

**Another Shot at the Democratic Peace: Are Democracies More Aggressive than Non-Democracies in Militarized Interstate Disputes?**

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**Abstract**

Oft-mentioned and oft-discussed, the Democratic Peace Thesis has its supporters and detractors. Often, the Thesis is tested by examining whether democracies are involved in conflicts of varying degrees. In this paper, I test the Democratic Peace Thesis in a slightly different manner.

Using the First Use of Violent Force dataset, I examine the conditional effects of democracy on initiating violent force in a militarized interstate dispute. Logistic regression analysis of all militarized interstate disputes listed in the MID project for the period 1980–2001, controlled for state wealth, alliances, military expenditures, major power status, population, and polarity, show that democracies are less likely to be the initiators of violent force, but only in the final stages of the Cold War.

The analysis also shows significant, yet confounding, effects of major power status, military expenditures by the state, and number of defense pacts (although not neutrality agreements or ententes) to which the state is a party. Finally, the analysis significantly shows that wealthier states, in terms of GDP per capita, are less likely to initiate violent force in the conflict — a finding that is quite strong in the post-Cold War period.

**Introduction**

Ultimately, the best strategy to ensure our security and to build a durable peace is to support the advance of democracy elsewhere. Democracies don't attack each other. (Clinton 1994)

America is a Nation with a mission — and that mission comes from our most basic beliefs. ... Our aim is a democratic peace — a peace founded upon the dignity and rights of every man and woman. America acts in this cause with friends and allies at our side, yet we understand our special calling: This great Republic will lead the cause of freedom. (Bush 2004)

It is not often that findings in International Relations find their way into established public policy — especially at the national level. The Democratic Peace Thesis seems to be the exception to the rule. Like his predecessor, President Bush articulated a fundamental connection between regime type and peace. And, like his predecessor, President Bush used that connection in carrying out his foreign policy. As a result, one question presents itself quite forcefully: Is the Democratic Peace Thesis, the current foundation of US foreign policy, anything more than a statistical artifact?

Thus far, quantitative Democratic Peace Thesis research has tended to focus either on war or on militarized interstate disputes (Chan 1997). This paper takes the analysis to the next level. It starts with militarized interstate disputes and asks which regime type is most likely to *escalate* the

**Table 1: Initiator of violence in a MID**

	1980–2001	Cold War	Post-Cold War
Autocracy	224	170	54
(percent)	(37.3)	(45.1)	(24.1)
Middle Realm	77	35	42
(percent)	(23.9)	(32.4)	(19.6)
Democracy	128	45	83
(percent)	(17.7)	(17.2)	(18.0)

*Notes:* Cross tabulation of regime type against initiating violence in a militarized interstate dispute (MID) for the 1980–2001 time period and the two sub-periods.

dispute to the point of actually using violent force.<sup>1</sup> A simple cross tabulation (see Table 1) of democracies against other regime types in instigating violent force shows that, between the years 1980 and 2001, democracies initiated force 128 times in the 723 militarized interstate disputes in which they were involved (17.7%), whereas autocracies initiated force 224 times in the 600 militarized interstate disputes in which they were involved (37.3%). Thus, *prima facie*, it appears as though democracies are more peaceful; that is, they are less likely than autocracies to initiate violent force in a dispute. Furthermore, they appear to be more peaceful than even middle-realm states,<sup>2</sup> which initiated violence in 77 of their 322 militarized interstate disputes (23.9%). But, how robust is this finding? That is, will democracies still be less likely to initiate force when other relevant factors are taken into consideration? This paper seeks to answer this question.

### Democracies and Violent Force

Does regime type matter? Are democracies more peaceful than other regime types? If so, then why? These questions lay at the very heart of this debate. US foreign policy anchors itself on the assumption that a world filled with democracies will be at peace (Bush 2004). Thus, the emphasis on democratization by the United States should bring about a more peaceful world in the long run. But, does any research support the contention of democracies being more peaceful than other regime types? Researchers have examined this issue in great detail, often re-examining commonly held assumptions about the meaning of democracy and of war. This research is divided into two categories: dyadic and monadic peace.

<sup>1</sup> Maoz and Russett (1993) also examined conflict escalation and democracy's effect on that. The difference between that research and this research is that this research looks specifically at which side was the first to use violent force in the dispute.

<sup>2</sup> The literature is clear on what to call these non-democratic, non-autocratic states. Gurr (1974), Mansfeld and Snyder (1995, 2002), and Maoz and Abdolali (1989, 1997) use the terms "anocratic" and "incoherent". However, these appellations fail to satisfy me, as they both connote a weak, transitory government. A quick check shows that not all of these states are anocratic or incoherent; several have existed stably in this realm for upwards of seven decades (South Africa, 1910–1989; Liberia, 1847–1883 and 1909–1979; Japan, 1868–1944; and others). For this reason, I term these states as being middle-realm.

## *The Dyadic Peace*

Much research already has found that regime type is a factor in whether a pair of states will war with each other (Chan 1997; Kegley and Hermann 1996; Mintz and Geva 1993; Russett and Oneal 2001; Russett, Oneal and Cox 2000). This research was born of a simple observation that democracies do not seem to war on other democracies (Babst 1964; Rummel 1979, 1981). This dyadic form of the Democratic Peace Thesis, that democracies do not war with other democracies, seems to be accepted by political scientists as one of our few empirical laws (Levy 1989).<sup>3</sup> The reasons behind this law, unfortunately, are not fully understood or agreed-upon.

Immanuel Kant, in his essay *Perpetual Peace: a Philosophical Sketch* ([1795] 1983), suggested three reasons for peace among democracies: public opinion, commerce, and alliances (Lutz-Bachmann 1997).<sup>4</sup> If the public is to serve as the source of the state's army, then that public will be very hesitant in going to war, wanting to sacrifice themselves only for important causes.<sup>5</sup> Second, wars disrupt commerce — both trade between the countries at war and trade within each country. As such, networks of trade should significantly reduce the possibility of violent disputes between the states involved. Furthermore, those states whose economies are heavily trade-based should not be as willing to initiate war, as it disrupts both home economies. Finally, wars should not occur between allies, as they have a “peace contract” between them.

Two schools of thought exist to explain the relative peacefulness of democracies with each other: structures and norms (Maoz 1997). The structural argument, as advanced by Bueno de Mesquita and Lalman (1992) and others (Leeds and Davis 1999; Morgan and Campbell 1991; Palmer, London, and Regan 2004; Russett 1993), suggest that democracies do not war with other democracies because the government structures inherent in democracies do not easily allow for making war. Those structures center primarily on civilian control of the military and the need to use civilians in fighting a war. Starr (1997) also argues a structural rationale behind the Democratic peace, but his argument centers on transparency; democracies have transparent decision-making structures, at least as compared to other regime types. As such, when democracies enter into a dispute with each other, much relevant information is available to both sides, thus reducing the probability of miscalculations.

The cultural/normative argument centers on democracies having common modes of solving disputes (Henderson 1998; Owen 1994). As these modes are common, democratic states will utilize those peaceful modes in handling interstate disputes. Both arguments use Kant's *Perpetual Peace* for support. In his essay, Kant proposes the idea that federations of liberal republics will be peaceful. His reasons include both structural and norm-based theories.

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<sup>3</sup> This acceptance is based on the evidence that democracies have not warred on other democracies in the modern era, under the usual definitions of democracy and war, with the ambiguous exceptions of the Spanish-American War (Peceny 1997) and Finland in World War II (Maoz 1997; Spiro 1994). There is some question as to whether this law holds in the ancient world, especially with the war of Athens against Syracuse (Robinson 2001a, 2001b; Weart 2001). Regardless, it remains as close to an empirical law as we have (Levy 1989: 270).

<sup>4</sup> Kant spoke of federations of republics and not democracies. However, these republics are generally treated as modern liberal democracies. This raises a serious question. Should they be treated as one and the same? Kant wrote, “Republicanism is the political principle of the separation of the executive power (the administration) from the legislative; despotism is that of the autonomous execution by the state of laws which it has itself decreed.” Shortly after this, he concluded that democracies are, by definition, despotic, because it “establishes an executive power in which ‘all’ decide for or even against one who does not agree; that is, ‘all,’ who are not quite all, decide, and this is a contradiction of the general will with itself and with freedom.”

<sup>5</sup> Kant considered conscription here and not a professional, volunteer army.

### *The Monadic Peace*

Democracies do not war with other democracies. If this is true and meaningful, then it should follow that democracies are, in general, more peaceful than other regime types. This is the monadic Democratic Peace Thesis. However, the data and models do not currently support this form; democracies are no more peaceful than other regime types (Maoz and Russett 1993). Some have pointed to this failure as evidence that the structural explanations of the Democratic Peace Thesis are incorrect (Chan 1997; Rummel 1997; Russett 1993).<sup>6</sup>

With the apparent failure of the monadic thesis, theoreticians revisited and retested the dyadic thesis to determine if it was merely a statistical artifact or if some theoretical reason existed restraining democracies from warring on other democracies that did not also operate between democracies and autocracies or between democracies and anocracies. Thus far, no single theoretical explanation, no agreed-upon solution exists. Some point to Kantian Liberalism as the reason (Russett and Oneal 2001). Some explain that the small number of democracies make democracy-dyad war statistically highly improbable (Spiro 1994). Others contend that democracies are satisfied powers and do not seek to disrupt the status quo — that they have few incentives to do so (Gartzke 1998; Kacowitz 1995; Mintz and Geva 1993).<sup>7</sup>

And yet, there remains a feeling, a common wisdom — at least in the West — that democracies truly are more peaceful than other regime types. Closer examinations of historical disputes looking for differences in reactions between democracies and other regime types may hold the answer. Maoz and Russett (1993) have already begun this line of research. Their findings suggest that democratic states are less likely to escalate the militarized dispute; however, their finding is contingent on the dataset, and thus the definitions of democracy and war, used.<sup>8</sup>

It is here that this paper enters. While Maoz and Russett (1993) looked at the effect of regime type on escalation in the militarized interstate dispute, this paper examines the moment the dispute became violent — shots were fired, territory was forcibly occupied, bombs were dropped — as opposed to merely threatening. The use of violence is qualitatively different than the mere use of threats or of displays of force, as the aggressor determined that resolving the conflict is more valuable than human life. Furthermore, that initial use is more indicative of aggression than the resultant and reciprocal use by the opposite side (Caprioli and Trumbore 2004; Wilkenfeld 1991). Indeed, the secondary use of violence is not necessarily aggressive, as it may be entirely defensive.

### **Hypotheses, Data, Methods**

The principle hypothesis tested is not new. It is oft-tested in a variety of different ways. This paper adds one more test to the litany. The fundamental hypothesis is that democracies are more peaceful than non-democracies, all things being equal. In other words, the monadic peace is genuine.

**H<sub>1</sub>:** Democracies have a lower probability of initiating violence in an interstate dispute than do non-democracies.

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<sup>6</sup> However, see MacMillan (2003) for a counter argument.

<sup>7</sup> This, in part, may explain Layne's (1994) findings that, of the four militarized democratic-dyad disputes he examined, the leaders averted war each time because they carefully weighed the costs, not because they felt a loyalty toward other democratic countries or toward a democratic ideal. Thus, Layne's findings suggest a merger of the Democratic Peace Thesis and Realist thought.

<sup>8</sup> This finding is limited to the MID dataset. Maoz and Russett (1993: 632) also tested their hypotheses against the ICB dataset and found that democracy is not statistically significant predictor of dispute escalation behavior.

To test this hypothesis, I use the First Use of Violent Force dataset (Caprioli and Trumbore 2003, 2004).<sup>9</sup> This dataset examines the initial escalation of the conflict to violence and determines which state actually initiated that violence.<sup>10</sup> For testing this particular hypothesis, this dataset is preferable, as it measures aggression and not mere involvement in war (Forsberg, Caprioli, and Trumbore 2005). The dataset takes, as its universe, all militarized interstate disputes as specified in the MID dataset from the Correlates of War project (Ghosn and Palmer 2003).

While Table 1 may have suggested that these democracies are less aggressive, the issue of conflation enters. Is it really democracy, per se, that reduces aggression, or are other factors involved? Thus, at its very core, this is a robustness test concerning the effects of democracy on the propensity to first use force in a militarized interstate dispute.<sup>11</sup>

*Regime Type.* The levels of democracy and autocracy can be measured in many ways: Freedom House scores and POLITY2 scores are just two of them. The first focuses on freedom within the state, and not specifically on levels of structural democracy.<sup>12</sup> The second suffers from the fact that there seems to be no linear effect of the level of democracy as measured by the 21-point POLITY2 variable. Current research indicates three fundamentally different forms of government in three intervals according to the state's score on the POLITY2 scale (Hegre, Ellingsen, Gates, Gleditsch 2001; Marshall, Jagers 2002). Because of these facts, I use dichotomous variables for all three regime types. A state whose POLITY2 score is +6 or greater is coded a democracy; -6 or less, an autocracy; and between -6 and +6, an anocracy (Marshall and Jagers 2002; Desch 2003).

### *Secondary Variables*

Secondary hypotheses also present themselves. These hypotheses explore the effects of some of the variables we already know affect interstate conflict management. For those control variables that differ between the sides in a conflict, they are simply added as variables to the models. However, one important variable under consideration does not differ in a given conflict: system polarity. This variable will be used to divide the data points into two categories. The same models will be run for each of the two categories and differences noted in the narrative discussion.

What else do we already know about the factors leading to war? Many things: The number and types of alliances affect how dangerous and how vulnerable a state appears to the remainder of the world (Bremer 1992; Genest 2004; Leeds 2003; Singer and Small 1966). States must be *able* to wage war before they *can* wage war, thus capabilities, both in terms of military capabilities and general wealth capabilities, affects disputes (Diehl 1985; Werner and Kluger 1996). The polarity of the world system describes the elemental structure of the interstate hierarchy. Finally, land is the single most important correlate of war (Vasquez 1996). As such, states sharing a

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<sup>9</sup> I use version 1.10, which fixed a few coding inconsistencies and expanded the number of militarized interstate disputes successfully coded.

<sup>10</sup> As an example, the long-running dispute between Angola and Zambia flared on January 7, 2001, when Angolan bombers attacked the border area between the two countries ("Zambian Border Area"). Thus, Angola is coded as the first user of force in that militarized interstate dispute, while Zambia is coded as the target of that force.

<sup>11</sup> All calculations here were performed using Stata v9.0. Huber-White-sandwich estimators of variance were used to produce estimates of standard error in the presence of heteroskedasticity. As the dependent variable is dichotomous (used violent force first or not), logit models were used.

<sup>12</sup> However, the correlation between the Polity IV POLITY2 score and the Freedom House freedom score is -0.8970. The negative sign is an artifact of the manner in which the freedom score is calculated.

border may not need large capabilities in order to project their power; they may overcome their shortcomings in capabilities, thus increasing the probability that they involve themselves in a dispute (Buono de Mesquita 1981; Diehl 1985; Hensel 2000). This section discusses each of these factors in greater detail and offers secondary hypotheses.

### Alliances

Kant's "peaceful federation" (*foedus pacificum*) bases itself on alliances between the republican regimes (Kant [1795] 1983; Held 1997). Additionally, an alliance between states should greatly reduce conflict within the alliance, and alliances should allow for balancing power within the system in the realist tradition (Genest 2004). Thus, theory suggests that alliances should have a cooling effect on war.

Caprioli (2000) established that states involved in fewer alliances tend to exhibit a greater degree of militarism; that is, in this case, simply the number of alliances is statistically important, not necessarily the types of alliances, and that a greater number of alliances seemed to indicate the state was less aggressive. Unfortunately, there is more to alliances than this, for the empirical evidence does not fully support those conclusions. Levy (1983) found that alliances with major powers increased the number of wars. Oren (1990) concluded that a greater the number of alliances in which the state is involved increases the chance that state is involved in a conflict. Bremer (1992) determined that, while alliances lead to higher escalation of interstate disputes, they also reduced the total number of conflicts. Maoz and Russett found similar results (1993). Finally, Maoz (2000) concluded that alliances both reduced the outbreak of war and increased it. True, Maoz found that alliance networks significantly reduce disputes and the outbreak of war, but this finding is not universal. While the conclusion holds for the entire 1816–1986 period, and for the 20<sup>th</sup> century, the opposite conclusion holds for the 19<sup>th</sup> century (Maoz 2000).

**H<sub>2</sub>:** The number of alliances a state has will increase the chance that state has in first using force.

*Number of Alliances.* This variable measures the total number of alliances of each type to which the state is party. The three categorizations of alliances are defense pact, neutrality treaty, and an entente, as suggested by Gibler and Sarkees (2004). The dataset used is culled from the alliance dataset of the Correlates of War project, v3.03 (Gibler and Sarkees 2004). The original dataset is dyadic in nature; I converted it to a monadic dataset.

### Capabilities

If a state does not have the capabilities to fight a war, a war cannot take place; that is, possessing the capabilities to actually fight a war is a necessary precondition. The greater the capabilities at the disposal of the state, the greater that state is able to project its power outside its territory (Diehl 1985). Furthermore, such projections of power can be used to deter opponents from fighting (McClaran 2000; Srivastava 2000).

Measuring national capabilities is problematic (de Soysa, Oneal, and Park 1997). Some researchers merely use state GNP (Organski and Kugler 1980). Others use a composite measure, attempting to synthesize all aspects of national capabilities into one number (Houweling and Siccama 1988; Singer, Bremer, and Stuckey 1972).

Singer, Bremer, and Stuckey used three separate dimensions, each with two components to measure capabilities: demographics, industrial, and military (Singer, Bremer, and Stuckey 1972). Doran and Parsons (1980) used a slightly different set of variables to measure capabilities. In their work, capabilities have two dimensions: size and development. However different these two composite measures may appear, they both use many of the same variables: GNP (or GDP), military personnel, population, per capita income (or GDP per capita), urbanization level (or urban population), steel production, and energy use.

According to the realist tradition, relative capabilities are more important than absolute capabilities (Ikenberry 1998–1999). However, using absolute capabilities allows for consideration

of the fact that states must possess a minimum level of capabilities before projection of power can even occur. Once that minimum level is met, however, states are unlikely to use *all* surplus capability to wage war. This also allows for increasing belligerence with increasing capabilities.

**H<sub>3</sub>:** Increased military expenditures by the state increase the chance that the state will be the first to use force in a conflict.

*Military Expenditures.* As one of the measures of state capabilities for both the Singer, Bremer, and Stuckey team and the Doran and Parsons team, military expenditures are important. It measures the amount of money the state spends on all military activities. Thus, it is an indicator of how ready a state is to use its firepower. The data source used is the National Materials Capabilities, v3.01 dataset (Singer, Bremer, and Stuckey 1972).

**H<sub>4</sub>:** The higher the GDP per capita of the state, the higher the probability the state will first use force.

*State Wealth.* A second measure of state capabilities is the GDP, adjusted per capita. The dataset used for this variable is the World Bank figures for the state's GDP in constant 1995 USD, adjusted for the World Bank's population figures.<sup>13</sup>

**H<sub>5</sub>:** Major Powers will be more likely to initiate the use of force in a conflict.

*Major Power Status.* The consensus appears to be that major powers are more likely to be involved in a war, because they have higher capabilities and greater interest in controlling the system (Bremer 1992). However, Maoz and Russett (1993) came to a conflicting conclusion. Satisfied powers tend to be more pacifistic, as they have more to lose from both the war and from the loss of stability in the world (Bertram 2000; Bremer 1992; Small and Singer 1982). Major Powers are those states designated as such by the Correlates of War project — the United States, France, Germany (after 1990), the United Kingdom, the Soviet Union (Russia after 1991), Japan (after 1990), and China.

#### Proximity

In predicting war and peace, boundaries are important. No other factor predicts war better than unresolved territorial disputes (Vasquez 1996). Furthermore, in order to make war, states must be able to project their war-making ability (Diehl 1985). As a result, contiguity becomes an important consideration. Even enduring rivalries tend to be contiguous. Contiguity is most decidedly a correlate of war. Both intensity of interaction and projection of power contribute to make contiguity a very important factor in predicting and explaining the onset of war (Bueno de Mesquita 1981; Diehl 1985). Over two-thirds of all wars between 1816 and 1992 began with contiguous adversaries. The numbers for the Cold War period are even starker. More than 90% of the wars during the Cold War started with contiguous states (Hensel 2000). Contiguity is an important factor in getting involved in a conflict and in going to war. Is it a factor in escalating to mere violence? Does a state with more neighbors have a greater chance of instigating violence in a militarized interstate dispute?

**H<sub>6</sub>:** States with a greater number of neighbors will initiate violence at a higher rate than states with fewer neighbors.

*Contiguity.* States with more neighbors have a higher probability of getting involved in a dispute (Hensel 2000). As such, were states rational actors, they would act to reduce the chance that a neighboring state would attack them. By using violent force quickly, they present an image of being someone with whom to avoid initiating a conflict, one that will not be bullied in the international sphere. Thus, states with a greater number of neighbors should use violent force

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<sup>13</sup> The series code for the GDP numbers is NY.GDP.MKTP.CD; for the population numbers, it is SP.POP.TOTL.

more readily than states with fewer neighbors. This is further exacerbated by the fact that so many neighbor-wars concern land and are especially violent, with a history of violence between the two sides. The contiguity data I use comes from the COW direct contiguity dataset, v3.0, personally extended to include the year 2001 (Stinnett, Tir, Schafer, Diehl, and Gochman 2002).

### Polarity

Some researchers accept (although not as a law) that an unambiguous unipolar world is more peaceful than other polarity configurations. Organski (1968), Modelski (1972), and Gilpin (1981) all provided the principal reason — stable order. However, Waltz (1979) showed that bipolar systems were more peaceful because power was balanced between the two hegemon.

However, later empirical research showed his conclusion to be less than correct. Bipolar systems produced more unstable rivalries than did other systems (Cioffi-Revilla 1998). Brecher, James and Wilkenfeld (1990) found that a bipolar system had more crises per year, and Wayman (1984) found that a bipolar system increases both the severity and the scope of conflicts.

Competing with Waltz's view, Deutsch and Singer (1964) and Morgenthau (1967) concluded that a multipolar system would be more peaceful because of the increased flexibility in alliances. Leaders could use these alliances to maintain the balance of power in the system. Unfortunately, that flexibility also reduced the predictability of the system and produced longer and deadlier wars (Levy 1985; Wayman 1984).

Regardless of the final effect of polarity on belligerence in the state system, polarity has a definite, profound effect on state behavior. During the temporal domain of this research, system polarity shifted from the definite bipolar system of the Cold War. Because of such a shift in the fundamental structure of the international system, the rules of escalation may have changed. Maoz and Russett (1993) determined that democracies were less likely to escalate the militarized conflict during the Cold War.<sup>14</sup> Do such results remain true in this post-Cold War era?

There is reason to believe that the effects of the above variables were different during the Cold War than it is now (Bremer 1995; Cioffi-Revilla 1998; Waltz 1979). A system polarity shift occurred on or about 1991, which may have fundamentally altered the state system. To control for this, and to more easily see the different effects of the various variables under the two polarity modes, I ran a combined analyses in the two separate temporal realms.

## Results and Discussion

The model was run with mixed, albeit interesting, results.<sup>15</sup> As a whole, the model performed well, it is statistically significant and descriptive of the variance in the data (see Table 2). The Wald test of the model ( $\chi^2_{40} = 261.93$ ) indicates statistical significance, that the model is better than nothing. However, the more important question is how much does this model actually help us understand what causes states to initiate violence in a dispute?

### *The Goodness of the Model*

While not particularly helpful, the pseudo  $R^2$  is often reported in social science literature. So as not to break with tradition, I report it here ( $R^2 = 0.250$ ) and explain that it indicates little for regressions that rely on scheme other than ordinary least squares. Were it a true PRE measure, we could conclude that this model explains 25% of the variance in the dependent variable. It is not.

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<sup>14</sup> This finding is dependent on the dataset used. The hypothesis was supported by the MID dataset, but not supported by the ICB dataset (Maoz and Russett 1993).

<sup>15</sup> Dummy variables for each year were included in the model. This controls for the effects of the year on the MID. A Wald test of joint significance indicated that the year dummy variables could not be safely dropped ( $\chi^2_{20} = 31.64$ ,  $p = 0.0473$ ).

**Table 2: Logit regression results**

	1980–2001	Cold War	Post-Cold War	Difference
Democracy	-0.126 (0.187)	-0.830 <sup>*</sup> (0.324)	0.302 (0.255)	1.132 <sup>**</sup> (0.412)
Alliance: Defense Pact	-0.154 <sup>+</sup> (0.085)	-0.250 <sup>+</sup> (0.137)	-0.021 (0.157)	0.230 (0.209)
Alliance: Neutrality	-0.131 (0.139)	0.277 (0.247)	-0.307 (0.228)	-0.583 <sup>+</sup> (0.337)
Alliance: Entente	0.200 <sup>*</sup> (0.094)	-0.193 (0.241)	-0.075 (0.282)	0.119 (0.372)
Military Expenditures (trillion USD)	2.924 (2.909)	0.141 (3.964)	11.293 (8.047)	11.153 (8.970)
GDP per capita (thousand USD)	-0.021 (0.013)	0.014 (0.023)	-0.054 <sup>**</sup> (0.019)	-0.068 <sup>*</sup> (0.030)
Major Power	-0.657 (0.401)	0.042 (0.742)	-0.942 <sup>+</sup> (0.583)	-0.984 (0.943)
Contiguous States	0.009 (0.020)	0.010 (0.040)	0.032 (0.028)	0.022 (0.049)
MID Initiator	2.448 <sup>***</sup> (0.183)	2.795 <sup>***</sup> (0.267)	2.001 <sup>***</sup> (0.254)	-0.793 <sup>*</sup> (0.369)
Population (billion)	-0.401 (0.402)	-1.177 (0.835)	-0.382 (0.568)	0.796 (1.010)
Constant	-2.644 <sup>***</sup> (0.571)		-1.880 <sup>***</sup> (0.560)	
N	1254		1188	
Wald $\chi^2(20)$	242.832 <sup>***</sup>		261.931 <sup>***</sup>	
Pseudo R <sup>2</sup>	0.229		0.250	
Area under ROC curve	0.814 <sup>***</sup>		0.829 <sup>***</sup>	

*Notes:* Entries are estimated coefficients. Robust standard errors (Huber/White) are in parentheses. This model includes dummy variables for year of initiation of the MID. The Wald test of joint likelihood for those year dummies indicates that, as a whole, the year dummies are statistically significant ( $\chi^2_{20} = 31.64$ ,  $p = 0.0473$ ). They are not included for space considerations. Significance notation: +:  $p < 0.10$ ; \*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$ .

A preferable measure of “model goodness” is the area under the receiver operating characteristic curve (Obuchowski 2003). This measures how well the model is able to discriminate between those states that will use violence first and those who will not. It is a more generalized measure of predictive capability that does not depend on the  $\lambda = 0.500$  cutoff.<sup>16</sup> In this model, the area under the receiver operating characteristic (ROC) curve is 0.823. This indicates that a state initiating violence in the militarized interstate dispute is 82.3% more likely to score higher on the test (have a higher predicted outcome value in the model) than a state which does not initiate violence in the dispute (DeLong, DeLong, and Clarke-Pearson 1988). How good is this? Using Hosmer and Lemeshow’s (2000: 162) criteria for the area under the ROC curve, any model that generates an area under the ROC of greater than 0.80 is considered “excellent” in terms of discrimination.

#### *Initiator of the MID and the first use of violent force*

By far, the best indicator of who uses violence first in the conflict is who initiates the conflict itself — in both time periods. This should not be surprising, as a full two-thirds of the militarized interstate disputes had violence as their initial force used. In other words, two-thirds of the militarized interstate disputes started with a violent act. It is, however, one recipe for reducing the duration of the violent conflict. Of those militarized interstate disputes that involved violence on the first day, more than three-quarters *ended* that day, as well.

The effect is different across the different polarity regimes. During the Cold War, the initiator of the MID had a 16-fold increased chance of initiating the violence. After the Cold War, the initiator only had a 7-fold increase. Additionally, this difference is, in itself, statistically significant. That same state who would initiate a militarized interstate dispute in the Cold War had a 55% *lower* chance of initiating that same conflict, all things being equal, after the Cold War.

What does this mean? Two things: First, the present research focusing only on the initiation of the militarized interstate dispute should largely remain intact in this analysis. The differences will rest on those conflicts (roughly a third) that did not start with violence. Second, the change from the bipolar Cold War world to the post-Cold War world does appear to matter, even in how states initiate violent conflicts.

#### *Hypothesis 6: Contiguity and first use of violent force.*

According to the hypothesis, states with a greater number of neighbors should initiate violence at a higher rate than states with fewer neighbors. This is because those states must be able to project strength to a greater number of neighbors to protect them from conflicts involving *them*: a good offense makes the best defense. The data does not fully support this conclusion. The direction of effect agrees with the data and model; however, the effect is not statistically significant.

In neither of the time periods is the effect of the number of neighbors significant. However, were the results statistically significant, the effect of the number of neighbors would not be unimportant. In the bipolar period, each additional neighbor increased the chance of initiating violence by 1%. In the post-Cold War period, the effect is 3.2%. This would suggest that Russia has approximately twice the chance of initiating violence as does New Zealand — simply based on geography. Thus, while the coefficient is small, the range of possible values makes this result important, were it statistically significant.

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<sup>16</sup> Hosmer and Lemeshow (2000) demonstrate that rigid adherence to the  $\lambda=0.500$  cutoff in prediction often finds the correct model as being worse than selection on the modal category.

*Hypothesis 5: Major power status and first use of violent force.*

According to the hypothesis, major powers should be more likely to initiate force in a dispute. This is due to the state's greater capability to initiate violence. However, the data does not support this conclusion.

During the Cold War, major powers were neither more nor less likely to initiate violence in militarized interstate disputes — at least not at a significant level ( $b = 0.042$ ,  $OR = 1.043$ ,  $p = 0.952$ ). In other words, major power status conferred on none of the five states either an increased probability or a decreased probability of initiating violence in the dispute; they behaved like a typical state under their given circumstances.

The change to the post-Cold War era is striking. In the latter time period, major powers, all things being equal, were *less* likely to initiate violence in the interstate dispute ( $b = -0.942$ ,  $OR = 0.390$ ). That is, the seven major powers were approximately 61% less likely to initiate violence in the dispute than were the other states.

*Hypothesis 4: State wealth and the first use of violent force.*

Wealthier states, as measured by per capita GDP, were hypothesized to be more likely to initiate force in a conflict. This is because the wealthier states have a greater level of military capabilities and are more able to project their power. Depending on the era under consideration, the data come to the opposite conclusion.

During the Cold War, the GDP per capita is not a statistically significant predictor of violence initiation ( $b = 0.014$ ,  $OR = 1.014$ ). Were it so, it would be an important determinant. Increasing the GDP per capita of the state by a thousand US dollars<sup>17</sup> results in a meager increase in the probability of violence initiation — a mere 1.4%. For the Cold War sample, the range of GDP per capita is from 91 USD (Ethiopia in 1985) to 36,301 USD (Japan in 1988). Thus, the probability that Japan initiates violence in the dispute is approximately 266 times that of Ethiopia. This would be important were the result statistically significant.

The results for the post-Cold War era are different. State wealth is both statistically significant and quite influential ( $b = -0.054$ ,  $OR = 0.947$ ). This era has GDP per capita values ranging from 99 USD (Ethiopia in 1994) to 56,206 USD (Luxembourg in 2000). Thus, all things remaining equal, were Ethiopia to increase its GDP per capita to that of Luxembourg in 2000, it would *reduce* the probability that Ethiopia would initiate violence in a militarized interstate dispute to all but zero — to a probability of  $4.847 \times 10^{-14}$ .

As the odds are multiplicative, the effects of increased state wealth are highly important. Democracies also tend to be wealthy states.<sup>18</sup> Is this finding enough to nullify the earlier finding that democracies are statistically less likely to initiate violence in a dispute? It does support the growing literature on peace through economic development.

*Hypothesis 3: Military expenditures and the first use of violent force.*

States with greater military expenditures are hypothesized to initiate force more often, because they have the capabilities. While the direction of effect from this data and model both support this hypothesis, neither time period produces a statistically significant result.

During the Cold War, the effects on military expenditures were neither large nor statistically significant ( $b = 0.141$ ,  $OR = 1.151$ ). Thus, for a *trillion* US dollar increase in military spending, the effects were to increase the chance that the state initiated violence by 15%. The range on military

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<sup>17</sup> All monetary figures represent constant 1995 United States dollars.

<sup>18</sup> For the entire 1980–2001 sample, the average democracy had a GDP per capita of 13,788 USD, whereas autocracies had one of 2,376 USD and middle realm regimes had one of 1,609 USD.

spending during the Cold War was from 0 to 295 billion USD (United States in 1989). Thus, even if a state went from the lowest to the highest in military expenditures, it would only increase the probability that the state were to initiate violence by 4.2%.

After the Cold War, while the results were still not statistically significant, the magnitude was much greater ( $b = 11.293$ ,  $OR = 80,257$ ). For a trillion dollar (USD) increase in military expenditures, the probability that a state would initiate violence in the militarized interstate dispute increased by a factor of over 80,000. The range on military spending after the Cold War was from 0 USD to 322 billion USD (United States in 2001). Thus, considering only the effect of military spending, the United States in 2001 had a 38-fold higher probability of initiating violence in a dispute than did Iceland or Liechtenstein, who spent nothing on their militaries.<sup>19</sup>

*Hypothesis 2: Alliances and the first use of violent force.*

States with a greater number of alliances, according to the hypothesis, should be more likely to initiate force in a dispute. This is directly linked to the state having greater effective capabilities (as they include the projection of power by the state's ally). Does this hypothesis hold up under the data? No. The total number of alliances is not statistically significant as a predictor of which state will use violence first in a militarized interstate dispute ( $p = 0.877$ ). To explore this hypothesis deeper, let us wonder if different types of alliances have different effects on conflict paths. This is not a new question, reaching back at least to 1966 with Singer and Small (also see Bremer 1992; Gibler and Vasquez 1998; and Maoz 2000).

These results are more satisfying. During the Cold War, states with a greater number of defense pacts are significantly less likely to initiate violence in a dispute ( $b = -0.250$ ,  $OR = 0.779$ ). This could be an indicator that states with defense pacts are more secure in disputes and do not feel the need to initiate violence in the dispute than states without such pacts. After the Cold War, however, while the direction of the relation remained the same, the magnitude and statistical significance dropped, leading to the conclusion that the value of those defense pacts was constrained primarily to the Cold War era. Neither of the other two alliance types was ever statistically significant. Interestingly enough, states with a higher number of neutrality pacts in the Cold War period were more likely, though not statistically so, to initiate violent force than states with fewer. Furthermore, the difference between Cold War effects and post-Cold War effects of those neutrality pacts is significantly different. Neutrality pacts in the post-Cold War era have a less aggressive effect than they did during the Cold War ( $b = -0.583$ ,  $OR = 0.588$ ). Thus, because of the effects of polarity on the system, a state with a neutrality pact is less than half as likely to initiate violence in a dispute than before the change.

*Hypothesis 1: Democracies and the first use of violent force.*

Finally, democracies are hypothesized to be more peaceful than non-democracies. As such, they should initiate violent force less often than other regime types. The data supports this hypothesis; or rather, it supports the hypothesis for part of the time period involved here — the Cold War era. The data also suggests that the change between polarity regimes also changed the effects of democracies on aggression.

During the Cold War period, democratic regimes were statistically less likely to initiate violence in a dispute as compared to non-democracies ( $b = -0.830$ ,  $OR = 0.436$ ).<sup>20</sup> This fully supports the hypothesis that democracies are less aggressive than other regime types. Thus, a democracy during the Cold War had a 56% less chance of initiating violence in a dispute than did

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<sup>19</sup> They have no militaries. The defense of Iceland is the duty of the Icelandic Defense Force, headquartered at Keflavik (manned by the United States), while the defense of Liechtenstein is the duty of Switzerland.

<sup>20</sup> This result is heightened when comparing democracies solely to autocracies ( $b = -1.043$ ,  $se = 0.338$ ,  $p = 0.002$ ).

other regime types, and a two-thirds lower chance initiating violence when compared to autocracies alone. This is perhaps the strongest support for the monadic form of the Democratic Peace thesis in this paper. Furthermore, as the POLITY2 variable is based on democratic structures in the state, this data supports the structural theories on the causes of the Democratic Peace.

However, this result does not hold for the post-Cold War period. In this latter time period, democracies are *not* less likely to initiate violence in a dispute. In fact, they are more likely (although not at a statistically significant level). Even when comparing democracies to autocracies, the result is not statistically significant, although it is in the hoped-for direction ( $b = -0.085$ ,  $OR = 0.919$ ,  $p = 0.770$ ).<sup>21</sup>

What may be the most interesting part is that the data shows evidence that the effects of democracy change across the polarity nexus. That is, the effect of democracy on peace between the Cold War and after is great *and* statistically significant. After the Cold War, democracies have a greater than three times more likely probability of initiating violence in a dispute than during the Cold War ( $b = 1.132$ ;  $OR = 3.102$ ).

What could cause the intense shift or the increased belligerence of democracies? Could it be that the United States alone is responsible for this shift? Some scholars have suggested either implicitly or explicitly that the United States is an outlier, that it is exceptional (Gray 1990; Kennan 1979; Kissinger 1962; Leppgold and McKeown 1995). If we remove the United States from this analysis, do the results change significantly? The short answer is no. While the magnitudes of the coefficients do change slightly, neither the direction nor the level of significance of those coefficient estimates changes when removing the United States from the analysis. In other words, with little variation, the United States follows the rules underlying the model; the United States is not exceptional in this aspect.

## Conclusion

So, what have we discovered about democracy, aggression, and their interaction? Does the monadic Democratic Peace thesis hold under this new test? Partially. In the introduction, we found that, using a simple cross-tabulation, democracies were indeed less likely to initiate force in a dispute. The rest of this research sought to determine if that result remained true when other variables were used as controls.

When controlling for number of alliances, military expenditures, GDP per capita, major power status, regime durability, and total number of contiguous states, democracies do not remain universally less likely to initiate force. They are less likely to initiate violence during the Cold War period, but the post-Cold War period suggests the opposite conclusion. Thus, the Democratic Peace Thesis receives support for the bipolar world, but not for the current.

Secondary findings are also of note. Defense pacts do reduce the risk a state will initiate violence, but only in the bipolar world. Neither of the other two alliance types, neutrality and entente agreements, are significant in reducing the aggression of a state, although the effects of neutrality pacts did increase in pacification ability across the polarity nexus. Neither military expenditures nor the number of neighbors are significantly correlated with reducing the probability a state will initiate violence in a dispute. The former because of the wide variation in military expenditures by state in the world, and the latter perhaps because neighbors fighting will have similar numbers of neighbors, thus washing out the effect. States that are major powers are less likely to initiate violence, but only in the post-Cold War era. In the Cold War era, it has little measurable effect. A state's wealth, however, is a predictor of less aggression, but only in the post-bipolar world. Additionally, the effects of state wealth are significantly in the latter time period

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<sup>21</sup> An interesting side note here is that in the post-Cold War period, the middle realm states are, in fact, less aggressive than autocracies ( $b = -0.652$ ,  $OR = 0.521$ ,  $p = 0.008$ ), perhaps due to a need to focus on internal politics and stability.

than the former. Thus the route to peace may lay in economic development and not in democratic development. Finally, the most important predictor of which state will use violence first is which state initiated the militarized interstate dispute. Approximately two-thirds of the militarized interstate disputes that eventually escalated to violence ended on the same day it started, with the first use of force being the first use of violent force.

What are the foreign policy implications of this research? Assuming these results hold true, we can make policies that increase the chances of peace in militarized interstate disputes in the current era. Increasing the number of democracies will not accomplish this goal — increasing the wealth of nations will. Wealthier nations, as measured by GDP per capita, are less likely to initiate force in militarized interstate disputes. Thus, in the current polarity structure, perhaps the Democratic Peace should be replaced by the Economic Peace — peace through prosperity.

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