diversity of opinion. First, they note a failure to deduce strategic behavior. Second, and consequently, investigators tended to use flawed research designs and improper tests in earlier monadic studies that could not capture strategic behavior. Researchers have now especially rectified some of these earlier problems by collecting data and employing new estimation techniques. The third reason they note is the failure to think multivariately, which Gleditsch & Hegre (1997, 297) also suspected was the reason why they found null results for the DPP.

There are at least two additional issues. The first is the overall framing or generalization about the DPP itself. Before data were available for crises or MIDs, most studies exploring the DPP used a war dependent variable. We should take care though to differentiate war from less severe conflicts and related behaviors, as do Russett & Starr (2000), Russett & Oneal (2001), Huth & Allee (2002), among others. Some scholars are not as careful and make broader claims that include a wide range of conflict behaviors and choices measurable with different dependent variables but with war foremost in

mind. In the introduction of this study, I cited Goldstein's prominent text on international relations. Note how even though Goldstein mentions "war", the words "foreign policy" preceding the text in parentheses unite war with less severe conflicts and other state behaviors. One could read this to mean that there are no differences in the foreign policy orientations of democracies and autocracies more generally; conflict initiations, escalations, settlements, negotiations, etc. are overly simplified and conflated with war participation. The literature now shows a more complex picture that accounts for strategic behavior and directionality. True, democracies are frequent participants in war, although they appear less likely to initiate militarized conflicts and seem slow to escalate conflicts, making them more conciliatory and prone to negotiation.² The data with which to make such rich differentiations in state behaviors were unavailable thirty years ago.

The richness arising from strategic interactions leads to the final reason for skepticism about the DPP. There is some orthodoxy in the area of conflict studies regarding the primacy of dyads and their ability to tap into strategic interactions, although it is not so dominant that scholars have abandoned this approach. In fact, highly respected journals have been publishing studies, in addition to those cited above, that disaggregate the effects of democracy or autocracy into subtypes without controlling for any attributes of dyadic opponents (Ireland & Gartner, 2001; Leblang & Chan, 2003; Lai & Slater, 2006). The Palmer, London, & Regen (2004) article is an exception to the three studies cited above.

Is a study of state conflict propensity valid without including for dyadic control variables? This is the main disadvantage. If one's theory seeks to explain the nature of strategic decisions based on differing interstate contexts, then the use of a state-year

design is inappropriate. Most & Starr (1989) argue that the state-year unit of analysis fails to capture the important strategic interaction and behavior tied to the phenomenon of war and other international contests. One cannot capture some of the opportunity and willingness surrounding interstate conflict with this approach, resulting in some model specification limitations. In Chapter 4, their discussion explains why past monadic studies arrived at null findings. Indeed, war is a complex event that requires two states to fight – the target must reciprocate.

The problems discussed by Most & Starr should be gravest for a war dependent variable, which characterized the studies they reviewed. We should also expect that conflict onset dependent variables, especially those that combine conflict initiations, targeting, or reciprocations, to be limited in their ability to capture strategic interactions. There is less reason, however, why one cannot use a state-year unit of analysis to study conflict initiation or targeting separately. By examining such disputes and directional behaviors short of war, the stated necessary condition of reciprocation (willingness and opportunity) can be relaxed.

Yet, the problem of modeling strategic interaction does not render the state-year approach useless. The rationale offered by Most & Starr or others is one where we would expect strategic interactions to wash out state behavior when using the state-year unit of analysis, although this does not explain why most recent studies show some consistent evidence otherwise. As long as the effects of a state on conflict are strong, robust, and unobscured, they should be identifiable using various research designs. I show that this is particularly the case for democracy and conflict initiations. Hence, there are trade-offs in using certain research designs.

Dyadic conflicts researches designs, whether applying monadic variables or not, are better suited to capturing strategic interactions between states than state-year designs but also involve limitations as well. I already discussed above the inadequate nature of using nondirected-dyads to capture the behavior of individual democracies. In addition, studies using dyads capture strategic behavior in a simplified manner because they often omit third-party contextual factors that could affect state decisions (Croco & Teo, 2005). The factors modeled that affect state decisions are often truncated to bilateral situations with at best one or two other states serving as an outside influence as joiners or allies, etc. Furthermore, the under-specification of our models need not apply exclusively to state-year designs.³ Directed-dyads entail an additional problem of over-aggregation resulting from repeating pairs of states, and the remedies for this are less than ideal and include adjusting standard errors or dropping some of the repetitive observations (Bennett and Stam, 2000a, 2004; Schultz, 2001).

In summary, this literature review shows that although there was reason to be skeptical about the validity of the DPP, further evidence is emerging that democracies are more peaceful than other regimes. Despite some shortcomings of the state-year unit of analysis, studies applying such have presented evidence that democracies are generally pacific consistent with studies using some form of directed-dyad unit of analysis. Still, limitations in recent studies warrant this inquiry. Studies on the DPP since the 1980s have applied substantially better data and methods than were available in earlier decades, and this has yielded more support for the DPP. Where there has been less improvement though is richer theory to exploit the advantage of the state-year unit of analysis, and that is to model interactions within states or other structural attributes. I have cited above

studies that have explored this terrain by examining the effects of different institutional forms of government within democracies and autocracies on interstate conflict. One of the tests I employ in the next section is to break-down the Polity data by its subcomponents, which is a first step toward this goal. The broader Polity democracy and autocracy indices have been shown to be highly robust (Goertz, 2006) in studies of the Liberal Peace but likely blur distinctions of individual states that could be used to build theory testable using the state-year unit of analysis.

Research Design

The analysis here uses the state-year unit of analysis on a sample of states from 1884 to 1999. The evidence from recent studies utilizing directed-dyad designs has provided evidence in support of the DPP. My goal is to examine the DPP with the state-year unit of analysis in a manner similar to recent studies (Caprioli & Trumbore, 2006; Souva & Prins, 2006). This study, along with those using other designs or units of analysis, allows us to triangulate the evidence for or against the DPP. This is important to do since there is no seminal study on the DPP to use for cumulative and comparative theory testing.

I used Eugene version 1.95 (Bennett & Stam, 2000b) to generate a sample of cases based on the Correlates of War (COW) system membership data set. I examine the effects of democracy, but also other covariates, on conflict initiation dependent variables. Additionally, I disaggregate the effects of the Polity IV data by the subcomponents of the democracy index on conflict initiation. I do this because I suspect theoretically that political participation in a state should act as a pacifying effect, although I do not fully develop a theory here. This approach also allows us to relax the assumption that all the components of the Polity index are relevant to interstate conflict. For example, certain

components such as executive constraints should be important in a theory pitched at the monadic level of analysis. The goal here is to see whether any of the components especially stand out concerning their effects on conflict. Gleditsch & Ward (1997) suggest that users of the Polity data undertake such an approach given that the Polity scale is ad hoc and that *executive constraint* is the strongest determinant of the overall democracy scores and *executive recruitment* the same for the autocracy scores.

Dependent Variables

I form the dependent variables from the COW Militarized Interstate Dispute 3.0 (MID) data set (Jones, Bremer, & Singer, 1996; Ghosn, Palmer, & Bremer, 2004). A MID is said to occur when one state threatens, displays, or uses military force against another member of the interstate system. *MID Initiation* is dichotomous and equals one when a state is an original participant on side A of a dispute, zero otherwise.⁴ I employ logit regression along with the temporal controls and robust standard errors to test the MID initiation model.

Democracy

To measure *Democracy*, I work from the Polity IV data (Marshall & Jaggers 2000), which includes a scalar measure created by subtracting the level of autocracy in a state (AUTO, ranging from zero to 10) from its democracy score (DEMOC, ranging from zero to 10) but transformed so to range between 1 and 21. I use this measure to capture the combined effects of democracy but also to be commensurate with the literature. I then further explore the Polity IV subcomponents, paying particular attention to constraints on leaders (XCONST) and political participation/competition (PARCOMP), which measures “the extent to which alternative preferences for policy and leadership can

be pursued in the political arena” (Marshall and Jaggers, 2000, 23). This latter variable conceptualizes the degree to which citizens compete peacefully for political influence without coercion or state interference. This variable ranges from one (repressed) to five (competitive) with the following categories in the middle: suppressed, factional, and transitional. The other components of the Polity index are regulation of Chief Executive Recruitment, Competitiveness of Executive Recruitment, Openness of Executive Recruitment, and the Regulation of Participation.

Control Variables and Estimation

Studies have shown that economic development (Mousseau, Hegre, & Oneal, 2003; Souva & Prins, 2006) and trade relations (Oneal & Russett, 2001, among others) often complement democracy as sources of peace. Democracies are typically economically developed and more commercially oriented than nondemocracies (Rosecrance, 1986). Developed states should be especially less apt to resort to military threats or force over territory considering the diminishing economic returns for wealthier states. Considering that most democracies are also highly developed economically, I compare these two variables in the tests reported below. *Development* equals a state’s energy consumption per capita, using data from the COW National Capabilities data set. Another crucial control variable in this study is *Capabilities*, which is based on the National Capabilities data set provided by COW.⁵ *Capabilities* measures a state’s share of power in the international system for a given year.

The remaining control variables are nonessential to guard against spurious relationships but are included for purposes of model fit and to test alternative explanations. Geographic distance and contiguity, especially with multiple neighbors,

are recognized as strong predictors of the opportunity for international conflict. *Borders* equals the number of borders a state shares with its neighbors (Zinnes, 1980; Most & Starr, 1989; Siverson & Starr, 1991; Souva & Prins, 2006; Caprioli & Trumbore, 2006). Past conflicts may increase the chances of repeated rounds in the future for both democracies and autocracies alike. For democracies in such situations, norms against violence may be relaxed more readily and institutions will be less constraining (Huth & Allee, 2002). To control for this potential problem I include a variable *Peace Years* and three additional cubic spline variables (based on Beck, Katz, & Tucker, 1998) in each model for each initiation dependent variable. Finally, commercial openness offers an alternative explanation for pacifism associated with democracies. States dependent upon trade as a high proportion of GDP should be constrained from engaging in disputes that could disrupt commerce.⁶ *Openness* equals total trade as a proportion of GDP, or (exports + imports)/GDP, using data collected by Russett & Oneal (2001).

Results

I present in Tables 1 through 3 the logit estimates and their predicted probabilities for the MID initiation models. Tables 4 and 5 then present the ordered probit estimates and the probabilities of the discrete escalation outcomes.

Democracy and Militarized Initiations

I examine in this section whether democracies are less likely than non-democracies to initiate militarized conflicts. Models 1 through 3 in Table 1 provide evidence that democracies are indeed less likely to initiate militarized interstate disputes. *Democracy* is negative and significant below the .05 threshold in models 1 and 2 but weakly significant when controlling for trade openness in model 3, using two-tailed tests. The

loss of significance in the last model stems from missing data in the openness variable.⁷ The statistical significance of *Democracy* is also unaffected by the remaining covariates, meaning they could be dropped from the model, with the exception of *Capabilities*. The results of this initiation model are rather robust to model specification. Table 2 presents the substantive effects derived from model 2 of Table 1. *Capabilities* and *Borders*, as measures of the opportunity for conflict, have very similar positive effects on the chance of a MID initiation, whereas *Democracy* and *Development* have parallel (albeit the latter is weaker) negative effects. *Openness* does not have much of an effect using a logit estimator. Moving from a *Democracy* score of 6 to 13 (on a 1-21 scale) reduces the probability a state will initiate a MID by 12.7 percent, while controlling for the other covariates, whereas the effect of *Development* reduces this risk by 8.2 percent. Concerning the other covariates, moving from a miniscule portion of global power capabilities in a year to a five percent share of global power increases the probability 24 percent, whereas a state with four international borders is 23 percent more likely to initiate than a state with only two neighbors. In summary so far, the MID initiation results are consistent with other studies in the literature using either state-years or directed-dyad years units of analysis, and this supports my earlier point that results using a state-year design can be comparable to those applying directed-dyads. The evidence here suggests that the effect of democratic conflict initiation avoidance appears quite strong and robust across different research designs, data, and estimation techniques.

To explore further the source of the DPP using the Polity IV data, I disaggregated the models and compared the components of the democracy index. The empirical results in Table 3 show that the PARCOMP tends to wash out the effects of XCONST.

Executive constraints appear, in model 4, to have a weakly significant pacifying effect on leaders (using a two-tailed test). However, note that in Model 5 PARCOMP has a stronger effect than XCONST and in Model 6, the latter is statistically insignificant.⁸ This is unrelated to collinearity even though the correlation between them is .71. This is notable since Gleditsch & Ward found that XCONST has the highest weight on Polity democracy scores and PARCOMP the least. This is not the case though when predicting conflict, where adding XCONST to the model with PARCOMP adds little explanatory power; the log likelihoods of models 5 and 6 differ only at the second decimal place and the significance value for the log-ratio test between these two models is insignificant at 0.791. This is rather interesting since executive constraints should be a logical source of any observed democratic pacifism in a state-year study such as this, but the pacifying effect of XCONST appears weaker statistically than that of the whole democracy index or relative to PARCOMP alone.

Conclusion

This paper began with the purpose to re-examine whether democracies are generally pacific regarding militarized interstate conflict. An updated review of the literature shows new evidence to support the Democratic Pacifism Proposition. Democracies appear especially less likely than autocracies to initiate militarized conflicts. A contribution of this study is that we can triangulate the evidence from studies employing state-years and studies using the other units of aggregation, and the results for initiation are robust across different research designs.

Finally, this study shows that the political competition component of the Polity IV data is a particularly strong subcomponent of the democracy score explaining peace.

This latter finding poses an interesting theoretical question for future work given that the DPP does not seem to arise mainly from institutional constraints on executive leaders but instead from something potentially cultural, to the degree that it is possible separate culture from institutions. While some monadic studies cited earlier have begun to explore the effects of different types of governments within the democratic or autocratic categories, there is still much terrain to explore in this area. Institutions may be a by-product of culture but also shape culture later. The results here at least suggest that regulation of public participation in a manner that is democratic and peaceful is more important than direct constraints on executives. I have chosen to use the Polity data so my results would be comparable to some of the cited studies, although future work should explore other data on political competition. As Gleditsch & Ward (1997) found, political competition was the Polity component that stood more separately from the other components and most highly correlated with the alternative data sets by Bollen (1993) and Vanhanen (1990).

This study does not offer a theory for the above findings at this time. Still, the implications of these findings are important. Future work in this area should further explain why democracies are *generally* peaceful and explain why democracies still cannot often avoid going to war. Indeed, if the state-year unit of analysis is to be used successfully in the future it is contingent on the development of theory capable of providing how a richer explanation for interstate conflict is affected by factors and strategic behaviors within states. The research cited earlier, studying the effects of various forms of democratic institutions on conflict, is a step in that direction.

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TABLE 1
Democracy and Militarized Interstate Dispute Initiation

| | Model 1 | | | Model 2 | | | Model 3 | | |
|--------------------------|-------------|-----------|---------------|-------------|-----------|---------------|-------------|-----------|---------------|
| | Coefficient | Std. Err. | Pr.> Z | Coefficient | Std. Err. | Pr.> Z | Coefficient | Std. Err. | Pr.> Z |
| Democracy | -0.0205 | 0.0081 | 0.0110 | -0.0194 | 0.0081 | 0.0170 | -0.0169 | 0.0096 | <i>0.0780</i> |
| Capabilities Development | 11.9393 | 2.3247 | 0.0000 | 9.7572 | 1.4338 | 0.0000 | 9.2392 | 1.3313 | 0.0000 |
| Borders | | | | -0.0153 | 0.0087 | <i>0.0790</i> | -0.0031 | 0.0204 | 0.8780 |
| Openness | | | | 0.1221 | 0.0261 | 0.0000 | 0.1026 | 0.0288 | 0.0000 |
| MIDyrs | -0.4495 | 0.0460 | 0.0000 | -0.4334 | 0.0453 | 0.0000 | -0.4833 | 0.0602 | 0.0000 |
| MIDspl1 | -0.0108 | 0.0021 | 0.0000 | -0.0103 | 0.0020 | 0.0000 | -0.0119 | 0.0028 | 0.0000 |
| MIDspl2 | 0.0026 | 0.0007 | 0.0000 | 0.0024 | 0.0007 | 0.0000 | 0.0029 | 0.0009 | 0.0010 |
| MIDspl3 | 0.0001 | 0.0001 | 0.4770 | 0.0001 | 0.0001 | 0.3850 | 0.0000 | 0.0001 | 0.7620 |
| Constant | -0.5808 | 0.1284 | 0.0000 | -0.9068 | 0.1400 | 0.0000 | -0.7383 | 0.1786 | 0.0000 |
| N | | 7656 | | | 7656 | | | 4861 | |
| Wald chi2 | | 448.09 | | | 672.15 | | | 558.57 | |
| Prob>chi2 | | 0.0000 | | | 0.0000 | | | 0.0000 | |
| Log Likelihood | | -2689.02 | | | -2656.00 | | | -1614.22 | |
| Pseudo R2 | | 0.1437 | | | 0.1542 | | | 0.1811 | |

Note: Standard errors are robust and tests are two-tailed. Bold values denote .05 (or lower) significance level, .10 (or lower) in italics.

TABLE 2
Substantive Effects of Democracy and Militarized Interstate Dispute Initiation

| | Democracy | Capabilities | Development | # Borders |
|---|-----------|--------------|-------------|-----------|
| Baseline Pr.(Initiation) | 0.108 | 0.108 | 0.108 | 0.108 |
| Change in Pr.(Initiation) | -0.014 | 0.026 | -0.009 | 0.025 |
| Pr.(Initiation) plus 1/2 std. dev | 0.094 | 0.134 | 0.099 | 0.133 |
| Percentage change in Pr.(Initiation) | -12.7 | 24.4 | -8.2 | 23.2 |

Note: Changes in probability of MID Initiation with a one standard deviation increase holding the other covariates constant, based on Long & Freese (2001)

TABLE 3
Competition vs. Constraints and Militarized Interstate Dispute Initiation

| | Model 4 | | | Model 5 | | | Model 6 | | |
|---------------------|-------------|-----------|---------------|-------------|-----------|---------------|-------------|-----------|---------------|
| | Coefficient | Std. Err. | Pr.> Z | Coefficient | Std. Err. | Pr.> Z | Coefficient | Std. Err. | Pr.> Z |
| XCONST | -0.0467 | 0.0249 | <i>0.0610</i> | | | | -0.0055 | 0.0279 | 0.8430 |
| PARCOMP | | | | -0.1019 | 0.0370 | 0.0060 | -0.0959 | 0.0407 | 0.0180 |
| Capabilities | 9.5902 | 1.4661 | 0.0000 | 9.9941 | 1.3898 | 0.0000 | 10.0070 | 1.4036 | 0.0000 |
| Development | -0.0151 | 0.0088 | <i>0.0860</i> | -0.0150 | 0.0088 | <i>0.0880</i> | -0.0149 | 0.0088 | <i>0.0880</i> |
| Borders | 0.1222 | 0.0264 | 0.0000 | 0.1190 | 0.0263 | 0.0000 | 0.1191 | 0.0263 | 0.0000 |
| MIDyrs | -0.4362 | 0.0453 | 0.0000 | -0.4313 | 0.0450 | 0.0000 | -0.4315 | 0.0450 | 0.0000 |
| MIDspl1 | -0.0105 | 0.0020 | 0.0000 | -0.0103 | 0.0020 | 0.0000 | -0.0103 | 0.0020 | 0.0000 |
| MIDspl2 | 0.0025 | 0.0007 | 0.0000 | 0.0024 | 0.0006 | 0.0000 | 0.0024 | 0.0006 | 0.0000 |
| MIDspl3 | 0.0001 | 0.0001 | 0.4350 | 0.0001 | 0.0001 | 0.3660 | 0.0001 | 0.0001 | 0.3640 |
| Constant | -0.9267 | 0.1458 | 0.0000 | -0.8468 | 0.1501 | 0.0000 | -0.8419 | 0.1546 | 0.0000 |
| N | | 7655 | | | 7655 | | | 7655 | |
| Wald chi2 | | 667.8 | | | 703.6 | | | 701.6 | |
| Prob>chi2 | | 0.0000 | | | 0.0000 | | | 0.0000 | |
| Log Likelihood | | -2658.730 | | | -2654.847 | | | -2654.814 | |
| Pseudo R2 | | 0.1533 | | | 0.1546 | | | 0.1546 | |

Note: Standard errors are robust and tests are two-tailed. Bold values denote .05 (or lower) significance level, .10 (or lower) in italics.

¹ The non-barking dog problem is a reference to the premise of a clue in a Sherlock Holmes story where the fact that a dog did not bark was evidence that a suspect was not in a certain locale, meaning a non-event can be evidence. Similarly, when non-events are omitted from a large-N, quantitative analysis, it removes our ability to measure events against a non-events baseline. Hence, we cannot discern how notable the events are from normal.

² Tests by this author, available on request, provide some evidence that as well that democracies are no less apt to participate in war than nondemocracies.

³ One anonymous reviewer pointed out that the state-year unit of analysis cannot adequately capture the opportunity and willingness of strategic interaction noted earlier but that this also leads to a problem of model specification and essentially an unlimited number of independent variables. This reviewer also noted the advantage of using directed-dyads is that states can be placed in a game-theoretic context. These points are informative for a few reasons since they help to show that theory is what should guide our choices of research design. First, this reviewer implies that studies employing directed-dyads without a deductive, game theoretic approach may also lead to sub-optimal empirical results. Second, one can apply the criticism that state-year designs are arbitrary in their model specifications just as well to designs using directed-dyads because both are selecting on state-level factors. The only way to avoid under or over-specification is through theory.

⁴ In cases where there are potentially multiple MID participations in a given year, I selected on the highest hostility rating for a state in a state-year. This appears to be the main approach using this type of research design, although recent studies do not often mention such overtly.

⁵ See Singer (1987) and Singer, Bremer, & Stuckey (1972). The data are available at <http://cow2.la.psu.edu/> or through EUGene (Bennett and Stam 2000a).

⁶ The correlation between Capabilities and GDP is .55, and between GDP and Openness is -.04. The correlation between Capabilities and Openness is -.14, and between Openness and Development is .28. I feel including a variable for national power makes it unnecessary to control for a state's economic size (total GDP). These and any mention of additional results hereafter in the notes are available from the author.

⁷ The results for models 1 and 2 mostly correspond with the years of coverage for the trade openness measure to minimize the problem of list-wise deletion. *Openness* truncates the sample in the 1990s as well but this does not affect the significance or sign direction of the democracy coefficient. Democracy is negative and significant on MID initiation in separate samples by aggregating decades cumulatively after 1850. There is a severe lack of variance problem relating democracy scores to MID initiations from 1816 to especially 1850 but also more generally in the nineteenth century as a whole. Results tracking means and standard deviations for democracy by decade are available from the author upon request. Moreover, Democracy in model 3 is significant below the .05 level when using a GEE estimator in place of logit.

⁸ I conducted additional robustness checks using other the remaining Polity IV component variables. Regulation of Participation (Parreg), which relates to the measure of Parcomp, was one of the few of such variables to perform well alongside Xconst. XCONST also tends to wash out the remaining executive components. In addition, I utilized the Polcomp variable, which combines both the regulation and competitiveness of political participation, and the results are very similar to the models I present here.