

The Liberal Peace: Interdependence, Democracy, and International Conflict, 1950–85*

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The classical liberals believed that democracy and free trade would reduce the incidence of war. Here we conduct new tests of the 'democratic peace', incorporating into the analyses of Maoz & Russett (1993) a measure of economic interdependence based on the economic importance of bilateral trade. This allows us to conduct a simultaneous evaluation of the effects of regime type and interdependence on the likelihood that a pair of states will become involved in a militarized interstate dispute. We control in all our analyses for a number of potentially confounding influences: growth rates in per capita income, alliances, geographic contiguity, and relative power. Our logistic regression analyses of politically relevant dyads (1950–85) indicate that the benefits of the liberals' economic program have not been sufficiently appreciated. Trade is a powerful influence for peace, especially among the war-prone, contiguous pairs of states. Moreover, Kant (1991 [1795]) was right: International conflict is less likely when external economic relations are important, executives are constrained, and societies are governed by non-violent norms of conflict resolution.

1. *The Liberal Case*

The classical liberals advocated policies to expand liberty and increase prosperity. Politically, they sought to shift control of the government from aristocrats to commoners, especially the commercial class. In the realm of economics, they advocated an end to royal charters and monopolies and repudiated the projectionist policies of mercantilism in order to encourage entrepreneurship and increase productive efficiency. The institution of democracy and

laissez-faire economics would also, the liberals believed, reduce the incidence of war.

The relationship between democracy and international conflict has received careful attention, but political scientists have shown less interest in the consequences of free trade and economic interdependence. Yet, expanded trade was advocated as a remedy for war before democracy was a realistic possibility in most countries. In the early 17th century, Eméric Crucé concluded that wars were the result of international misunderstandings and the domination of society by the warrior class. Both could be reduced by the expansion of commerce: Trade brought individuals of different nations into contact with one another and created common interests; and it increased the prosperity and political power of the peaceful, productive members of society at the expense of the aristocracy. Later, the importance of economic relations in promoting world peace was emphasized by François

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Quesnay, Anne Robert Turgot, and the French Physiocrats; by Adam Smith and his followers in England; and by Thomas Paine (Domke, 1988, pp. 43–51; Howard, 1978).

In his treatise on *Perpetual Peace* (1991 [1795]), Immanuel Kant refined the liberal argument by suggesting that peace among democratic nations would be the consequence of three complementary influences. First, republican constitutions eliminate autocratic caprice in waging war. Second, 'an understanding of the legitimate rights of all citizens and of all republics comes into play . . .' with the spread of democracy (Doyle, 1986, p. 1161). This creates a moral foundation for the liberal peace, upon which eventually an edifice of international law can be built. Lastly, economic interdependence reinforces constitutional constraints and liberal norms by creating transnational ties that encourage accommodation rather than conflict. Thus, material incentives add their force to law and morality.

In this article, we conduct new tests of the 'democratic peace' incorporating a measure of economic interdependence derived from bilateral trade flows. We follow as closely as possible the methods of Maoz & Russett (1993) and use their data in order to facilitate comparisons with their results. Thus, we investigate the influence of regime type on the likelihood of dyadic conflict using both discrete and continuous measures of democracy; and we reassess the effects of executive constraints and norms of non-violent conflict resolution, controlling for interdependence. This permits a test of Kant's three theses. As before, controls are introduced for several other theoretically interesting influences on the likelihood of conflict: geographic contiguity, the military capability ratio, alliances, and economic growth.

2. Previous Research

Many researchers (Babst, 1964; Bueno de Mesquita & Lalman, 1990, 1992; Chan, 1984; Doyle, 1986; Garnham, 1986; Maoz & Abdolali, 1989; Morgan & Schwebach, 1992; Rummel, 1983, 1985; Russett, 1993; Small & Singer, 1976; Streit, 1938; Weede,

1984, 1992) have shown that democracies virtually never go to war against other democracies, a generalization confirmed by two centuries of experience. Recently, Bremer (1992) and Maoz & Russett (1993) increased confidence in the democratic peace by demonstrating that this finding is robust when important controls are introduced. The theoretical rationales for these results typically imply that the more democratic a pair of states, the less likely they are to be involved in armed conflict (Bueno de Mesquita & Lalman, 1990, 1992; Kegley & Hermann, 1995; Lake, 1992; Starr, 1992). Yet, previous studies tested the democratic peace using categorical measures of regime type (e.g., Bremer, 1992; Chan, 1984; Doyle, 1986; Maoz & Abdolali, 1989; Morgan & Campbell, 1991; Morgan & Schwebach, 1992; Rummel, 1983; Small & Singer, 1976; Weede, 1984). Maoz & Russett's (1993) use of a continuous measure of joint democracy provided important corroborating evidence for a causal link between democracy and peace.

As noted earlier, Kant (1991 [1795]) believed that democratic governments face structural and normative constraints on the initiation of violence. Shared decision-making powers, the usual institutional arrangement in democratic countries, impede the resort to war whereas the absence of a system of checks and balances allows autocrats to 'resolve for war for insignificant reasons, as if it were but a hunting expedition . . .' (Kant quoted by Waltz, 1962, p. 333). Normatively, democracies value negotiation and compromise, respect the rights of others, and eschew violence as a result of the externalization of domestic norms of conflict resolution (Dixon, 1993, 1994; Raymond, 1994; Russett, 1990, p. 124). Morgan & Campbell (1991), Morgan & Schwebach (1992), and Maoz & Russett (1993) have attempted to clarify the relative importance of institutional structure and norms, but no definitive conclusion has been reached.

Despite our progress in testing the democratic peace, one potentially important factor has been largely ignored (Levy, 1989): economic interdependence. Many since

Kant have extolled the pacific consequences of trade, notably the Manchester school of 'commercial liberalism' (Blainey, 1988). Jeremy Bentham, David Ricardo, and Richard Cobden argued that war is anachronistic because it is too costly. Commerce is disrupted, and foreign investment threatened. In the modern world, wealth is intangible, Norman Angell (1913) proposed, a set of relationships that cannot be interfered with to advantage by military aggression. The benefits of interdependence are also central to functionalist (Mitrany, 1966) and pluralist analyses of integration (Deutsch et al., 1957) and reminiscent of socialists' emphasis on the virtues of internationalism (Domke, 1988, p. 46; Pentland, 1973, p. 81).

Interdependence may be particularly beneficial when combined with democratic institutions. Political and economic freedoms allow individuals to form transnational associations and to influence policy in light of the resulting interests, inhibiting their governments from acting violently toward one another (Domke, 1988; Risse-Kappen, 1995; Russett, 1993, p. 26).

Theoretical challenge to these views comes from those who emphasize that economic ties not only offer the prospect of mutual gain but also may transmit economic ills and create rivalry over the division of benefits. Hoffman (1965) has observed that '[i]nterdependence breeds not only accommodation and harmony, but suspicion and incompatibility'. Especially when relations are asymmetrical, trade can be a source of influence (Gasiorowski & Polachek, 1982; Gilpin, 1987; Keohane & Nye, 1989; Kroll, 1993), which may lead to dependency, exploitation, and conflict (dos Santos, 1970; Robinson, 1976; Wallerstein, 1974).¹

Thus, contemporary analysts are divided over the consequences of interdependence. Rosecrance (1986) and Mueller (1988) emphasize its pacific benefits; Gilpin (1987) and Blainey (1988) conclude that economic relations are not an important influence on the likelihood of war; and Buzan (1984) is critical of the liberal thesis.² The debate between the neoliberals and neorealists

reflects continuing interest in this issue (Baldwin, 1993), though more attention has been paid to regimes and institutions than to trade.

There have been few empirical assessments of the liberal thesis. One of the earliest, by Russett (1967), found that states linked by trade, 1945–67, were more than twice as likely to fight as nations without strong economic ties. He noted, however, that trade is highly correlated with geographical proximity, which in turn is highly correlated with war. Indeed, contiguity appears to be the primary factor influencing the likelihood of conflict (Barbieri, 1994; Bremer, 1992; Gochman, 1991; Goertz & Diehl, 1992; Maoz & Russett, 1993; Rumel, 1994; Siverson & Starr, 1991). Also, Russett's cases included many colonial relationships, where trade and conflict were great. Relations among independent states may be qualitatively different. Wallerstein's (1973) analysis of the 1920–68 period produced mixed results. In the aggregate, conflict did decline among the great power pairs as interdependence increased; but these results were not consistent across the three sub-periods he considered. Conflict between 'topdogs' and 'underdogs', on the other hand, occurred almost entirely within a great power's regional sphere of influence, where trade interactions were greatest.

More recent studies provide stronger support for the liberal thesis. Polachek (1980), using events data for 1958–67, found that the dyads engaged in the most trade had the least conflict. Later, Gasiorowski & Polachek (1982) reported a negative correlation between the level of East–West trade and Cold War tensions, 1967–75. Gasiorowski (1986) then showed that the economic importance of a nation's trade (trade/gross domestic product) was inversely associated with conflict, 1960–77, when measures of the costliness of trade were included in the model. Export- or import-partner concentration and export-commodity concentration increased the conflict directed by a nation toward its trading partners; but since conflict was measured by events data, trade need not be associated with higher levels of armed conflict even under these conditions,

as Gasiorowski noted. Polachek (1992) and Polachek & McDonald (1992), too, have shown that net conflict is inversely related to the costliness of disrupting bilateral trade, as indicated by trade levels and inelastic import-demand and export-supply curves. Indeed, Polachek (1994) has recently suggested, on the basis of analyses of events data for a limited number of countries and years, that economic interdependence is at the heart of the democratic peace.

Domke (1988) examined data for both the 19th and 20th centuries and found strong support for the view that trade promotes peace: Nations that export less are more likely to initiate wars, an effect most pronounced in the postwar era. In fact, foreign trade, not regime type, proved the most consistent restraint on decisions for war. Domke's (1988) analysis is not, however, dyadic: He shows that nations that trade relatively little are more involved in wars, but not whether war is more or less likely with a state's trading partners. Barbieri (1994) examines over 17,000 interstate dyad-years 1870–38, and finds evidence of the democratic peace; but she reports a curvilinear relation between interdependence and involvement in militarized disputes. Her results are consistent with those of de Vries (1990), who concludes that interdependence increases the intensity of both conflictual and cooperative interaction; but both use trade concentration, $\text{trade}_{ij,t}/\text{total trade}_{i,t}$, to calculate interdependence. Polachek (1980), Gasiorowski & Polachek (1982), Gasiorowski (1986), Domke (1988), and Mansfield (1994) use some version of the trade-to-trade GDP ratio, which is preferable since states can vary dramatically in the degree to which trade is economically important.

Finally, Mansfield (1994) has examined the effect of trade on the likelihood of war at the systems level of analysis for the years 1850–1965. He shows that a high level of trade in year $t-1$, measured as the ratio of global exports to total world output, reduces the average number of wars initiated in the five years after year t . Mansfield also finds that conflict reduces trade but, after estimating a simultaneous-equations model, he,

like Polachek (1992), concludes that trade has a more significant effect on the level of warfare than warfare has on the level of trade.³ The effect of conflict on trade, though negative, is not statistically significant; trade, on the other hand, remains an important influence on the likelihood of conflict in his two-stage least-squares model.

3. Research Design

In the following section we estimate the influence of economic interdependence and of continuous and dichotomous measures of regime type on the likelihood of international conflict, providing a simultaneous assessment of the liberals' political and economic prescriptions. Then, we evaluate Kant's elaboration of liberal theory using measures of institutional constraints on executive power, the strength of nonviolent norms of conflict resolution, and interdependence. This allows us to estimate the relative strength of the structural and normative models of the democratic peace and of interdependence. To facilitate comparison, we follow Maoz & Russett's (1993) research design as closely as possible.

As before, the unit of analysis is the dyad-year; and, as in that study, we limit our study to politically relevant pairs of states: those that are contiguous and those containing at least one state defined as a major power by the Correlates of War project.⁴ This is consistent with Bremer's (1992) finding that contiguity, especially, and major-power involvement are the most important factors accounting for war. This set of cases excludes dyads that, in the great majority of cases, did not have a reasonable opportunity to engage in armed conflict because they were too far apart, too weak militarily, and had few serious interests at stake. Because of the special importance of contiguity in accounting for conflict, we also conduct separate analyses of this subset of cases.

We examine the period, 1950–85 – essentially, the Cold War era – because data on national incomes before 1950 are limited and satisfactory information on military capabilities after 1985 is not yet available. The sample size for our tests ranges from

17,000 to over 21,000 when all our politically relevant cases are considered and from 6,600 to 7,200 for the subset of contiguous dyads.⁵ The post-World War II years are suitable for testing the liberal theses because there was a relatively large number of democracies and trade grew rapidly and was economically important. Moreover, factors thought to confound tests of the liberal peace – the structure of alliances and economic growth rates, in particular – were prominent and amenable to statistical control.

3.1 *Dependent Variable*

We test liberal theory using the set of militarized interstate disputes assembled by the Correlates of War (COW) project. This is the most widely used data set on international conflict. It was corrected and extended through 1985 by Maoz and Daniel Jones. A militarized dispute is an international interaction involving threats, displays, or actual uses of military force; it must be explicit, overt, not accidental, and government sanctioned (Gochman & Maoz, 1984). $DISPUTE_{ij,t}$ is a dichotomous variable that equals 1 when a dyad was involved in a dispute in year t and 0 otherwise.⁶

3.2 *Independent Variables*

Democracy. We assess the effect of regime type ($DEMOCRACY_{ij,t}$) on the likelihood of international conflict using continuous and dichotomous measures of joint democracy constructed using the Polity II data set. Gurr, Jagers & Moore (1989) created 11-point scales for autocracy (AUT) and democracy (DEM). We created a summary measure by taking the difference of the democracy and autocracy scales and multiplying by the 11-point measure of power concentration (PCON) found in the Polity II data. Thus, the regime index (REG) equals $PCON * (DEM - AUT)$. The concentration of political power is included because it indicates the extent to which a government exercises effective control over its citizens. REG has a possible range from +100 (most democratic) to -100 (most autocratic). Individual regime scores were then converted into a dyadic variable that reflects two things: How democratic the

members of the dyad are and the similarity of their regimes. As in Maoz & Russett (1993), the continuous measure of joint democracy was constructed as follows:

$$JOINREG_{ij,t} = (REG_H + REG_L) / (REG_H - REG_L + 1)$$

where REG_H is the regime score of the member with the higher score and REG_L is that of the lower-scoring member. Adding 1 to the denominator prevents division by 0 when the states have identical scores.⁷

Also, using a dichotomous measure of joint democracy facilitates comparisons with previous studies. In addition, REG may be only crudely reliable, since it is generated by arithmetic operations on ordinal variables that may not be linear throughout their ranges. We used a threshold of +30 as the lower limit for a democracy. Our dichotomous measure of joint democracy ($DEMOCRATS_{ij,t}$) takes a value of 1 if countries i and j were both democracies in year t and 0 otherwise.

Interdependence and Dependency. We used data regarding the direction of trade (International Monetary Fund [IMF], 1993) as the basis for our measurement of economic interdependence. The IMF reports country i 's exports to country j ($X_{ij,t}$) and i 's imports from j ($M_{ij,t}$). This allows us to use bilateral trade, rather than total trade, to gauge the peace-inducing qualities of nations' external economic relations. Since countries differ dramatically in size and are to varying degrees autarkic, the importance of their trade must be calculated relative to a measure of national income, as Polachek (1994) has argued. We used gross domestic product ($GDP_{i,t}$) calculated using purchasing power parities (Summers & Heston, 1988, 1991), because exchange rates are known to distort international comparisons involving non-tradeable goods (Marer, 1985; Passé-Smith, 1993). Specifically, country i 's dependence on trade with j was calculated as follows:

$$DEPEND_{ij,t} = (X_{ij,t} + M_{ij,t}) / GDP_{i,t}$$

Then, we created a dyadic measure of interdependence ($INTERDEP_{ij,t-l}$) using the pro-

cedure for converting REG into JOINREG and incorporated a one-year lag to ensure that trading relations were not affected by the dispute to be explained. To determine if the restraining influence of interdependence is particularly strong when coupled with democratic institutions, we used two interactive variables: JOINREG * INTERDEP and DEMOCRATS * INTERDEP.

Two limitations of the IMF data should be noted. First, they are incomplete for the former Soviet bloc because the direction of trade statistics are supplied by its members. Only Hungary, Poland, and Romania belonged to the Fund during any of the years of our study. The IMF does, however, estimate a non-member's exports to (imports from) a member country by using the member's data on imports from (exports to) the non-member; but trade within the Soviet bloc, except for that involving Hungary, etc., in recent years, is not reported. Second, many countries do not report the absence of trade. For example, the values of Syria's exports to Israel are not zero in the IMF data; they are missing. To ameliorate this problem, we set missing values to zero if (and only if) there was no significant amount of a country's total trade unaccounted for in the country-by-country listing.⁸

Admittedly, INTERDEP is not a perfect indicator of economic interdependence. For one thing, the composition of trade is not considered. A country that imports large quantities of oil, for example, may feel greater vulnerability than our measure of dependency indicates; but to the extent that international prices reflect the true value of commodities, including the possibility of disruptions to existing channels of supply, the trade-to-GDP ratio will accurately measure a country's dependence on its trading partner. On the other hand, the validity of our measure of interdependence is enhanced by the strong correlation between trade and foreign investment. To some extent, trade and foreign investment are substitutes, but even traditional forms of trade often involve the establishment of foreign commercial operations (Wallenstein, 1973). Increasingly, however, trade

has taken place within the multinational corporation. Today, some 40% of all merchandise trade involves related subsidiaries (Alworth, 1988, p. 208; *Economist*, 1993). It is no accident, then, that the major trading partners of the United States are also the most important recipients of US investments abroad and its major sources of foreign investment (Spero, 1990). We are reasonably confident, therefore that INTERDEP reflects this important dimension of international economic relations, too.

The likelihood of military conflict between two countries may be a function of the trend (DINTERDEP) as well as the level of interdependence (Domke, 1988). Declining trade may be a signal or even a cause of deteriorating political relations. To measure the trend in interdependence, we calculated the change in INTERDEP over the three years prior to the year in which conflict is to be explained. To minimize the number of cases lost, we substituted the change in trade over two years and over one year for the missing values that otherwise would occur at the beginning of each dyadic time series. Thus, $DINTERDEP_{ij,t-1}$ equals $INTERDEP_{ij,t-1}$ minus $INTERDEP_{ij,t-4}$, when this can be computed, or $INTERDEP_{ij,t-1}$ minus $INTERDEP_{ij,t-3}$ or $INTERDEP_{ij,t-1}$ minus $INTERDEP_{ij,t-2}$, when necessary.

As noted, interdependence denotes that states are mutually dependent. $DEPEND_{ij,t}$ need not equal $DEPEND_{ji,t}$; but a large asymmetry can be the basis for influence and exploitation and, consequently, a source of conflict. To assess this hypothesis, particularly associated with dependency theory, we use the variable $DEPENDENCY_{ij,t-1}$, which equals $DEPEND_H - DEPEND_L$.

Institutional Constraints. To distinguish between Kant's two political explanations for the liberal peace, we use measures of the institutional constraints on the executive and the prevalence of nonviolent norms of conflict resolution. The degree to which a regime constrains its chief executive is a function of the extent to which others must approve his or her actions, the degree to which these constraints are institutionalized, the unitary or federal nature of the political

system, and the control exercised by the government over social and political life. Each state's scores on these four measures were summed to produce an overall measure (Maoz & Russett, 1993); then, $CONSTRAINT_{ij,t}$ was computed in analogous fashion to $JOINREG$. Interestingly, these variables are only moderately correlated ($r = 0.28$).

Nonviolent Norms. Nonviolent norms of conflict resolution are usually associated with democratic polities, but they are not strictly a function of regime type. A country without democratic institutions, e.g., Brunei or Oman, may be widely regarded as legitimate by its citizens. Such a regime would require little overt suppression of political opponents to preserve its authority and perpetuate the established system of governance. On the other hand, a fledgling democracy may have more of the form than the substance of republican rule and may repress dissent in the name of maintaining order; some of the new republics of the former Soviet Union come to mind in this regard. Indeed, our two measures of non-violent norms are not highly correlated with $JOINREG$.⁹

The first is based on the stability of states' governmental institutions. The longer a particular political system exists without fundamental change, the more likely that nonviolent norms of conflict resolution have become established and that these will influence a government's foreign policies and conduct. We use the longevity of a political regime in years (Gurr, 1974; Gurr et al., 1989) to gauge its stability.¹⁰ $STABILITY_{ij,t}$, our dyadic measure, is computed in similar fashion to $JOINREG$. Our second measure of nonviolent norms is an assessment of domestic political violence. In societies where nonviolence is an integral part of politics, the populace has channels for expressing political grievances peacefully. More importantly, given our interest in the behavior of governments, there is respect for human rights. The avoidance of political repression is a direct indicator of the degree to which a government undertakes to resolve disputes nonviolently. Conse-

quently, we use the number of political executions as our second normative indicator. Simply put, we expect that governments that do not kill their own people will be hesitant to kill the citizens of other countries. $EXECUTIONS_{ij,t}$ equals the average number of political executions (Taylor & Jodice, 1983) over five years for the members of a dyad.

Alliance. $ALLIES_{ij,t}$ equals one if countries i and j are formally allied or if both are allied with the United States (Oren, 1990; Singer & Small, 1968); it equals zero otherwise.

Contiguity. As noted earlier, we distinguish between two types of dyads with the potential for conflict: contiguous states and non-contiguous dyads containing a major power. The United States, United Kingdom, France, China, and the USSR – the great powers of the contemporary period – are each paired with all other states in the system. $CONTIG_{ij,t}$, then, equals one for the contiguous dyads, including those indirectly contiguous through their colonies; it is zero for the non-contiguous dyads involving one of the five major powers.¹¹

Military Capability Ratio. Like Bremer (1992), we include a control for the dyadic balance of power. Of course, it is itself a theoretically interesting variable. To measure national capabilities, we use the COW military capabilities index (Singer et al., 1972), which is composed (in equal weights) of a country's share of the system's total population, urban population, energy consumption, iron and steel production, military manpower, and military expenditures. $CAPRATIO_{ij,t}$ is the ratio of the stronger state's capability index to that of the weaker member in each dyad.

Economic Growth. We also control for the growth rate in gross domestic product per capita, because states enjoying economic success are apt to be disinclined to fight. They are beneficiaries of the status quo; and, as the liberals have emphasized, conflict is inconsistent with modern financial and commercial relations. Moreover, regimes may have an incentive to divert

attention from an economy in decline (James, 1988; James & Oneal, 1991; Levy, 1989; Ostrom & Job, 1986; Russett, 1990). Consequently, we calculated the average annual change in real GDP per capita in percent (Summers & Heston, 1988) of countries i and j over the previous three years (or, as with DINTERDEP, over shorter periods when necessary) and then created a dyadic variable ($GROWTH_{ij,t}$) in the manner previously described.

Maoz & Russett (1993) and Bremer (1992) controlled for economic development in assessing the democratic peace and found that conflict was least likely in pairs of developed states. Dyadic wealth is not included in the analyses we will report, however, because it never proved significant when INTERDEP was in the equation. The economically advanced countries have been among the most interdependent nations in the postwar period. Excluding dyadic wealth did not have much effect on the other estimated coefficients or their significance.

4. Testing the Liberal Peace

We assess the liberal peace by simultaneously considering the influence of democracy and interdependence on the likelihood that a pair of states will be involved in a militarized dispute of given severity, 1950–85. Adding the control variables to DEMOCRACY and INTERDEP yields:

$$(1) \quad DISPUTE_{ij,t} = \beta_0 + \beta_1 * DEMOCRACY_{ij,t} + \beta_2 * GROWTH_{ij,t} + \beta_3 * ALLIES_{ij,t} + \beta_4 * CONTIG_{ij,t} + \beta_5 * CAPRATIO_{ij,t} + \beta_6 * INTERDEP_{ij,t-1}$$

where DEMOCRACY is represented first by JOINREG, our continuous measure of joint democracy, and then by DEMOCRATS, the dichotomous indicator. We estimate the coefficients in this equation using logistic regression analysis (State Reference Manual, 1995). We add DINTERDEP, the change in INTERDEP over three years, to get Equation 2:

$$(2) \quad DISPUTE_{ij,t} = \beta_0 + \beta_1 * DEMOCRACY_{ij,t} + \beta_2 * GROWTH_{ij,t} + \beta_3 * ALLIES_{ij,t} + \beta_4 * CONTIG_{ij,t} + \beta_5 * CAPRATIO_{ij,t} + \beta_6 * INTERDEP_{ij,t-1} + \beta_7 * DINTERDEP_{ij,t-1}$$

The results of estimating Equations 1 and 2 are reported in Table I. As can be seen in columns 1 and 2, economically important trade is strongly associated with peace ($p < 0.001$), while JOINREG is significant ($p < 0.05$) in Equation 1 but not ($p < 0.23$) in Equation 2.¹² DINTERDEP and the control variables have the expected signs and are very significant ($p < 0.001$).¹³ To indicate the influence of each of the independent variables on the likelihood of involvement in a militarized dispute, we first calculated a baseline probability against which to make comparisons by setting each of the continuous measures at their mean and making ALLIES and CONTIG equal 0. We then adjusted each independent variable in turn by adding, for the continuous variables, one standard deviation to its mean value or, for ALLIES and CONTIG, setting them to 1. The mean values and standard deviations of our variables are reported in the Appendix.

The probabilities of a dyad being involved in a dispute under the conditions described above, in percentages for ease of expression, are given in Table II. As shown in line 1, the probability of a dispute under the baseline conditions is 0.63%. This drops to 0.45% if the level of interdependence is increased by one standard deviation, to 0.58% if JOINREG is changed, to 0.50% for an innovation to the growth rate in GDP per capita, and to 0.40% if the dyadic members are allies. The likelihood of involvement in a dispute jumps to 2.25% if the dyad is composed of contiguous states, a clear indication of the importance of geographic proximity. It falls to 0.00% if the capability ratio is increased by one standard deviation.

The effect of such an innovation to CAPRATIO is misleading, however, because the mean and standard deviation of this variable are so large, 328 and 1770 respectively for all politically relevant dyads. This is due to the pairing of the major powers with the many small states of the world. Lines 8–9, Table II, give the probabilities of a dispute associated with more interesting values of the capability ratio. With CAPRATIO equal to 1 and all other variables at their baseline values, the likelihood of a dispute is 2.00%. It is only slightly less (1.93%) if the capa-

Table I. Estimated Coefficients for Models of Involvement in Militarized Disputes, 1950–85, All Politically Relevant Dyads

Variable		Eqn 1	Eqn 2	Eqn 1a	Eqn 2a
JOINREG	β SE β p	–0.00350 0.00179 .05	–0.00227 0.00189 .23		
DEMOCRATS				–1.73 0.26 <.001	–1.54 0.26 <.001
GROWTH		–0.117 0.021 <.001	–0.112 0.021 <.001	–0.0930 0.0199 <.001	–0.0893 0.0206 <.001
ALLIES		–0.455 0.098 <.001	–0.385 0.101 <.001	–0.332 0.097 <.001	–0.293 0.100 <.001
CONTIG		1.28 0.10 <.001	1.34 0.11 <.001	1.17 0.10 <.001	1.23 0.11 <.001
CAPRATIO		–0.00354 0.00065 <.001	–0.00314 0.00064 <.001	–0.00406 0.00067 <.001	–0.00363 0.00066 <.001
INTERDEP		–8.09 1.87 <.001	–10.5 2.1 <.001	–3.59 1.75 .04	–6.06 2.03 .003
dINTERDEP			–20.4 3.7 <.001		–17.5 3.6 <.001
Constant		–3.50 0.09 <.001	–3.59 0.10 <.001	–3.45 0.09 <.001	–3.53 0.10 <.001
Chi ²		464.53	472.06	573.88	557.07
P of Chi ²		<.0001	<.0001	<.0001	<.0001
Log likelihood		–2513.76	–2350.67	–2524.70	–2354.52
N		21,377	20,516	22,575	21,555

bility ratio is 10. Indeed, even with CAPRATIO equal to 100, the probability of a dispute is still 1.41%. Interestingly, a one standard deviation innovation to interdependence when CAPRATIO equals 1 has virtually the same effect; the likelihood of a dispute drops to 1.42%.

The relative influence of JOINREG and INTERDEP can be indicated by a simple comparison. If interdependence is set at the average level that existed for the United States and Canada in the postwar period (0.222), the probability of dispute involvement is 0.13%. If, on the other hand, JOINREG is set at its maximum (100) and the

other variables kept equal to their baseline values, the probability is 0.45%.

Substituting the dichotomous measure of joint democracy (DEMOCRATS) for the continuous form in Equations 1 and 2 produces the results reported in columns 3 and 4, Table I. DEMOCRATS is more closely associated with peace ($p < 0.001$) than INTERDEP ($p < 0.04$; in Equation 2a). Again, the estimated coefficient of dINTERDEP is quite significant, as are those of all the controls ($p < 0.001$). The probabilities reported in the bottom half of Table II confirm the pacifying effect of high levels of joint democracy. For a pair of democratic states, the likeli-

Table II. Probabilities of Involvement in a Militarized Dispute, 1950–85, Based on the Estimated Coefficients in Table I, Expressed as Percentages

With JOINREG:	
1. JOINREG, GROWTH, CAPRATIO, and INTERDEP at mean values; ALLIES and CONTIG equal 0	0.63%
2. Increase in INTERDEP of 1 SD; other variables at baseline values	0.45%
3. Increase in JOINREG of 1 SD; other variables at baseline values	0.58%
4. Increase in GROWTH of 1 SD; other variables at baseline values	0.50%
5. ALLIES equals 1; other variables at baseline values	0.40%
6. CONTIG equals 1; other variables at baseline values	2.25%
7. Increase in CAPRATIO of 1 SD; other variables at baseline values	0.00%
8. CAPRATIO equals 1; other variables at baseline values	2.00%
9. CAPRATIO equals 10; other variables at baseline values	1.93%
With DEMOCRATS:	
1. DEMOCRATS equals 0; GROWTH, CAPRATIO, and INTERDEP at mean values; ALLIES AND CONTIG equal 0	0.65%
2. Increase in INTERDEP of 1 SD; other variables at baseline values	0.56%
3. DEMOCRATS equals 1; other variables at baseline values	0.12%
4. Increase in GROWTH of 1 SD; other variables at baseline values	0.54%
5. ALLIES equals 1; other variables at baseline values	0.47%
6. CONTIG equals 1; other variables at baseline values	2.09%
7. Increase in CAPRATIO of 1 SD; other variables at baseline values	0.00%
8. CAPRATIO equals 1; other variables at baseline values	2.43%
9. CAPRATIO equals 10; other variables at baseline values	2.34%

hood of a dispute is 0.12%, less than a fifth of the baseline figure (0.65%). An innovation of one standard deviation to interdependence, all other variables kept at their baseline values, produces a less dramatic effect (0.56%). Increasing interdependence to the average level for the USA and Canada, a more meaningful comparison, reduces the likelihood of a dispute to 0.32%. As in the analyses with JOINREG, states that are allied (0.47%) and those enjoying rising living standards (0.54%) are also less inclined to engage in military conflict. The effect of increasing the capability ratio from 1 to 10 again is modest: The probability of a dispute declines from 2.43% to 2.34%.

As noted earlier, the majority of conflicts involve contiguous pairs of states, not the numerous major-power dyads. There are only 194 dyads involved in a dispute among the 13,428 non-contiguous major-power pairs, or 1.36%; the rate among contiguous dyads is 6.39%, more than four times as great. Recognizing the importance of contiguity as a facilitator and cause of war, we re-estimated Equations 1 and 2 using only bordering pairs of states.

The evidence presented in Table III for disputes among contiguous dyads reinforces

the view that trade is an important pacific influence. INTERDEP is significant at least at the 0.001 level in all four equations; and an increasing level of interdependence, too, is closely associated with a lower probability of conflict. The dichotomous measure of joint democracy is again very significant both with and without DINTERDEP; the continuous measure is not.¹⁴ All the control variables perform as expected. Table IV provides the probabilities of a dispute under various conditions for the contiguous dyads. Again, to simplify the presentation, these are expressed in percentages. The results parallel those for all politically relevant pairs of states. INTERDEP has a greater effect than JOINREG, GROWTH, or ALLIES. The influence of DEMOCRATS is greater; but even in Equation 1a, a one standard deviation increase in interdependence reduces the likelihood of conflict for a contiguous pair of states by over 40%. Again, increasing the capability ratio from 1 to 10 has only a modest beneficial effect.

To determine if the pacific benefits of interdependence are greatest among democratic pairs of states, we added an interactive variable – either JOINREG * INTERDEP or DEMOCRATS * INTERDEP – to Equation 1. The results, not presented in a table, support the

Table III. Estimated Coefficients for Models of Involvement in Militarized Disputes, 1950–85, Contiguous Dyads Only

Variable		Eqn 1	Eqn 2	Eqn 1a	Eqn 2a
JOINREG	β	–0.00259	–0.00145		
	SE β	0.00221	0.00239		
	p	.24	.54		
DEMOCRATS				–1.60	–1.28
				0.38	0.38
				<.001	<.001
GROWTH		–0.149	–0.142	–0.127	–0.122
		0.024	0.024	0.022	0.023
		<.001	<.001	<.001	<.001
ALLIES		–0.551	–0.489	–0.478	–0.443
		0.108	0.111	0.105	0.109
		–.001	<.001	<.001	<.001
CAPRATIO		–0.00235	0.00143	–0.00368	–0.00289
		0.00218	0.00214	0.00202	0.00206
		.28	.50	.07	.16
INTERDEP		–16.0	–21.4	–10.1	–16.3
		3.2	3.9	3.1	3.8
		<.001	<.001	.001	<.001
dINTERDEP			–25.6		–24.0
			4.9		4.82
			<.001		<.001
CONSTANT		–2.07	–2.09	–2.11	–2.13
		0.08	0.09	0.08	0.09
		<.001	<.001	<.001	<.001
CHI ²		144.10	172.54	168.42	188.30
P OF CHI ²		<.0001	<.0001	<.0001	<.0001
LOG LIKELIHOOD		–1454.13	–1364.16	–1484.19	–1384.28
N		6,928	6,641	7,217	6,881

hypothesis, although the evidence is not as strong as that reported by Domke (1988, pp. 164–9). The estimated coefficients of the interactive terms were significant in analyses involving all our cases – great-power and contiguous pairs – and the contiguous subset alone; but there was little increase in explanatory power.

We also tested the thesis, advanced by dependency theorists in particular, that asymmetric interdependence is a source of conflict because it may be the basis for exploitation. We substituted *DEPENDENCY*, which equals the difference in the dyadic members' trade-to-GDP ratios, for *INTERDEP* in Equation 1. Contrary to dependency theory, the estimated coefficients for this term, not reported in a table, were negative (and statistically significant) for both the

complete set of cases and the contiguous subset. Thus, even trade dependency is associated with a reduction in the likelihood of conflict between states. Analyses using both *DEPENDENCY* and *INTERDEP* suggest that asymmetric economic ties reduce, but do not eliminate, the benefits of economic relations; but these variables are so highly correlated ($r = 0.77$), that the results are apt to be unreliable.

Finally, we turn our attention to the influences of executive constraints and non-violent norms of conflict resolution on the likelihood of conflict, controlling for interdependence. As noted, Kant (1991, [1795]) believed perpetual peace was possible among democratic states as a result of these three complementary influences. Again, we consider two sets of cases: all disputes and

Table IV. Probabilities of Involvement in a Militarized Dispute, 1950–85, Contiguous Dyads Only, Based on the Estimated Coefficients in Table III, Expressed as Percentages

With JOINREG:	
1. JOINREG, GROWTH, CAPRATIO, and INTERDEP at mean values; ALLIES equals 0	5.63%
2. Increase in INTERDEP of 1 SD; other variables at baseline values	2.36%
3. Increase in JOINREG of 1 SD; other variables at baseline values	5.21%
4. Increase in GROWTH of 1 SD; other variables at baseline values	4.04%
5. ALLIES equals 1; other variables at baseline values	3.32%
6. Increase in CAPRATIO of 1 SD; other variables at baseline values	1.71%
7. CAPRATIO equals 1; other variables at baseline values	6.03%
8. CAPRATIO equals 10; other variables at baseline values	5.91%
With DEMOCRATS:	
1. DEMOCRATS equals 0; GROWTH, CAPRATIO, and INTERDEP at mean values; ALLIES equals 0	6.24%
2. Increase in INTERDEP of 1 SD; other variables at baseline values	3.62%
3. DEMOCRATS equals 1; other variables at baseline values	1.33%
4. Increase in GROWTH of 1 SD; other variables at baseline values	4.71%
5. ALLIES equals 1; other variables at baseline values	3.96%
6. Increase in CAPRATIO of 1 SD; other variables at baseline values	0.95%
7. CAPRATIO equals 1; other variables at baseline values	6.94%
8. CAPRATIO equals 10; other variables at baseline values	6.73%

the contiguous subset. To assess Kant's formulation of liberal theory, we estimate the coefficients in the following equation:

$$(3) \quad \text{DISPUTE}_{ij,t} = \beta_0 + \beta_1 * \text{STABILITY}_{ij,t} + \beta_2 * \text{EXECUTIONS}_{ij,t} + \beta_3 * \text{CONSTRAINTS}_{ij,t} + \beta_4 * \text{GROWTH}_{ij,t} + \beta_5 * \text{ALLIES}_{ij,t} + \beta_6 * \text{CONTIG}_{ij,t} + \beta_7 * \text{CAPRATIO}_{ij,t} + \beta_8 * \text{INTERDEP}_{ij,t-1}$$

The results are presented in Table V. The political and economic variables are generally related to involvement in militarized disputes. Political stability and a respect for human rights – as indicated by the absence of politically motivated executions – are good predictors of peaceful international relations, though the relations are stronger in the complete set of cases. The benefits of a political system with institutional checks and balances are only evident when all politically relevant dyads are analyzed. The level of economic interdependence is closely associated with peace in both sets of cases. All the control variables prove to be significantly related to the likelihood of conflict.

The importance of interdependence is clearly indicated in Table VI, where the coefficients reported in Table V are used to estimate the likelihood that a dyad will be involved in a dispute under various conditions. In the full set of cases, the effect of increasing interdependence on the likelihood of conflict is only slightly greater than

the consequences of adjusting the structural and normative measures; but the difference is substantially larger among the contiguous pairs of states. For this war-prone group, an increase of one standard deviation in INTERDEP reduces the probability of involvement in a dispute from 4.58% to 2.33%; the effects of increasing STABILITY (4.00%) or CONSTRAINTS (4.44%) or decreasing EXECUTIONS (3.99%) are more modest.¹⁵ The pacific benefits of interdependence are also greater than those connected with ALLIES or GROWTH among bordering states.

Kant's theses regarding the liberal peace imply, of course, that democracies will constrain their leaders, have nonviolent norms of conflict resolution, and be economically interdependent. He was correct on all points. Joint democracy is very significantly associated with the dyadic measures of regime stability, executive constraints, economic interdependence, and inversely with political executions; but when JOINREG is regressed on these measures of Kant's 'democratic' virtues, the adjusted R^2 is only 0.12. Regressing DEMOCRATS on STABILITY, EXECUTIONS, CONSTRAINTS, and INTERDEP in a logistic analysis confirms that the democratic dyads have the peace-producing virtues in abundance. Nevertheless, structural and normative constraints on the use of force are not strictly limited to demo-

Table V. Estimated Coefficients for Models of Involvement in Militarized Disputes, 1950–85

Variables		Eqn 3 All Politically Relevant Dyads	Eqn 3 Contiguous Dyads Only
STABILITY	β	-.0448	-0.0265
	SE β	0.0154	0.0162
	p	.004	.10
EXECUTIONS		0.189	0.178
		0.047	0.059
		<.001	.002
CONSTRAINTS		-0.0114	-0.00225
		0.0040	0.00481
		.004	.64
GROWTH		-0.149	-0.196
		0.025	0.031
		<.001	<.001
ALLIES		-0.400	-0.530
		0.115	0.128
		<.001	<.001
CONTIG		1.12	
		0.12	
		<.001	
CAPRATIO		-0.00431	-0.00817
		0.00090	0.00345
		<.001	.02
INTERDEP		-6.04	-12.4
		2.00	3.3
		.003	<.001
Constant		-3.19	-2.05
		0.13	0.14
		<.001	<.001
Chi ²		360.46	134.05
P of Chi ²		<.0001	<.0001
Log likelihood		-1892.63	-1044.91
N		17,068	5.548

cratic states. In short, there is, for the reasons Kant articulated, a democratic peace; but non-democracies, *to the extent they share Kant's democratic virtues*, can also enjoy the pacific benefits.

5. Interdependence, Democracy, and Peace

The classical liberals believed that democracy and free trade would reduce the incidence of war. In this article, we conducted new tests of the 'democratic peace', incorporating a measure of interdependence based on the economic importance of bilat-

eral trade. This allowed us to offer a simultaneous evaluation of the liberals' political and economic prescriptions for peace. As in Maoz & Russett (1993), we controlled for several potentially confounding influences. Our logistic regression analyses of politically relevant dyads (1950–85) indicate that the pacific benefits of interdependence have not been sufficiently appreciated. This is especially apparent in the analyses of contiguous pairs of states, where the potential for conflict is greatest. Countries that share a border have more issues, particularly territorial, over which to fight; and their proximity makes armed conflict feasible. Economic interdependence significantly counteracts these influences.

Given these results and those of Domke (1988) and Mansfield (1994), future research should consider both the economic and political dimensions of the liberal peace, rather than continue to focus on political regimes alone. Barbieri's (1994) finding, that trade concentration increased the likelihood of militarized disputes among dyads in the pre-World War II, indicates that the influence of trade on international conflict must be investigated further. It will be important to clarify the conditions under which interdependence is beneficial. Future research must also explore further the reciprocal relationship between conflict and interdependence. We lagged our measure of interdependence and included the change in interdependence over three years in an effort to isolate the effect of trade on conflict, but certainly causal influences go both ways. A system of simultaneous equations is one way to assess the relative strength of these effects (Kim, forthcoming; Mansfield, 1994; Polachek, 1992). The need to study conflict from the perspective of political economy is also clearly indicated by the consistently strong relationship we have found between growth rates in per capita GDP and dyadic peace.

Additional research on the effect of political regimes on the likelihood of conflict is also warranted. Our dichotomous measure of joint democracy is closely associated with peace in all our analyses; but the continuous measure is generally insignificant when

Table VI. Probabilities of Involvement in a Militarized Dispute, 1950–85, Based on the Estimated Coefficients in Table V, Expressed as Percentages

All Politically Relevant Dyads:	
1. STABILITY, EXECUTIONS, CONSTRAINTS, GROWTH, CAPRATIO, and INTERDEP at mean values; ALLIES and CONTIG equal 0	0.53%
2. Increase in INTERDEP of 1 SD; other variables at baseline values	0.41%
3. Increase in STABILITY of 1 SD; other variables at baseline values	0.44%
4. Decrease in EXECUTIONS of 1 SD; other variables at baseline values	0.47%
5. Decrease in CONSTRAINTS of 1 SD; other variables at baseline values	0.46%
6. Increase in GROWTH of 1 SD; other variables at baseline values	0.40%
7. ALLIES equals 1; other variables at baseline values	0.36%
Contiguous Dyads Only:	
1. STABILITY, EXECUTIONS, CONSTRAINTS, GROWTH, CAPRATIO, and INTERDEP at mean values; ALLIES equals 0	4.58%
2. Increase in INTERDEP of 1 SD; other variables at baseline values	2.33%
3. Increase in STABILITY of 1 SD; other variables at baseline values	4.00%
4. Decrease in EXECUTIONS of 1 SD; other variables at baseline values	4.06%
5. Increase in CONSTRAINTS of 1 SD; other variables at baseline values	4.44%
6. Increase in GROWTH of 1 SD; other variables at baseline values	2.95%
7. ALLIES equals 1; other variables at baseline values	2.75%

interdependence is also in the regression equation. Moreover, this relationship is weakest among contiguous pairs. Our confidence in a democratic peace would have to be tempered, as Gleditsch (1992) has noted, if the pacific influence of democracy were strong only above a high threshold. Nevertheless, Kant and the other liberals were essentially correct about the benefits of democracy. Peace is more likely when societies have adopted nonviolent norms of conflict resolution, executive authority is constrained by a system of checks and balances, and intertwined commercial interests make conflict uneconomical. Certainly, democracies are the chief exemplars of these qualities; but they are not exclusively associated with this form of government. Morgan & Campbell (1991) and Morgan & Schwebach (1992) are notable for having appreciated that some other types of political institutions, too, may exhibit these peace-producing virtues.

Our findings support a favorable prognosis for international relations. There has been a dramatic increase in the number of democracies since the end of World War II. If they continue to proliferate, even societies that retain some traditional institutions of government may increasingly adopt structures and norms conducive to peace. Interdependence, too, has grown

among our set of politically relevant countries over the postwar years, especially among the contiguous pairs of states. Continuing integration and expansion of the European Union, approval of the North American Free Trade Agreement and conclusion of the Uruguay round of negotiations are among the indications that this trend may persist. More fundamentally, the technologies that facilitate international communication and transportation continue to advance. The pacific effects of interdependence provide more reason than ever, therefore, to believe that Hobbesian anarchy is being reconstructed to reflect liberal values (Russett, 1993). This is not idealism. As Kant (1991 [1795], p. 112) observed, peace does not depend upon our becoming angels as long as even devils can calculate.

NOTES

1. Rivalry over trade, too, may lead to war (Levy & Ali, 1995).
2. Keohane & Nye (1989) seem agnostic. They note that force is less useful in the contemporary era but are cautious in downgrading its importance (pp. 250–252); and they emphasize other pacifying influences (pp. 28–29).
3. Pollins (1989a, b), Gowa & Mansfield (1993), and Gowa (1994) also show that trade is influenced by conflict and potential conflict as indicated by the structure of alliances.

4. Thus, Germany and Japan are not included among the major powers. Particularly in the early postwar years, their restraint in using military force was enforced by the victorious allies. Our decision to include only non-contiguous dyads involving the 'major powers' allows us to assess the importance of interdependence using the same set of countries as Maoz & Russett (1993). As noted there, the politically relevant dyads account for only 12% of all dyads but 74% of disputes.
5. We have made our data available through the Inter-university Consortium for Political and Social Research so that others may replicate and build upon our analyses.
6. We use dispute involvement as our dependent variable, rather than the highest level of hostility reached in a dispute, because of doubts about the ordinality of the latter measure. Many uses of force, e.g., the seizure of a fishing vessel, are less serious than a threat to initiate general war. We did, however, repeat our tests using ordered logit analysis and the highest hostility level; the results were quite consistent with those reported. Also, Barbieri (1994) suggests counting only the first year of a dispute, arguing that conflict in a subsequent year is not an independent event. We assume that, given its importance, decision-makers continually re-evaluate their decision to engage in conflict; but using her coding rule does not substantially alter our findings.
7. Rudolph Rummel (1994) and James Lee Ray (pers. comm.) propose that a simple summation of regime scores is a superior measure for testing the democratic peace because JOINREG confounds the degree of democracy in a dyad with the political distance between the states. Replacing JOINREG with the sum of REG_i and REG_j (or, transformed to eliminate negative values, their geometric mean) does not, however, change the results reported in the next section appreciably.
8. Omitting the cases set to zero does not significantly affect our results.
9. Pearson's *r* for STABILITY and JOINREG is 0.07 and for EXECUTIONS and JOINREG -0.19. Nor are the normative and structural variables highly correlated. Pearson's *r* for STABILITY and CONSTRAINT is 0.04; EXECUTIONS and CONSTRAINT, -0.14; and STABILITY and EXECUTIONS, -0.04.
10. Of course, some regimes maintain power by violently suppressing political opposition, so in some instances longevity will be an indicator of successful tyranny rather than legitimacy, public acceptance, and the prevalence of peaceful conflict resolution; but on one point at least liberals, socialists, and Marxists agree: The majority will ultimately prevail over a dictatorial few. On balance, then, the persistence of regimes should be a valid normative measure. Our results suggest this is the case.
11. In a subsequent paper, we plan to use the distance between states in place of the simple contiguity measure, as Gleditsch (1995) has urged.
12. We added INTERDEP² to Equation 1 but, contrary to de Vries (1990) and Barbieri (1994), we found no

evidence that a high level of interdependence increases the likelihood of conflict.

13. One reviewer noted that our cases are probably not stochastically independent, violating an assumption underlying logistic analysis, and suggested correcting the standard errors by multiplying each one by a scale factor equal to the square root of the model's mean deviance (Collett, 1991). This factor is, however, less than 1 for our analyses, because of the large number of cases, so the adjusted standard errors would be less, not greater than those reported. Consequently, we report the unadjusted standard errors in all cases.
14. In a subsequent paper, we report new analyses of the liberal peace using a specification consistent with Bueno de Mesquita & Lalman's (1992) international interaction game and Dixon's (1994) weak-link assumption. These tests provide stronger support for the democratic peace than a continuous measure of democracy, so differences between the analyses using JOINREG and DEMOCRATS should not be unduly emphasized.
15. Decreasing EXECUTIONS by a standard deviation actually produces a negative number, but this is unimportant for the purpose of comparing the relative effects of the independent variables.

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Appendix. Mean and Standard Deviation of Variables

	Mean	σ
DISPUTE	0.0271	0.162
JOINREG	2.72	25.8
DEMOCRATS	0.161	0.367
GROWTH	1.75	2.02
ALLIES	0.266	0.442
CONTIG	0.320	0.466
CAPRATIO	328	1770
INTERDEP	0.0220	0.0425
DINTERDEP	0.000225	0.0136
STABILITY	2.85	4.13
EXECUTIONS	0.426	0.647
CONSTRAINTS	19.7	13.8

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