In recent months, the Clinton administration has begun to advocate a replacement for the doctrine of containment that drove U.S. foreign policy during the Cold War. According to Anthony Lake, the Assistant to the President for National Security Affairs, the leading candidate to succeed containment is “a strategy of enlargement—enlargement of the world’s . . . community of market democracies.” President Clinton concurs, noting that a strategy of enlargement serves U.S. interests because “democracies rarely wage war on one another.”

Several empirical analyses suggest that the Clinton administration’s advocacy of enlargement is well-grounded. They conclude that democratic states do pursue distinctive foreign policies. Perhaps the most intriguing among their findings is that democratic states rarely, if ever, wage war against other democratic states. Indeed, some observers consider this finding to be “as close as anything we have to an empirical law in international relations.”

Yet doubts remain about whether the observed association reflects a causal relationship. In this paper, we attempt to resolve these doubts. In order to do so, we reexamine both the logic and the empirical basis of the claim central to

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Henry S. Farber is the Hughes Rogers Professor of Economics at Princeton University. Joanne Gowa is Professor of Politics at Princeton University.

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4. T. Clifton Morgan notes, for example, that he and many others “have long had nagging suspicions that the conclusions we have drawn from the empirical tests are spurious. It may well be that alliance patterns, power distributions, contiguity, or any of a number of other variables could be confounding our observed relationship.” T. Clifton Morgan, “Democracy and War: Reflections on the Literature,” *International Interactions*, Vol. 18, No. 3 (1993), p. 200.

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the "democratic peace" literature: that is, that members of pairs of democratic states are far less likely to wage war against or engage in serious disputes with each other than are members of other pairs of states.\(^5\)

We first review the analytic foundations of the democratic peace literature. We conclude that these foundations are tenuous. Then we examine the evidence. We analyze the period before World War I and the period after World War II separately. The results that emerge differ markedly from those of previous studies.

First, we find that there is no statistically significant relationship between democracy and war before 1914. In the case of disputes short of war, we find that the probability that these disputes will occur is significantly higher between members of pairs of democratic states than between members of other pairs of states in the same period. Our analysis shows that it is only after 1945 that the probability of war or serious disputes is significantly lower between democratic states than between members of other pairs of states.

This pattern of cross-temporal variation contradicts the central claim of the democratic peace literature that dispute rates are consistently lower between democracies than between members of other pairs of states. It also suggests that the Cold War results may be a product of common interests, rather than of common polities.

Although extrapolating the results of any analysis is often problematic, our findings suggest that whether or not democratic polities become more common may not affect U.S. security interests strongly. Thus, although the evolution of democracy in the former Soviet bloc countries may be desirable on other grounds, the analysis presented here suggests that it will not affect an issue of

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central importance to the United States: the probability of serious interstate disputes.

**Analytic Foundations**

The democratic peace literature advances two explanations for the distinctive behavior of democracies. One is based on norms, the other on checks and balances. In this section, we argue that neither provides a compelling explanation of the peace that is said to prevail between democracies.\(^6\)

**Norms**

Norms are "rules for conduct that provide standards by which behavior is approved or disapproved."\(^7\) The democratic peace literature assigns the principal explanatory role to the norm that defines acceptable methods of conflict resolution. In democratic states, acceptable methods include "adjudication and bargaining," whereas the "use of force is disdained."\(^8\) This norm is said to explain peace not only within but also between democracies because states "externalize . . . the norms of behavior that are developed within and characterize their domestic political processes and institutions."\(^9\) Thus, if a norm regulates conflict resolution within two states, it will also regulate the process of conflict resolution between them.

In the extensive literature on norms, norms are defined in two ways. Norms may be regarded as "ex ante sources of action." As such, they are not "merely ex post rationalizations of self interests," but reflect the internalization of values.\(^10\) Norms have also been interpreted, however, as reflections of interests.\(^11\)

Contributors to the democratic peace literature define norms as sources of action independent of interests. Thus, they regard adherence to peaceful methods of conflict resolution as the product of internalized values. Yet adherence to this norm is of enormous instrumental value: it secures the social order that

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\(^6\) Part of this section draws on material developed in further detail in Joanne Gowa, "Democratic States and International Disputes," *International Organization*, Vol. 49, No. 3 (Summer 1995).


\(^8\) Morgan, "Democracy and War," p. 198.

\(^9\) Maoz and Russett, "Normative and Structural Causes."


is the basis of any organized society. It therefore serves the private interest of leaders and the collective interests of those they rule. This implies that norms regulating conflict resolution can be very difficult to distinguish from interests.

This suggests, in turn, that whether the parties to an interstate dispute resort to violence also may depend upon interests rather than norms. In the context of international disputes, it does not seem logical to impute to democracies alone an interest in non-violent means of conflict resolution. Because war is more costly than bargaining, it seems more reasonable to impute a preference for negotiation over war to all potential belligerents.\textsuperscript{12} As a result, the value added by describing a preference for peaceful methods of conflict resolution as a norm rather than an interest is not obvious.

The empirical foundations of the norms argument are no more compelling. The central problem is that there are no measures of norms or their effectiveness that are independent of interests. For example, Maoz and Russett use both the incidence of violent domestic disputes and the duration of regimes as proxies for the effectiveness of domestic norms.\textsuperscript{13} As noted above, peaceful resolution of domestic disputes is quite likely to serve the interests of both leaders and the general populace. Thus, a low incidence of violent disputes domestically might well reflect interests rather than norms.

Using regime duration suffers from much the same flaw. Compliance with a norm of peaceful dispute resolution may be directly related to the tenure of a regime in office. The causal relationship, however, may be due to an increase in the efficacy of sanctions; presumably, the longer regimes endure, the better they learn to cope with violent opposition. In this case, again, increases in compliance may reflect interests induced by the stronger deterrent effect of more effective sanctions.

In the end, any explanation of the distinctiveness of democratic foreign policies based on the distinctiveness of the norms underlying them is not testable. This is because no direct measures of norms related to interstate disputes exist. Proxy measures are not adequate substitutes because their use requires the assumption that they are, in fact, linked to norms governing interstate disputes, rather than merely reflecting underlying interests.


\textsuperscript{13} Maoz and Russett, "Normative and Structural Causes."
CHECKS AND BALANCES

The premise of the checks-and-balances argument is that constraints on would-be renegade leaders are much more effective in democratic than in autocratic polities.\textsuperscript{14} This is at odds, however, with the conventional finding that, while democracies seem to fight with each other less frequently than do other country pairs, they are just as likely to wage war as are other polities.\textsuperscript{15}

In addition, the checks and balances characteristic of democratic polities do not seem to protect the public from politicians maximizing their own interests rather than social welfare in widely varied policy areas. For example, tariffs exist in most democracies despite their negative effects on real income. Their existence is partly the product of the concentrated benefits and diffuse costs of a tariff. As a result of this distribution of cost and benefits, welfare-maximizing politicians gain some freedom to maneuver, at a cost to aggregate social welfare.\textsuperscript{16}

The question raised by the case of tariffs is whether a fundamentally different policy process prevails in the case of war. As is true of tariffs, the benefits from war are concentrated, while its costs are diffuse. As a result, defense contractors are likely to be more effective political actors than is the population at large. Moreover, evidence from the United States suggests that the costs of war tend to fall disproportionately on low-income constituents, whose rates of political participation are relatively low.\textsuperscript{17} The net effect, again, is to endow political officials with some freedom to maximize their own interests rather than social welfare.


We do not mean to suggest that there are no differences between the policy processes that produce tariffs and those that produce wars. For example, these processes are much more likely to resemble each other in the case of small than of large wars. However, we do want to suggest that there is no a priori reason to believe that checks and balances work as intended in the case of wars, since it is clear that they do not do so in other policy areas.

This implies that there may be a smaller gap between democratic and other polities with respect to the autonomy of would-be renegade leaders than is conventionally assumed. Other factors point in the same direction. For example, informal checks and balances are in effect in non-democratic polities, such as the dependence of their leaders of non-democratic societies on the coalition of interests that supports them.

More generally, the most potent deterrent to war may not be the existence of ex ante formal or informal checks and balances, but the ex post ability of constituents to sanction their leaders. The resort to war creates a risk to incumbency that can tightly constrain heads of states of autocracies as well as democracies.

In summary, neither the norm-based argument nor the one based on checks and balances is completely convincing. We turn next to an analysis of the evidence.

Sample Definition and Central Measures

The sample for our analysis consists of all countries that were members of the interstate system at any time from 1816 to 1980. We adopt the definition of membership in the interstate system that Melvin J. Small and J. David Singer

18. This also suggests one reason why empirical analyses of the relationship between formal constraints and dispute involvement have not found any statistically significant effects (see, e.g., Morgan and Campbell, "Domestic Structure"). Whether or not de jure constraints exist may not matter as much as the presence or absence of de facto constraints.

19. Bueno de Mesquita and Lalman argue that "the mean ratio of expected political costs from using force to the expected benefits from a negotiated resolution of a dispute" is higher for democracies than for other states. Bueno de Mesquita and Lalman, War and Reason, p. 153. This would imply that checks and balances are more effective in democracies than in non-democracies. The empirical basis of this claim is not clear, however.


21. Morgan and Campbell, "Domestic Structure," p. 191. Those to whom leaders are accountable differ: democratic leaders are accountable to voters at large; autocrats are not. But this difference may not matter: any war fought in the private interest of the leader will, by definition, arouse opposition among those to whom he is accountable, whether that group is small or large.
use. Thus, a nation qualifies as a member of the interstate system before World War I if and only if it had a minimum population of 500,000, and it had British and French representation on its soil “at or above the rank of chargé d’affaires.” After World War I, a nation so qualified if it was either “a member of the League or the United Nations at any time during its existence,” or it “met the half million population minimum and received diplomatic missions from any two . . . major powers.”

We use a dyad-year as the unit of observation to address the question of whether the probability of war, or of disputes short of war, is lower between the members of pairs of democratic states than between those of other pairs. Thus, our basic sample consists of 284,602 dyad-years for which we have complete data on the required variables over the entire period from 1816 through 1980.

POLITY TYPE
We define and measure our independent variables in the same ways as many contributors to the existing literature do. Thus, we use Ted Robert Gurr’s Polity II data set to define autocratic, democratic, and anocratic regimes. Gurr defines autocracies as systems in which tight constraints on political participation exist; only members of the political elite select the chief executive, and institutions do not constrain the leader’s power. In contrast, in democracies, individuals can “express effective preferences about alternative policies and

23. This was sufficient to signal international recognition, because “as Britain and France went, so went the majority” of other nations. Ibid., p. 40.
24. Ibid., pp. 40–41, emphasis original.
25. By including every possible dyad-year for which we have complete data on both members, we are including many dyad-years whose members are very unlikely to have meaningful contact of any kind, let alone to form an alliance or have a military dispute. One approach, used by Maoz and Russett, “Normative and Structural Causes,” is to include only dyad-years whose members are contiguous or that have at least one major power as a member. While it is true that noncontiguous dyad-years with no major powers have much lower alliance and dispute rates, there are more than a few alliances and disputes involving such dyad-years. Thus we include all dyad-years and control explicitly for contiguity and major-power status. We have also repeated all of the analyses in this study using the restricted sample of dyad-years, and the results are qualitatively similar.
leaders"; institutionalized constraints limit the leader's power; and guarantees of civil liberties exist. Gurr constructs two discrete eleven-point scales (0 to 10) to measure the degree of autocracy and democracy in each state annually. The scores a polity receives are composite measures that reflect, *inter alia*, the method of executive recruitment, the competitiveness of party politics, and the range of political participation. Gurr labels as "anocratic" those polities that receive "middling scores on both Autocracy and Democracy scales." We use Gurr's scales to categorize each regime as democratic, autocratic, or anocratic. More specifically, we categorize a regime as democratic if it receives a score of six or higher on Gurr's democracy scale; as autocratic if it scores five or higher on Gurr's autocracy scale; and as anocratic if it is categorized as neither a democracy nor an autocracy.

The first column of Table 1 contains a breakdown of regime type for the 10,757 observations on system-member states across the 1816–1980 period for which the Gurr data set has complete information on regime type. This breakdown shows that roughly half of the country-years are classified as democracies, with the other half evenly split between democracies and anocracies.

This tabulation masks a substantial change over time in the composition of the interstate system. Columns 2 through 4 of Table 1 contain breakdowns of regime type for three sub-periods: 1) pre–World War I (1816–1913); 2) World War I through World War II (1914–45); and 3) post–World War II (1946–80). The central result is clear and consistent with conventional wisdom: democracies have become substantially more common since 1914.

Two other points are worth noting. First, a decline in the relative frequency of anocracies has accompanied the growth of democracies. In contrast, autocracies are as common after World War II as they were before World War I.

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28. There are three types of cases that Gurr codes as missing and which we, as a result, omit from our analysis. "Interruptions" are cases in which a wartime occupation temporarily disrupts an existing polity. The other two cases are "transitions," defined as periods of change from one regime type to another, and "interregnums," defined as periods during which no central government exists.
30. These rules do not generate any inconsistencies. Specifically, there are no regimes that satisfy both the requirement for a democracy and the requirement for an autocracy. The simple correlation between Gurr's autocracy and democracy scales is −0.83.


Table 1. Frequency Distribution of Regime Type by Time Period, Number of Dyad-Years.

<table>
<thead>
<tr>
<th>Regime Type</th>
<th>All</th>
<th>Pre-1914</th>
<th>1914–45</th>
<th>1946–80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autocracy</td>
<td>5,151</td>
<td>2,644</td>
<td>669</td>
<td>1,838</td>
</tr>
<tr>
<td></td>
<td>(47.9)</td>
<td>(52.1)</td>
<td>(33.8)</td>
<td>(49.6)</td>
</tr>
<tr>
<td>Anocracy</td>
<td>2,736</td>
<td>1,610</td>
<td>554</td>
<td>572</td>
</tr>
<tr>
<td></td>
<td>(25.4)</td>
<td>(31.8)</td>
<td>(28.0)</td>
<td>(15.4)</td>
</tr>
<tr>
<td>Democracy</td>
<td>2,870</td>
<td>817</td>
<td>756</td>
<td>1,297</td>
</tr>
<tr>
<td></td>
<td>(26.7)</td>
<td>(16.1)</td>
<td>(38.2)</td>
<td>(35.0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10,757</td>
<td>5,071</td>
<td>1,979</td>
<td>3,707</td>
</tr>
</tbody>
</table>

NOTE: The numbers in parentheses are column percentages.

Second, the distribution of regime types in the middle period (1914–45) does not lie between the earlier and later distributions. The relative frequency of autocracies was lower during this period than it was earlier or later. It also appears that the growth in the relative frequency of democracies was completed by World War II.\textsuperscript{31}

WAR

We use the Correlates of War (COW) data set to define and measure interstate war;\textsuperscript{32} therefore we define a war as a clash that involves “one or more system members” and that leads “to a minimum of 1,000 battle fatalities among all of the system members involved.” A member of the international system is defined as a belligerent only if it either committed 1,000 troops to battle or suffered at least 100 casualties.\textsuperscript{33}

Our basic sample of 284,602 dyad-years contains 604 dyad-years (0.21 percent) at war, distributed across 62 interstate wars.\textsuperscript{34} Contributors to the existing literature usually code all 604 dyad-years as war observations.\textsuperscript{35} This treats the

\textsuperscript{31} A finer breakdown than that presented in Table 1 reveals that the growth in the relative frequency of democracies began earlier than 1914 and was completed by 1939.

\textsuperscript{32} Small and Singer, Resort to Arms. The data are taken directly from the public use version of the COW war data set, which is part 1 of ICPSR Study Number 9044.

\textsuperscript{33} Small and Singer, Resort to Arms, p. 55.

\textsuperscript{34} The COW data set actually contains 67 wars. However, we had to drop five wars from our analysis because of missing polity data on at least one country in every dyad involved in the war.

\textsuperscript{35} See, e.g., Chan, “Mirror, Mirror on the Wall,” p. 621.
onset and the continuation of wars between countries identically. However, given that the issue of central importance is the incidence, rather than duration, of war between pairs of states, a more useful measure would count each war between pairs of states as only a single war observation. We use this more restrictive measure.

Thus, we code as a war outcome only the first year a dyad is involved in a particular war, irrespective of whether its members initiated or joined a war.\textsuperscript{36} We delete from the sample all subsequent years the dyad is involved in the same war. The years in which a dyad is at peace are coded as non-war observations. For example, the less restrictive measure records the 1877–78 war between Russia and Turkey as two dyad-years at war; we record the war as only one dyad-year at war (1877), and we exclude the remaining dyad-year (1878). The reduced sample based on our measure contains 284,221 dyad-years, of which 223 are dyad-years at war (0.08 percent).\textsuperscript{37}

The treatment of war in our analysis differs from other studies in two additional ways: 1) we distinguish between general and other wars; and 2) we include all wars recorded by Small and Singer for which information on polity type exists for at least one dyad involved in the war.

\textbf{General and Other Wars.} A distinction between general and other wars is common, although not universal, in the larger literature on war.\textsuperscript{38} It is based on the fact that general wars create \textit{ex ante} “a reasonable probability of a decisive victory by at least one side that could lead to the emergence of a new dominant or leading power and hence to the structural transformation of the system.”\textsuperscript{39}

Because there are only two general wars (World War I and World War II) in the 1816–1980 period, it is impossible to test whether there is a difference between these and other wars. As a result, any decision about whether or not


\textsuperscript{37} We have also analyzed the data using all dyad-years at war. The results are qualitatively unchanged.


to distinguish between the two types depends upon judgments about whether
the causes and evolution of general and other wars differ.\textsuperscript{40} It also depends
upon the precise question that is under investigation.\textsuperscript{41} We employ both criteria
to decide whether to treat general and other wars differently.

First, it seems to us that a strong argument supports the view that the causes
of general and other wars differ. As John A. Vasquez observes, although most
wars “can be understood primarily in terms of the interactions that lead to
them,” general wars “need to be understood also in terms of the context in
which they are fought and the systemic conditions associated with them.”\textsuperscript{42} Of
particular concern is the fit between the underlying distribution of power in
the extant international system and the existing status quo.\textsuperscript{43}

Second, the question we address here is whether members of pairs of demo-
cratic nations are less likely to wage war against each other than are members
of other pairs of states: thus, interactions within dyads are of central concern.
The dynamics of general wars, however, render a dyad a substantively mean-
ingless unit of observation. For example, a dyad-based measure cannot capture
the attempts to “pass the buck” that dominated the periods immediately before
both World War I and World War II.\textsuperscript{44} These attempts are crucial to explaining
the outbreak of these wars; however, in their absence, deterrence might have
succeeded.

Nor can measures based on dyads capture the evolution of general wars.
When belligerents entered World War I and World War II, they did not do so
as discrete pairs. Consequently it is not theories and measures based on dyads
but theories and measures based on the diffusion of war that apply to these
wars.\textsuperscript{45}

Both pre-war and war-time patterns of interaction among the great powers
in World War I and World War II, then, render a dyad-based measure incapable

\textsuperscript{40} Thompson, “The Size of War,” p. 184. Edward Mansfield, however, has shown that growth in
military expenditures and personnel departs from Gibrat’s Law for the major powers only during
the periods clustered around World War I and World War II. This provides some evidence that the
processes leading to general wars differ from those of other wars. Mansfield, Power, Trade, and War

\textsuperscript{41} Jack Levy, “Big Wars, Little Wars, and Theory Construction,” International Interactions,

\textsuperscript{42} Vasquez, The War Puzzle, p. 225.

\textsuperscript{43} Gilpin, War and Change; Robert Powell, “Stability and the Distribution of Power,” World Politics,
forthcoming.

\textsuperscript{44} Barry R. Posen, The Sources of Military Doctrine: France, Britain, and Germany between the World

\textsuperscript{45} See, e.g., Randolph M. Siverson and Harvey Starr, The Diffusion of War: A Study of Opportunity
of capturing their underlying dynamics. Any attempt to disaggregate either war in terms of its constituent dyads risks distorting the relationship between and among the belligerent states. It also denies the existence of any cross-dyad interdependence. As a consequence, we do not believe that data drawn from general wars are relevant to a study of dyadic relationships.46

Although we initially analyzed the relationship between regime type and probability of war for all years in our sample, we subsequently excluded the periods of both World Wars (1914–18 and 1939–45) from our analysis. Note that this is not a trivial change in sample. These periods contain not only the two World Wars (99 dyad-years at war), but also three small wars (four dyad-years at war) which are also lost from the analysis. The periods of the two World Wars together make up only 4.21 percent of the dyad-years in the sample, but they account for fully 46.2 percent of the dyad-years at war (103 of 223). Indeed, that the two World Wars account for almost half of the war observations (44.3 percent) is itself another indication that these two wars are not typical.

We drop the time periods that include these wars rather than simply delete the dyads involved in them. While not a perfect solution to the problem of how to examine only non-general wars, dropping the time periods is preferable to dropping a dyad-year simply because that specific dyad was fighting a war in that year. Such a sample-selection rule would run a serious risk of introducing sample-selection bias. Our decision to drop the time periods of the two World Wars drops many more observations not at war (11,851) than observations at war, so that any sample-selection bias induced by dropping these periods is likely to be much less serious than deleting only dyad-years at war.

THE SET OF WARS. We include in our analysis all other wars that Small and Singer code. In contrast, some contributors to this literature exclude, for various reasons, some wars between democratic polities from their analysis.47 For example, although Finland fought with the Axis powers in World War II, some analysts purge pairs of belligerent states that include Finland from their studies. The effect of doing so in this and other cases is to undercount the number of wars that have occurred between democratic polities. As a result, these

46. The same could be said of any multilateral war. The problem is extraordinarily severe in general wars. World War I had 40 dyads at war and World War II 59 dyads at war. In contrast, the majority of wars (39) involved only one dyad; nine wars had two dyads at war; and four wars had three dyads at war. Other than the two World Wars, only one war (the Korean War) had more than ten dyads at war.

47. E.g., Chan, “Mirror, Mirror on the Wall”; Maoz and Abdolali, “Regime Types and International Conflict”; Russett, Grasping the Democratic Peace.
exclusions systematically bias analyses toward the finding that democratic states are less likely to fight with each other.

The explanations offered to explain the exclusion of wars vary. Sometimes the explanation is that one or both members of the dyad were not “really” democratic (e.g., Spain in 1898).\textsuperscript{48} Sometimes it is that the members of a dyad were only nominally at war. For example, those who exclude the case of Finland argue that the country was a belligerent against the Western allies in name only: it engaged only Soviet troops in battle during World War II.\textsuperscript{49} These explanations of the exclusions are plausible. This does not mean that the exclusions themselves are defensible, however. Decisions to redefine either outcomes or key explanatory measures (e.g., polity type) can be defended if and only if they are the product of the application of the same standard to all cases.\textsuperscript{50} Redefinition of variables for other reasons will almost certainly lead to biased inferences. In the case of the existing literature on democracy and war, the bias is in the direction of finding that democratic polities are relatively unlikely to fight with each other. Thus, we include all of the wars in the COW data set.

LOWER-LEVEL MILITARIZED INTERSTATE DISPUTES
As in the case of wars, we rely on the COW project to define and measure militarized interstate disputes (MIDs).\textsuperscript{51} To be categorized as a MID, a dispute had to involve: “threats to use military force, displays of military force, or actual uses of force”; and a “threat or deployment of military forces” that is “explicit, overt, nonaccidental, and government sanctioned.”\textsuperscript{52}

There are 961 disputes recorded in the MID data set, which begins in 1817 and ends in 1976. For each country involved in any given MID, Small and Singer record the most severe hostility level reached: 1) threat to use force; 2) display of force; 3) use of force; or 4) outbreak of war (defined above).

\textsuperscript{48} James Lee Ray, “Wars between Democracies: Rare or Nonexistent?” \textit{International Interactions}, Vol. 18, No. 3 (1993), pp. 251–276; Russett, \textit{Grasping the Democratic Peace}.
\textsuperscript{49} E.g., Russett, \textit{Grasping the Democratic Peace}, p. 18.
\textsuperscript{50} Despite his \textit{ad hoc} isolation of some wars, Ray acknowledges this problem in Ray, “Wars Between Democracies,” p. 269, as does Bremer in “Dangerous Dyads.”
\textsuperscript{51} These data are taken directly from the public use version of the COW militarized interstate dispute data set, which is part 3 of ICPSR Study Number 9044. They are described in more detail by Charles S. Gochman and Zeev Maoz, “Militarized Interstate Disputes, 1816–1976,” \textit{Journal of Conflict Resolution}, Vol. 28, No. 4 (December 1984), pp. 585–615.
\textsuperscript{52} Ibid., p. 587.
Two aspects of the MID data set are worth noting. First, because the only information coded is the maximum level of hostility reached by each participant considered individually, it is impossible to examine the level of hostility reached by specific pairs of countries in a multilateral dispute. Second, the MID data set does not include all wars in the COW interstate war data set, although the relevant documentation suggests that the latter should be a proper subset of the former. More specifically, of the 223 dyad-years at war in the COW wars data set, the MID data set omits 34.\textsuperscript{53}

Using the MID data, we create a variable that indicates for each dyad-year in our sample whether or not the two countries in that dyad were on opposite sides of at least one dispute in that year.\textsuperscript{54} In the sample are 2,169 dyad-years with disputes, representing 1,372 pairs of countries. The difference between these numbers represents multi-year disputes.

To measure the level of hostility focused on the opposing member of the dyad, we record the level of hostility of each member of a disputing dyad.\textsuperscript{55} We code as lower-level MIDs all disputes where neither member of a dyad is coded as having a level of hostility equal to a Small and Singer war.\textsuperscript{56} Of the 1,372 disputing dyads, 1,102 are coded as having lower-level disputes. Fully 471 of these are potentially miscoded due to missing data on the level of hostility. However, because only five of these 471 dyad-years are listed in the COW wars data set and all of them occurred during World War II, it is unlikely that substantial numbers of warring dyads are included in our lower-level-disputing dyad sample.

For reasons discussed above, we include only the first year of each dispute for each dyad in our analysis. These are the initial years of the 1,102 disputing dyads referred to in the previous paragraph. The initial years of disputes constitute 0.44 percent of the 252,058 dyad-years from 1817 through 1976. We delete subsequent years from the analysis. As before, we also delete the periods

\textsuperscript{53} Most of these are dyads involved in the two World Wars. Only 12 of the 124 non-general war dyads in the COW wars data set do not appear in the MID data set.

\textsuperscript{54} Note that there are cases where two countries are involved in more than one dispute with each other in a particular year. Gochman and Maoz, "Militarized Interstate Disputes," describe in detail how disputes are defined and demarcated.

\textsuperscript{55} As discussed above, however, there is no guarantee in the case of multilateral disputes that the level of hostility coded applies to every dyad involved in that dispute.

\textsuperscript{56} Where there is more than one dispute involving a specific dyad in a given year, we code the level of hostility of each side as the maximum level of hostility reached by that side in any dispute involving both members of the dyad that year.
of the two general wars. These periods account for 145 (13 percent) of the 1,102 disputing dyads.

The Central Results

We analyze the incidence of wars, as well as the incidence of lower-level MIDs. Some contributors to the democratic peace literature analyze only wars; others also examine MIDs. We believe that both are relevant to the issue of the relationship between regime type and serious interstate disputes. As Bruce Russett argues with respect to MIDs, democracies have conflicts of interest with each other, but, "much more often than other states, they settle their disagreements by mediation, negotiation, or other forms of peaceful diplomacy." Thus, he concludes, analyzing lower-level MIDs "constitutes a logical extension of the research program that began nearly two decades ago with wars."57

REGIME TYPE AND THE PROBABILITY OF WAR

The rarity of war raises difficult questions of appropriate statistical techniques, particularly in a multivariate analysis. War is such a low-probability event that there are likely to be configurations of the independent variables where there is no variation in outcomes for a specific value of a dichotomous independent variable. For example, there are no wars within democratic dyads after World War II. We term this the "empty-margin" problem.

There are several standard approaches to estimating models with discrete outcomes, including linear probability models, latent variable models (e.g., logit or probit), and Poisson models. In the context of our analysis, shortcomings afflict each of these three models. The linear probability model is known to be particularly problematic when used for the analysis of very rare events. The latent variable models and the Poisson model yield unbounded parameter estimates where there are empty margins.58

To analyze war, we thus take the very simple approach of computing Pearson $\chi^2$ statistics from two-way breakdowns of regime type by war, and we use these

58. The unbounded parameter estimates result from attempting to make the predicted probability of war zero. In latent variable and Poisson models, this is the case as the relevant parameter approaches $\infty$. Bremer applies a Poisson model to the analysis of democracy and conflict, and he avoids the empty margin problem by aggregating across time periods. Bremer, “Dangerous Dyads”; Bremer, “Democracy and Militarized Interstate Conflict.”
\( \chi^2 \) statistics to test the hypothesis of independence of conflict and regime type. The strength of this approach is that it is straightforward and robust to underlying distributional assumptions.

A weakness of the bivariate approach is that important variables may be omitted that could bias the estimated relationship between regime type and the probability of conflict; in this case, they might include alliance status, wealth, major-power status, and geographic contiguity.

Using alliance status as an explanatory variable is problematic. Both alliances and serious disputes are likely to be affected by a common set of unmeasured variables (e.g., variables measuring the congruence of interests). As a result of these omitted variables, the use of alliances as an independent variable in a multivariate regression analysis of disputes will create biased parameter estimates. Different problems preclude the use of wealth: consistent and reliable data are not available for the entire period from 1816 through 1980.

Two other variables—major-power status and geographic contiguity—are not plagued by problems of simultaneity or lack of data, and both are strongly related to interstate conflict. We have repeated all of the analyses in this section separately by the number of major powers in each dyad (0, 1, or 2), and separately for contiguous and noncontiguous states. We use the classification of states as major powers developed by Small and Singer, and we code contiguity using the data in Siverson and Starr. The Siverson and Starr data are complete through 1965; we extended the data set to 1980. Dyad members can be contiguous in one of three ways: directly territorially contiguous; contiguous across less than 200 miles of water; or contiguous on the basis of shared colonial

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59. Caution is required in testing hypotheses regarding such rare events as war. However, the Pearson \( \chi^2 \) statistic is generally recognized to be appropriate as long as the expected cell sizes under the null hypothesis of independence are all greater than one. Stephen E. Fienberg, The Analysis of Cross-Classified Categorical Data (Cambridge, Mass.: The MIT Press, 1980), p. 170. In our study the minimum expected cell size (the expected number of wars between democracies) is always larger than one, so that the conditions for appropriate use of the Pearson \( \chi^2 \) statistic are met throughout.

60. See, e.g., Bremer, "Dangerous Dyads"; Bremer, "Democracy and Militarized Interstate Conflict"; Maoz and Russett, "Normative and Structural Causes."


62. Small and Singer, Resort to Arms; Siverson and Starr, The Diffusion of War. Siverson and Starr record as an event additions and removals of a boundary of a given type (e.g., colonial), but they do not record whether all boundaries of a given type are removed when a removal is recorded. Thus, possible inaccuracies are inherent in these data if, after the last recorded removal of a boundary of a given type (e.g., colonial), there remain existing boundaries of that type.
borders. If they are not contiguous in any of these three ways, we classify them as non-contiguous.

Despite problems associated with the use of linear probability models, we computed estimates of these models of the probability of war as a function of regime type, contiguity, and major-power status. We also computed logit models of the probability of war as a function of the same variables for all periods where there was not an empty margin problem. The results of these analyses are qualitatively identical to the results derived from the two-way breakdowns of war by regime-type. In the interest of simplicity, therefore, we present only the bivariate analysis.

In order to verify that our data yield results consistent with those of previous studies, we first examined the evidence using all observations in the entire 1816–1980 period. This includes 284,221 dyad-years. War occurs in only 223 of these dyad-years, making it clear that interstate war is a rare event. In addition, of the 67 wars in the COW data set, there are only two in which war between democracies occurs, involving seven dyads. Six of these involve Finland paired with various nations in World War II. The seventh is Spain fighting the United States in the Spanish-American War.

It is clear, therefore, that any analysis cannot rely on finding substantial numbers of wars between democratic states. Instead, we examined whether there is consistent evidence over time of a statistically significant difference in the probability of war between the members of pairs of democratic states and the members of other pairs of polities. The issue of statistical significance is central. Because both war and democracies are relatively rare, we observe few wars between democracies to date. Yet the underlying probability of war between democracies might in fact be as high as the underlying probability of war of other dyads.

63. A logit model is an alternative to OLS regression appropriate for multivariate analysis when the dependent variable is dichotomous. The underlying assumption is that the log-odds of a war is a linear function.

64. See Farber and Gowa, “Common Interests or Common Politics,” for a list of the relationship between democracy and war that accounts for contiguity and major power status.

65. This point is recognized by David E. Spiro, “The Insignificance of the Liberal Peace,” International Security, Vol. 19, No. 2 (Fall 1994), pp. 50–86. Spiro asks whether zero wars occur by chance between members of democratic dyads for each year from 1816 to 1980. He finds that it was only during World War I that a zero incidence of wars between democracies was unlikely to have arisen by chance. Then, in order to address the fact that analyses of a single year bias his findings toward the null hypothesis, he analyzes longer time periods. His substantive results are unchanged. However, Spiro includes in these longer time periods only those states that existed for the entire time period and only those democracies that were democratic for the entire period. For further discussion of the Spiro article, see Russett, “Correspondence: The Democratic Peace.”
The results of our preliminary analysis conform to those of other studies in two important ways. First, we find that democracies are no less war-prone than are other polities. We use the sample of country-year (as opposed to dyad-year) data to compute the probability that a country is at war with any other country in a given year. Analyzing the 10,445 country-years for which we have complete data, we find war probabilities of 0.0191 for non-democracies and 0.0189 for democracies. The difference between these probabilities is not statistically significant (p-value of $\chi^2$ statistic for test of independence = 0.937).

Second, we find that war between democracies occurs at a significantly lower rate than does war between members of other pairs of states. The probability of war between democracies is 0.02 percent compared with a probability of war of 0.09 percent for all other dyads. A Pearson $\chi^2$ test of independence of regime type and the probability of war clearly rejects independence (p-value < 0.0005). Both this and the preceding finding are consistent with existing research.

Next we examined whether the difference between war probabilities is consistent across time. To address this issue, we break the data into five time periods: 1) pre–World War I (1816–1913); 2) World War I (1914–18); 3) the interwar years (1919–38); 4) World War II (1939–45); and 5) post–World War II (1946–80).

We disaggregate the data in this way for two reasons. First, both theoretical and empirical analyses suggest that there are important differences between the pre–World War I and the post–World War II periods. Theorists point to the major changes in international politics induced by the advent of bipolarity and nuclear weapons. Empiricists point to the differences between the nineteenth and twentieth centuries (e.g., in the processes leading to alliance formation and war outbreak).

Second, in the interests of full disclosure, we include an analysis of both World War I and World War II. For the reasons we describe above, however, we do not believe that general wars generate observations that are appropriate to a test of whether peace is more likely to prevail between members of pairs of democratic states than between those of other pairs. We therefore report, but do not discuss, the results of the analyses of the periods 1914–18 and 1939–45.

Table 2 contains the probability of war by regime type for each of the five periods. The table also contains Pearson $\chi^2$ statistics for tests of independence of regime type and the probability of war. These results show that there is no

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### Table 2. Probability of War by Regime Type and Time Period, Number of Dyad-Years.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Democratic-Democratic</th>
<th>Other</th>
<th>$\chi^2$ statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1816–1913</td>
<td>0.0007 (1,475)</td>
<td>0.0010 (50,119)</td>
<td>0.18</td>
<td>0.671</td>
</tr>
<tr>
<td>1914–18 (World War I)</td>
<td>0.0 (353)</td>
<td>0.0136 (2,937)</td>
<td>4.87</td>
<td>0.027</td>
</tr>
<tr>
<td>1919–38</td>
<td>0.0 (5,919)</td>
<td>0.0003 (28,093)</td>
<td>1.90</td>
<td>0.168</td>
</tr>
<tr>
<td>1939–45 (World War II)</td>
<td>0.0084 (718)</td>
<td>0.0071 (7,946)</td>
<td>0.13</td>
<td>0.721</td>
</tr>
<tr>
<td>1946–80</td>
<td>0.0 (22,498)</td>
<td>0.0004 (164,217)</td>
<td>7.95</td>
<td>0.005</td>
</tr>
</tbody>
</table>

**Note:** The numbers in parentheses are the number of dyad-years. The $\chi^2$ statistics are the Pearson statistics for tests of independence of regime type and the probability of war for each period.

consistency across time in the relationship between regime type and the probability of war. In three of the five time periods (pre–1914; 1919–1938; and 1939–45), no statistically significant relationship exists (p-value of joint test of independence ($\chi^2$ with 3 degrees of freedom) = 0.53). Moreover, pooling these three periods does not change these results (p-value of pooled test of independence ($\chi^2$ with 1 degree of freedom = 0.23). It is only during World War I and after 1945 that a statistically significant relationship exists.\(^{68}\) We exclude the periods of the two World Wars from our discussion in the rest of this article.

The most interesting contrast in Table 2 is between the pre–1914 and the post–1945 periods.\(^{69}\) Before World War I, no significant relationship exists

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68. All six of the democratic-democratic warring dyads in World War II involve Finland. If these dyads are deleted, there is a significant relationship between regime type and the probability of war (p-value = 0.023) during World War II. Because this deletion is not the product of a systematically-applied standard, however, we include the Finnish dyads in our analysis.

69. An analysis of the nineteenth-century data yields the same result as analysis of the data for the pre–World War I period. We also pooled data from the interwar years (1919–38) with the pre–World I period. Using a logit model and taking account of the lower overall rate of war during the interwar period, this pooling had no effect on the finding reported here of no significant difference in war rates by regime type before 1946. In the interests of clarity, therefore, the analysis we report upon contrasts the pre–World War I period with the post–World War II period and excludes the interwar period.
between regime type and the probability of war (p-value = 0.671). This result does not depend on whether Spain is classified as a democracy. After World War II, however, there is a significant relationship (p-value = 0.005) between regime type and the probability of war, with democratic dyads being significantly less likely to fight. In short, these results indicate that what seems to have become the conventional wisdom about the relationship between democracies and war applies, in fact, only to the Cold War years.

REGIME TYPE AND THE PROBABILITY OF LOWER-LEVEL MIDS

We also analyzed whether MIDs short of war are less likely to occur between democracies than between other countries, using the data on disputes short of war that we describe above. We begin by presenting the results of bivariate analyses of regime type and low-level MIDs analogous to the analyses of war presented in the preceding sub-section. However, since lower-level MIDs are substantially more common than wars, the problem of empty margins is not relevant. Thus, we were able to carry out a multivariate logit analysis of lower-level MIDs, controlling for contiguity and number of major powers along with regime type, and we present these results below.

As with wars, we first analyzed low-level disputes across the entire 1817–1976 period. Consistent with earlier analyses, we find that low-level disputes between democracies occur at a significantly lower rate than do low-level disputes between members of other pairs of states. The probability of low-level disputes between democracies is 0.30 percent compared with a probability of 0.45 percent for all other dyads. A Pearson $\chi^2$ test of independence of regime type and the probability of war clearly rejects independence (p-value < 0.0005).

Next we examine whether the difference between low-level dispute probabilities is consistent across time. Once again we break the data into five time periods: 1) pre–World War I (1817–1913); 2) World War I (1914–18); 3) the interwar years (1919–38); 4) World War II (1939–45); and 5) post–World War II (1946–76). Table 3 contains the probability of low-level disputes by regime type for each of the five periods. The table also contains Pearson $\chi^2$ statistics for tests

70. If Spain is reclassified as a non-democracy, the p-value of the $\chi^2$ statistic testing independence of regime type and the probability of war is 0.21.
71. While we do not present the results, we also carried out an analysis of militarized interstate disputes that included wars as well as low-level disputes. The results of this analysis are qualitatively similar to those reported in this section for low-level disputes, and similar to those reported by Maoz and Adolali, "Regime Types and International Conflict," for MIDs generally. This is because wars make up only a small fraction of militarized interstate disputes, so the data are dominated by the MIDs.
Table 3. Probability of Low-Level Disputes by Regime Type and Time Period, Number of Dyad-Years.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Democratic-Democratic</th>
<th>Other</th>
<th>$\chi^2$ statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1817–1913</td>
<td>0.0177</td>
<td>0.0074</td>
<td>20.08</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td></td>
<td>(1,470)</td>
<td>(49,767)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1914–18 (World War I)</td>
<td>0.0114</td>
<td>0.0183</td>
<td>0.87</td>
<td>0.351</td>
</tr>
<tr>
<td></td>
<td>(351)</td>
<td>(2,893)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1919–38</td>
<td>0.0032</td>
<td>0.0033</td>
<td>0.008</td>
<td>0.927</td>
</tr>
<tr>
<td></td>
<td>(5,913)</td>
<td>(27,983)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1939–45 (World War II)</td>
<td>0.0014</td>
<td>0.0111</td>
<td>6.21</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>(731)</td>
<td>(7,853)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1946–76</td>
<td>0.0017</td>
<td>0.0031</td>
<td>11.93</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(19,198)</td>
<td>(135,865)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The numbers in parentheses are the number of dyad-years. The $\chi^2$ statistics are the Pearson statistics for tests of independence of regime type and the probability of low-level disputes for each period.

of independence of regime type and the probability of low-level disputes. As
with war, these results show that there is no consistency across time in the
relationship between regime type and the probability of low-level disputes.

The most striking finding in Table 3 is that the probability of low-level
disputes is actually significantly higher for democratic-democratic dyads than
for other type of dyads prior to World War I (p-value < 0.0005).72 It is lower in
all subsequent periods; however, the difference is statistically significant only
during World War II (p-value = 0.013) and the Cold War (p-value = 0.001).

Again we focus on the results for the pre-1914 and the post-1945 periods.
The contrast could not be more stark. Democracies were indeed distinctive
prior to World War I, but that distinctiveness seems to have resulted in a higher
probability of lower-level disputes between them.73 In part, this reflects the fact

72. This result is entirely due to a higher probability of low-level MIDs in geographically contiguous
democratic dyads than in contiguous dyads of other types. There is not a significant difference
in the probability of low-level MIDs between non-contiguous democratic dyads and non-contiguous
dyads of other types. This is the one exception to the generalization that the substantive results
of our study are qualitatively identical when contiguity is controlled for.

73. The United Kingdom is classified as a democracy since 1837 by our coding scheme. The United
States is classified as a democracy throughout.
Table 4. Logit Analysis of Probability of Low-Level Disputes.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-1914</th>
<th>Pre-1914</th>
<th>Post-1945</th>
<th>Post-1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-4.91</td>
<td>-6.02</td>
<td>-5.77</td>
<td>-6.65</td>
</tr>
<tr>
<td></td>
<td>(93.5)</td>
<td>(60.7)</td>
<td>(118.4)</td>
<td>(89.4)</td>
</tr>
<tr>
<td>Democratic</td>
<td>0.888</td>
<td>0.336</td>
<td>-0.624</td>
<td>-1.28</td>
</tr>
<tr>
<td></td>
<td>(4.34)</td>
<td>(1.60)</td>
<td>(3.40)</td>
<td>(6.68)</td>
</tr>
<tr>
<td>Contiguous</td>
<td>—</td>
<td>1.97</td>
<td>—</td>
<td>3.15</td>
</tr>
<tr>
<td></td>
<td>(17.1)</td>
<td>(30.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 major power</td>
<td>—</td>
<td>0.702</td>
<td>—</td>
<td>0.789</td>
</tr>
<tr>
<td></td>
<td>(5.87)</td>
<td></td>
<td></td>
<td>(7.13)</td>
</tr>
<tr>
<td>2 major powers</td>
<td>—</td>
<td>1.49</td>
<td>—</td>
<td>2.54</td>
</tr>
<tr>
<td></td>
<td>(8.85)</td>
<td></td>
<td></td>
<td>(11.7)</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-2293.3</td>
<td>-2015.4</td>
<td>-3094.8</td>
<td>-2517.4</td>
</tr>
<tr>
<td>Sample Size</td>
<td>51,237</td>
<td>51,237</td>
<td>155,063</td>
<td>155,063</td>
</tr>
</tbody>
</table>

NOTE: The numbers in parentheses are absolute values of asymptotic t-statistics. The base category consists of dyads that are non-democratic/democratic, non-contiguous, and with no major powers. All variables are 0–1 indicators.

that two democracies (the United States and the United Kingdom) are the two most dispute-prone nations in the MID data set as a whole.74

Table 4 contains logit analyses, separately for the pre-1914 and post-1945 periods, of the probability of low-level MIDs that control for regime type, number of major powers in the dyad, and contiguity. The first and third columns of Table 4 contain estimates for the two time periods that include only a constant and a dummy variable indicating democratic-democratic dyads. These estimates reproduce the significantly higher probability of lower-level MIDs for democratic dyads in the earlier period and the significantly lower probability of lower-level MIDs for democratic dyads in the later period. The second and fourth columns of Table 4 include additional controls for geographic contiguity and for the number of major powers in the dyad.

These additional factors are clearly strongly related to the probability of conflict. Contiguous dyads are substantially more likely to come into conflict. Dyads with one major power are substantially more likely to be involved in

disputes than are dyads with no major powers. Dyads with two major powers are even more likely to be involved in disputes than are dyads with one major power. These results hold in both time periods.

With regard to regime type, the basic results are the same as those of the bivariate analysis. Prior to World War I, democratic dyads were marginally significantly more likely to be involved in disputes than were other types of dyads (p-value = 0.10). After World War II, there was a marked and statistically significant lower probability of disputes short of war between democracies (p-value < 0.0005).75 As was true of war, then, these results indicate that the conventional wisdom about the effect of democratic dyads on the probability of disputes holds only for the post–World War II world. Also in sharp contrast to the existing literature is the finding that democracies are more likely to engage in disputes with each other before 1914.

Conclusion

The evidence we analyzed suggests that the democratic peace is of relatively recent origin. Indeed, it coincides with the Cold War. Whether the post-1945 result is the product of common polities is, at best, unclear. The onset of the Cold War precipitated strong common interests among a relatively large number of democratic states. Alliance patterns reflect this: after 1945, democratic states were more likely to join defense pacts with each other than were non-democracies. That this is far from typical is clear from the pre–World War I pattern: During the century before 1914, members of democratic dyads were less likely to join defense pacts with each other than were members of other dyads.76 Thus, it is difficult to conclude that it is common polities, rather than common interests, that explain the relatively low incidence of disputes between democracies during the Cold War.

This finding is central to a long-standing debate in international relations about the relative importance of “Second Image” (domestic political) and “Third Image” (systemic) variables. The existing democratic peace literature suggests that Second Image variables play an essential role in explaining the incidence of war and disputes short of war, but our analysis does not support this conclusion.

75. Maoz and Russett, “Normative and Structural Causes,” established the post-1945 result earlier. 76. For further discussion of the alliance issue and the relevant statistical evidence, see Farber and Gowa, “Common Interests or Common Polities,” pp. 4–13.
Our analysis also suggests that the Clinton administration’s foreign-policy strategy of “enlargement” may be misguided. On the basis of the historical record, it is not clear that the spread of democracy in and of itself will exert much influence on the incidence of serious interstate conflict. Although a policy of supporting the emergence of democratic regimes may be desirable on other grounds, there does not seem to be convincing evidence that enlarging the world’s community of democracies will reduce the danger of international conflict. Instead, the analysis here suggests that the Clinton administration foreign policy will be more successful if it focuses on encouraging the emergence of common interests.