

The Liberal Peace Revisited: The Role of Democracy, Dependence, and Development in Militarized Interstate Dispute Initiation, 1950–1999

MARK SOUVA

Department of Political Science, Florida State University, Tallahassee, Florida, USA

BRANDON PRINS

Department of Political Science, Texas Tech University, Lubbock, Texas, USA

We test a model of the liberal peace by examining the initiation of militarized interstate disputes at the monadic level of analysis from 1950–1999. Liberal peace theory contends that both economic dependence and democratic political systems reduce conflict propensities. Extant empirical analyses of the monadic liberal peace, however, are under-specified. First, the concept of economic dependence not only includes trade, but also foreign investment. Second, existing models do not control for the influence of economic development. Previous research on the monadic liberal peace has also failed to distinguish between the initiation of conflict and participation in conflict. We find evidence for a liberal peace: trade dependence, foreign investment, and democracy reduce a state's propensity to initiate militarized disputes.

KEYWORDS *conflict, liberal peace, trade openness, foreign direct investment*

A number of years ago, the *Economist* magazine lightheartedly noted that no two countries with McDonalds restaurants had so far fought a war. The reference to democratic peace research, which had increasingly received attention from policymakers and the media, was obvious. However, despite the *Economist's* whimsical commentary, the truth of the matter is that there is considerable evidence to suggest that economic interdependence does in fact contribute to more peaceful foreign policies. While the recent clash in the Balkans over Kosovo did pit McDonalds-loving countries against one

another, liberal economic policies flourish and continue to bring states closer together. Moreover, globalizers insist that technological advances, which allow for the dissemination of ideas and information as well as the movement of people and goods across national boundaries, continue to help make the use of military force less useful as a tool of statecraft (*Economist*, July 29, 1999).

Over the last half-century, international commercial transactions have increased to their highest level in world history. Understanding the effects of this economic interdependence is an important challenge for students of international relations. We argue that increased economic involvement in the world marketplace leads to more peaceful foreign policies. Indeed, we argue that economic dependence in international trade and foreign direct investment promotes peace by increasing the opportunity costs of conflict, thus deterring nations from military expansion. Commercial interests inside a state prefer peaceful strategies of conflict resolution to prevent losses in their global business transactions. Since a trading state is organized around these commercial interests, anything that jeopardizes their welfare harms the welfare of the ruling political elite. This type of political dependence dissuades leaders from pursuing militaristic foreign policies.

If commercial interests constrain leaders from pursuing militarily aggressive foreign policies, then a liberal peace does not necessarily depend on democratic norms or constraints. Rosecrance (1986) argues that peace results from the domestic focus of a state and the primary motivations to consider are not political but economic and military. States organized around trade and investment are peaceful, whereas states organized around the military are more prone to conflict. This argument holds several important implications. First, trade and investment may be as important, or even more important, than democratic norms and institutions to theories of a liberal peace. Second, the empirical referent for testing this argument is not the dyad, but the monad.¹ States dependent on the international market, not any specific state, are less likely to enter into militarized conflict with *any* state as conflict increases the cost of business for *all* trading and investment partners. When confronting a hostile state, commercial states are more likely to resolve the dispute short of militarized conflict because they emphasize negotiations and side payments. Third, this argument makes specific claims about the state most likely to initiate conflict. Although commercial states prefer to resolve disputes through diplomatic processes, their opponents may not similarly be inclined to come to the bargaining table. In

¹ We are not insisting that the monad is the only useful unit of analysis relevant for testing a liberal peace. But, we do think that theoretical explanations for a commercial peace are inherently monadic.

fact, militarily oriented states may prefer alternative means of conflict resolution, with more coercive tactics taking on a more prominent role.

Although there has been significant research in recent years on the relationship between trade and conflict, scholars have increasingly moved away from developing and testing monadic liberal arguments.² This paper addresses two shortcomings in the extant literature. First, previous research treats economic dependence only as trade. In contrast, we argue that modern international economic dependence is characterized as much by foreign investment as it is by the level of trade ties. Second, we explore the relationship between democracy and conflict initiation at the monadic level of analysis. The orthodox explanations for a democratic peace are inherently monadic and necessitate greater theoretical and methodological concern for conflict initiation, rather than just involvement.

The paper proceeds as follows. The first section presents a theory for why commercial dependence contributes to more peaceful foreign policies. The next section tests the hypotheses against the empirical record using recently released MID 3.0 data and an event-count specification (Ghosn and Palmer, 2003). The empirical record strongly supports the argument that commercial states initiate fewer militarized interstate disputes than other states. Both trade and financial investment are negatively related to conflict. We also observe that the impact of democracy is not dependent on economic development. In fact, we find evidence for a monadic democratic peace in the post-World War II era. The paper concludes with a discussion of the implications of this research.

ECONOMIC DEPENDENCE AND INTERSTATE CONFLICT

Following WWII, reductions in tariff rates helped facilitate large absolute welfare gains by increasing both global trade and foreign direct investment. The volume of global trade in goods and services is today over 16 times larger than in 1950, “while the world’s total output is only five-and-a-half times as big. The ratio of world exports to GDP has climbed from 7% to 15%” (*Economist*, November 8, 1997, p. 85). Equally important, “foreign investment in the past three decades has risen faster than trade and world output” (*Economist*, June 18, 1998). Recently, foreign investment has become the most important economic linkage between states. “Between 1986 and 1990 FDI outflows grew at an average annual rate of 28 percent and cumulative FDI stocks at a rate of 20 percent a year compared with a growth rate of world exports of 14 percent” (Dicken, 1998, p. 42).

² Hegre (2000) is an important exception.

These changes in the level of trade and investment indicate that nation-states are increasingly orienting themselves toward international commercial exchange and integrating into a system of rules and regulations that define acceptable foreign policy behavior. As states become more economically dependent on the international market, they are less likely to engage in militarized interstate conflict. Economic dependence promotes nonviolent conflict resolution by fostering domestic interests that prefer peace to conflict. In turn, these interests provide leaders with incentives to forego costly conflicts in favor of maintaining commercial ties and thus enhancing aggregate economic gains.

Global commerce constrains decision makers from pursuing militarily aggressive foreign policies by promoting peaceful interests within a state. In liberal systems the use of force is especially costly for political elites because commercial transactions lead to the development of interest groups that organize around protecting and enhancing economic self-interest. These interest groups inevitably pressure policymakers to avoid breaking political and economic relationships (Rosecrance, 1986). Trade and investment, then, reduce the likelihood of interstate conflict by helping to form interest groups that have a financial stake in maintaining a stable and cooperative political environment. Domke (1988) makes a similar argument. "Foreign trade," he writes, "produces a constraint on decisions for war through the growth of international, domestic, and governmental forces with a stake in open and unfettered foreign dealings [thus] the relevant indicator of foreign trade would measure an economy's involvement in trade" (Domke, 1988, p. 118). Rational elites undoubtedly recognize the potential political and economic costs for failing to support these important constituency groups through coercive foreign policy actions that destabilize commercial ties.

The opportunity cost arguments of Polachek (1980), Polachek, Robst, and Chang (1999), and Oneal and Russett (1997, 1999a, 1999b) are also anchored in domestic politics. "Fearful of the domestic political consequences of losing the benefits of trade," Oneal and Russett (1999b, pp. 4–5) write, "policymakers avoid the use of force against states with which they engage in economically important trade." Similarly, Polachek, Robst, and Chang (1999, p. 405) note that countries with the most dependence on international trade "face the highest costs of potentially lost trade and hence engage in the least conflict and the most cooperation." While the arguments of Polachek and his colleagues and Oneal and Russett emphasize dyadic trade, they are compatible with arguments linking commerce and peace at both monadic and systemic levels as well.

Commercial dependence promotes peaceful foreign policies by deepening political, social, and cultural contacts as well. As part of the growth of interstate trade, formal and informal rules and procedures have developed to help guide states in their decisionmaking and political bargaining (Keohane and Nye, 1989). Deutsch et al. (1957) offered a similar insight.

Complex interdependence helps mitigate violent conflict by fostering a sense of community or shared identity. Indeed, interdependence “cements bonds of friendship” by enabling governments to more effectively discern mutual interests (Barbieri and Schneider, 1999, p. 387). The end result, according to Buzan, Jones, and Little (1993) may be an attenuation in the structural effects of anarchy.

ALTERNATIVE ARGUMENTS ON ECONOMIC DEPENDENCE AND CONFLICT

While we emphasize the domestic roots of commercial dependence as a constraint on the use of force, an alternative argument emphasizes the informational properties associated with commercial interaction. In the informational perspective, uncertainty is central to conflict, a factor directly addressed by commercial exchange. The result of international trade, according to Hegre (2000, p. 5), is “improved communication between the inhabitants of the trading states. This reduces the chances of misunderstanding and helps to build institutions for the peaceful resolution of conflict.” Therefore, if uncertainty and deception contribute to the collapse of negotiations, then economic dependence can help state leaders anticipate the intentions and reactions of adversaries, reduce bluffing, and prevent bargaining breakdowns. Similarly, Keohane (1984, p. 245) alleges that international systems with institutional structures that produce valuable information are less conflict prone than international systems where these information-providing institutions are absent. Trade and foreign investment, then, may function as a medium for information exchange, allowing states to demonstrate resolve without resorting to military violence (Gartzke, Li, and Boehmer, 2001).³ While uncertainty and resolve may arguably condition strategic interactions, it is not clear that an informational argument applies at a monadic level of analysis, which remains the focus of the research here.

While the costs of disrupted trade and the influence of domestic interest groups suggest trade dependence promotes peace, a third factor, vulnerability, possibly exercises a countervailing force. Despite obvious absolute gains from increased global economic activity, commercial dependence may bode ill for peace between nations if it enhances a state’s vulnerability. This perspective emphasizes the anarchic nature of the international system and

³ Morrow (1999) questions the informational content of trade. The informational argument says trade can serve as a measure of a state’s resolve for war. That is, “the expectation is that resolve declines as trade increases, making war less attractive” (p. 485). Yet, if we consider a dyadic measure of resolve to be zero-sum, then a decrease in one side’s willingness to fight necessarily leads to an increase in the willingness of the other side. The result, Morrow (1999, p. 488) writes, is that “trade flows . . . have an indeterminate effect on the initiation and escalation of international conflict.”

goal of state security. Because the international system is anarchic and self-help (Waltz, 1979), states often emphasize relative gains. While all states may gain in the long run from an open international economic system, some states will certainly, if only for a short period of time, gain more than others. These relative gains produce a security externality (Gowa, 1989). A security externality occurs when a state uses the gains from trade to enhance its military prowess rather than for more peaceful purposes. In other words, since trade produces gains, "trade increases the potential military power of any country that engages in it" (Hirschman, 1980, p. 14). As a result, short-term asymmetries in wealth accumulation arguably compel states to distrust the positive effects produced by expanding trade and financial ties. In short, commercial dependence is not a panacea for the world's ills; in fact, it may increase a nation's vulnerability and increase the probability of conflict (Waltz, 1979).

Empirical Research

Empirical research assessing the effect of trade on conflict at the dyadic level remains somewhat mixed, although increasing evidence appears to support the peaceful effects of economic openness (see Oneal, 2003; Gartzke and Li, 2003). Oneal and Russett (1997, 1999a, 1999b), for instance, find that democratic political institutions and economic interdependence constrain the use of force between nations. They write, "interdependence and democracy contribute to what we have called the 'liberal peace'" (1999, p. 2). Dorussen (1999) also finds that trade tends to reduce interstate conflict, although the size of the state system additionally plays a role, with increases in the number of nations reducing the pacifying effects of trade ties. Other research, however, has cast doubt on the pacific benefits of commercial engagement. Beck, Katz, and Tucker (1998), for instance, reanalyze Oneal and Russett's 1997 work, and after controlling for temporal dependence, they find that trade is no longer associated with peace. Even more pointedly, Barbieri (1996) does not simply find a null relationship between trade and peace, she actually finds that "extensive economic interdependence increases the likelihood that dyads engage in militarized dispute" (p. 42).

Despite these divergent findings, recent empirical research essentially supports the pacific effects of economic openness, and the scholarly community appears to be moving away from Barbieri's (2002) position. Oneal (2003) continues to find that openness decreases conflict propensities, using all disputes and the more specific subset of fatal disputes. Oneal's results also do not depend on politically relevant dyads, but rather apply to the larger set of all dyadic cases too. Gartzke and Li (2003) further challenge Barbieri's findings by reanalyzing similar models of interdependence and conflict, but with controls for major power status and geographic distance. Trade openness continues to lower the probability of MID onset, while

Barbieri's measures of partner and economic dependence become statistically insignificant.

Interestingly, classical liberal arguments emphasize monadic reasoning. Yet, the commercial hypothesis has received very little testing at the state-level of analysis. Domke (1988) is the primary exception, and he finds support for trade dependence reducing the likelihood of conflict. Benoit (1996) also analyzes the liberal peace at a monadic level of analysis, and although he finds a positive relationship between democracy and peace, no relationship between economic dependence and peace is uncovered. Despite the observational differences between Domke (1988) and Benoit (1996), we still maintain that the monadic level of analysis represents an appropriate and under-explored avenue for research on the relationship between economic dependence and conflict.⁴ In particular, we believe Benoit's (1996) null finding is in part a result of not distinguishing between initiators and targets. We also insist that research on dependence and conflict must include a measure of foreign investment.

COMMERCIAL DEPENDENCE AND THE INITIATION OF MILITARIZED CONFLICT

Distinguishing initiators and targets provides a more nuanced and appropriate measure of inter-state conflict (see Huth and Allee, 2002). Indeed, research on the democratic peace suggests that democratic states may appear equally as conflict prone as nondemocratic states as a result of being frequently targeted by unconstrained autocratic regimes (see Rousseau, et al., 1996). If so, then democracy would be insignificant as an explanatory variable in monadic analyses. According to Maoz and Abdolali (1989, pp. 6–7), “politically free states may be more likely targets of international violence than nonfree states. A political elite of a nonfree state may calculate that its chances of getting its way in a dispute are higher if it picks on a politically free state.” Similar arguments apply to economic interdependence. High levels of trade may reduce conflict between nations, but do high levels of trade reduce a nation's overall propensity to initiate militarized conflict?

The directionality of conflict is important for drawing accurate inferences regarding the determinants of foreign policy decisionmaking (see Huth and Allee, 2002). Chan (1997, p. 68), for example, has insisted that “even though the role of initiator of violence does not necessarily mean the country in question is the aggressor in a particular conflict, it is still the most important discriminating indicator for examining the democratic peace

⁴ Maoz (1996) employs state-level reasoning and empirical analysis in his exploration of global change. While Maoz does not specifically address the relationship between economic interdependence and interstate conflict, his work does highlight the important impact state-level processes have on international politics.

proposition.” Fearon (1994), as well, has suggested that initiation is a salient distinction to make when investigating conflict proneness. His theoretical model predicts that democracies will be unlikely to make militarized demands. If we believe that certain factors influence whether military force is useful as a tool of statecraft, then analyses need to pay more attention to directionality. Similar to the effects of regime type, economic dependence should inhibit states from using military force. States with high levels of trade and investment are more likely to resolve conflicts of interest through diplomatic bargaining, because commercial interest groups, which suffer from breakdowns in political relations, require government elites to avoid incurring the economic costs that result from military confrontation.

RESEARCH DESIGN

To properly test any argument, we must determine the process that generates the observed data, which in this case is initiation of fatal militarized interstate disputes (MIDs). The dependent variable of interest is whether or not a fatal conflict (MIDs) was initiated by a nation-state in a given year. In terms of its data generation process, this dependent variable is defined by either the presence or absence of conflict in any given year. Given that the nature of this data generating process implies that the error term is unlikely to be normally distributed, we utilize a logistic specification to test our theoretical expectations. Such a model is chosen because a linear probability specification can produce nonsensical results. Theoretically, we want π_i (the probability of a conflict) to be constrained between 0 to 1. However, $x_i\beta$ is not so constrained and thus with a linear specification we can obtain results for π_i that fall outside of the 0 to 1 range. By transforming π_i using the logit, we avoid such out of bound results.

The interpretation of β , while similar to standard regression coefficients, must take into account the nonlinearity of the model. While the sign of the coefficient retains an analogous meaning, the effect of β depends upon where on the curve one is looking. β will naturally have a different effect on the $E[Y]$ depending on the value of x_i . The predicted probabilities presented later offer one tractable method for evaluating the substantive effects of the explanatory variables.

Although a logistic specification addresses the dichotomous nature of the dependent variable, it does not by itself address problems of temporal correlation. Given that we have pooled data, it is possible that values of some of the variables in one period are conditional on values in a prior period. To address this issue, we employ a general estimating equation (GEE). The GEE method is quasi-likelihood and emphasizes a population-averaged approach to estimation. In a recent review of GEE models, Zorn (2001, p. 475) notes that population-averaged models are “valuable for

making comparisons across groups or subpopulations.” Since the substantive focus of this research is on the general propensity of a state to initiate militarized interstate disputes, a population-averaged approach, such as GEE, is the most appropriate statistical method. In addition to harmonizing one’s statistical model to the substantive questions under investigation, the GEE approach allows the modeler to specify the within-group correlation structure for the panels. To address temporal dependence within the panels, we specify an AR (1) correlation structure.⁵

VARIABLES AND OPERATIONALIZATIONS

We are analyzing a state’s choice to pursue militarized conflict in the international arena, and our measure of this concept focuses on militarized interstate disputes (MIDs). MIDs encompass wars, but also include less extreme forms of conflict, including threats and displays of force and conflicts with less than 1000 casualties (Jones, Bremer, and Singer, 1996). Additionally, we noted that in a monadic analysis it is important to distinguish between participation in and initiation of MIDs. Leeds and Davis (1997) and Prins (2001) define initiators from the MID dataset based on the Side-A and Originator codings. An initiator is a state that is involved on the very first day of hostilities and is considered the first to militarize the dispute. The first state to militarize a dispute, however, is not necessarily the initiator of the dispute. We believe the MID “revisionist” variable is a better measure of initiation. The coders of the MID dataset based this “indicator of what constitutes a revisionist state on the prevailing status quo of the issues in dispute prior to the onset of any militarized action and recorded as revisionist the state or states that sought to overturn the status quo ante” (Jones, Bremer, and Singer, 1996, p. 178).⁶

In addition to the distinction between involvement and initiation, we analyze only militarized disputes resulting in at least one battlefield fatality. While there are 1088 MIDs over this period, there are only 230 fatal disputes. Wollenbæk, Gleditsch, and Hegre (2000, p. 984) insist that the use of casualty MIDs helps avoid both coding irregularities and “attention bias” on low-level disputes. Thus, fatal MIDs offer greater temporal and spatial consistency in the historical recording of these events. Plus, they avoid very low-hostility disputes that may not reach the attention of policymakers. We find that few countries initiate multiple fatal MIDs in any given year and as result we conclude that a logistic specification closely matches the observed data on the dependent variable.

⁵ For more detailed discussion of GEE models, see Zorn (2001) and Liang and Zeger (1986). Oneal and Russett (1999a and 1999b) also employ a GEE model with an AR (1) correlation structure. Further, the results do not change if we specify an AR (2) correlation structure.

⁶ The revisionist-initiation measure and the Side A-Originator-initiation measure correlate at .85. We also ran all models using the Side A-Originator measure, and the substantive results are the same.

The primary predictor concept of interest is economic dependence, which we measure in two ways: trade dependence and FDI dependence. Our commercial dependence theory explains that trading states are not simply those nations that have large absolute amounts of trade, but rather those states whose economies most depend on trade. Put differently, the emphasis on domestic welfare requires that one examine trade in relationship to its overall impact on the economy. The Penn World Tables provide such a measure with their variable *Openness* (Summers and Heston, 1991; Heston, Summers, and Aten, 2002). *Openness* is defined as the sum of a nation's imports and exports divided by gross national product. Similarly, we measure FDI dependence as the amount of FDI a state receives divided by its gross domestic product. Data on FDI comes from the World Development Indicators (World Bank, 2001).⁷

To the extent that a commercial peace is part of a broader liberal peace, it is important to control for the effects of regime type. While the dyadic evidence indicates that democracy reduces conflict propensities, the relationship between democracy and peace at the monadic level remains unclear. Maoz and Abdolali (1989), for instance, find that democracies engage in conflict as much as other regime types. However, Benoit (1996) observes that democracies fight fewer wars than other regime types. In Benoit's analysis, the relationship between democracy and war becomes insignificant when control variables are added. Leeds and Davis (1999) examine non-militarized international conflict at the nation-state level and find that democracy does contribute to more cooperation and less conflict. We use the Polity IV "Polity" variable to measure regime type (Marshall and Jaggers, 2000). This variable ranges from -10 to +10, which we recode into a dummy variable based on democratic peace arguments that distinguish between democracies and non-democracies, not between different levels of democraticness (see Chan, 1997). We code a state a democracy if it has a score of six or greater on the democracy index (see for example Dixon, 1994).⁸

Recent research suggests that the liberal peace may really be an economic development peace. Hegre (2000, p. 7), for instance, argues that "the liberal peace hypothesis may depend in part on the structure of the economies of the states in question." Similarly, Mousseau (2000, p. 473) writes that "the democratic peace may be limited to the prosperous market nations." Rosecrance (1986) also emphasizes the importance of domestic welfare. These arguments suggest that the pacifying effects of democracy, and perhaps commercial dependence, are due to an omitted variable: economic development. Accordingly, we control for economic development, which we measure as gross domestic product per capita. Data on GDP per capita comes from the

⁷ The bivariate correlation between openness and investment is only .27.

⁸ Partell and Palmer (1999, p. 396) use 5 as the cutpoint. We also ran all analyses using the continuous Polity measure and the substantive results remain the same.

Penn World Tables (Heston, Summers, and Aten, 2002). We further interact democracy and development to directly assess Mousseau's claim that the impact of democracy is limited to developed countries.

Next, the choice to use military force in world politics is clearly influenced by a state's military capabilities. You cannot use what you do not have, making militarily weak states less likely to initiate militarized conflicts. Benoit (1996) measures militarization as military personnel per capita. This measure, however, neither provides information on a state's military expenditures, which are a better indicator of a state's capabilities, nor does it adequately control for the size of a state. For instance, the small state of Tuvalu could have a large percentage of its populace under arms, yet it would still be a militarily weak state, owing to its small size. To better account for a state's military capabilities, we employ the Correlates of War Composite Capabilities Index (CINC). CINC measures each state's share of military personnel, military expenditures, energy consumption, iron and steel production, urban population and total population in the international system for each year. Then, the measure averages a state's strength across these six indicators. We also employ a dichotomous indicator for the major powers. Both capabilities and power status have been found to be significantly related to conflict involvement. Thus, to exclude the major power dummy would only invite model mis-specification.⁹

Another potentially important opportunity factor in analyzing conflict is the number of borders a state shares with other countries. Most conflicts occur over territorial disputes (Vasquez, 1993; Hensel, 2000). States with more neighbors, then, have a greater probability of having territorial conflicts. We control for this factor with our variable "neighbors," which is a count of the number of neighbors a state has. Data on neighbors comes from Stinnett, Tir, Schafer, Diehl, and Gochman (2002).¹⁰

EMPIRICAL RESULTS

Analysis of the initiation of fatal militarized interstate disputes for all members of the international system between 1950 and 1999 reveals strong support for our argument. As indicated in Table 1, trade dependence has a statistically significant and negative impact on the initiation of MIDs. The more dependent

⁹ The great powers include: U.S., France, U.K., China, and Russia, as well as Japan and Germany after 1990.

¹⁰ We also examined the relationship between satisfaction and conflict initiation. Following Lemke and Reed (1996), we measured a state's satisfaction with the international status quo using the similarity of a state's alliance portfolio with the alliance portfolio of the system leader. The idea is that states with similar alliance portfolios have similar foreign policy preferences, and thus less reason to pursue changes to the status quo. For the entire period under analysis, the system leader is the United States. Unfortunately, these data do not extend up through the year 1999. In analyses using the MID 2.1 data, however, satisfaction was typically unrelated to conflict initiation.

TABLE 1 Commercial Dependence and Initiation of Fatal MIDs

Variable	Model A: 1950–1999	Model B: 1970–1999
Trade Dependence	–.0093*** (.0036)	–.0082** (.005)
FDI	—	–.090** (.046)
Democracy	–1.14*** (.401)	–.848** (.493)
Economic Development	–.0002*** (.00006)	–.0002** (.00008)
Dem * Development	.0001* (.00007)	.0001 (.00009)
CINC Score (Capabilities)	10.93*** (4.13)	30.29*** (8.87)
Major Power	.043 (.633)	–1.68* (1.08)
Number of Neighbors	.110*** (.032)	.064* (.041)
Constant	–3.07*** (.329)	–3.04*** (.437)
N	4586	3271

Note: Standard errors in parentheses. P-values are based on one-tailed significance test. ***p < .01; **p < .05; *p < .10.

a state's economy is on international trade, the less likely it is to opt for military conflict against other states. To provide an indicator of the substantive influence, we calculate changes in the predicted probability of initiating a fatal dispute (see Table 2). After establishing a baseline model where continuous variables were set at their mean value and dichotomous variables were set at zero (their modal category), we determined the change in the probability of initiation by adjusting each variable to a value one-standard deviation above its mean, or for dichotomous values by switching it from zero to one. As indicated in Table 1, a one-standard deviation increase in trade dependence decreases the incidence of fatal dispute initiation by about 34 percent.

We also find support for a monadic democratic peace, the effects of which increase with higher levels of development. For average levels of development over the period 1950–1999, democracies were less likely to initiate fatal militarized disputes than other regime types. Indeed, democratic regimes are about 37 percent less likely to initiate fatal militarized disputes given an average level of GDP per capita (approximately \$6,500). Importantly, though, as development increases, the pacific effects of democracy increase as well. The probability of a fatal MID initiation by a democracy with low development is approximately .017. For developed democracies, the probability is closer to .009, which is nearly a 50 percent decrease in the probability of initiation. For nondemocracies at low levels of

TABLE 2 Predicted Probabilities for Fatal MID Initiation

Variables	Predicted Probability Model A	Predicted Probability Model B
Trade Dependence	-33.81%	-30.08%
FDI	—	-32.83%
CINC Score (Capabilities)	+29.64%	+78.65%
Number of Neighbors	+42.89%	+20.71%
Democracy and Low Development	-14.56%	-23.83%
Democracy and Mean Development	-36.63%	-47.92%
Democracy and High Development	-54.12%	-65.35%

Note: Marginal effects are based on a one-standard deviation increase above the mean for continuous variables (Trade Dependence, Economic Development, CINC, Neighbors) and a change from zero to one for dichotomous variables (democracy, major power).

development, the probability of MID initiation is over two and a half times higher than for democracies. However, for developed nondemocracies, the likelihood of initiation drops to about the same level as democracies. Like Hegre (2000) and Mousseau (2000), then, we find that economic development generally exerts a pacifying effect on foreign policy behavior. Importantly, the impact of development applies to nondemocratic states as well democratic ones. The probability of fatal MID initiation decreases as level of development increases even for nondemocracies.

Further, the evidence does not support Mousseau's (2000) contention that only developed democracies demonstrate restraint in their foreign policies. Although the results in Table 1 show democracies to be more peaceful than nondemocracies at average levels of development, the probability differences actually decrease as development increases. At low levels of development, democracies are nearly 200 percent less likely to initiate fatal disputes as nondemocracies. However, at higher levels of development this difference disappears. The probability of conflict initiation is nearly indistinguishable at per capita incomes near \$10,000. Amazingly, though, at income levels higher than \$10,000 the likelihood of dispute initiation actually is higher for democratic states than for nondemocratic states. It appears that development exerts a powerful effect on nondemocratic states in particular.

Table 2 presents the heart of our analysis. We now include an additional measure of commercial dependence: foreign direct investment. We have argued that a weakness in previous research is to measure commercial dependence solely in terms of trade. Given the growth in foreign direct investment over the last thirty years, this is a potentially serious shortcoming. Because of data limitations on foreign direct investment, this analysis covers the period 1970 to 1999. The results reported in Table 2 support the argument that commercial dependence in both trade and foreign direct investment reduces the likelihood of a state initiating a fatal militarized dispute. Both variables (foreign direct investment and trade dependence) are

statistically significant and negatively related to conflict initiation. Further, the substantive impact of FDI is equivalent, if not slightly larger, than trade dependence. A one-standard deviation increase in foreign direct investment reduces the probability of fatal MID initiation by 33 percent. A similar change in trade reduces the likelihood of dispute initiation by about 30 percent. Importantly, though, trade dependence still exerts a strong effect on a state's conflict propensity and it remains statistically significant despite the inclusion of FDI.

Table 2 continues to show support for a monadic democratic peace as well. For average levels of development, the probability of fatal MID initiation decreases by 46 percent for democratic states. As in Table 1, increases in development decrease conflict propensities. For democratic states, the probability of MID initiation drops from .018 to .008 as development increases from one standard deviation below the mean to one-standard deviation above the mean. Further, we can safely reject Mousseau's (2000) claim that the democratic peace is limited to the developed world. In fact, democracy has a stronger pacific effect on underdeveloped states than developed ones. Although the interaction of democracy and development no longer reaches statistical significance in Table 2, the predicted probability of dispute initiation remains higher for democracies than nondemocracies at the highest levels of development. So again we observe that development decreases conflict propensities for both democratic and non-democratic states, but also that the impact of high levels of development remains larger for nondemocracies.

In both Table 1 and 2 the control variables generally perform as expected. The more borders a state shares with other countries, the more likely it is to initiate conflict. In Table 1, a one standard deviation increase in a state's neighbors increase the likelihood of conflict by over 40 percent, while a similar change to the variable in Table 2 increases conflict initiation by over 20 percent. While the impact is cut in half in the second model, contiguity still plays an important role in increasing conflict propensities. We also as expected find that stronger states are more likely to initiate disputes than weaker states. Indeed, a state's composite index of national capabilities strongly increases the likelihood of dispute initiation. In Table 1 and 2, a one standard deviation increase in capabilities increases the predicted probability of fatal MID initiation by 30 percent and 79 percent respectively. National power clearly provides the opportunity for states to use force and it may also provide the willingness as well.

CONCLUSION

The second leg of the Kantian peace rests on economic interdependence. According to Russett, Oneal, and Davis (1998, p. 441), Kant's vision of perpetual

peace included a “commercial spirit of trade and economic interdependence [that] would reinforce structural constraints and liberal norms by creating transnational ties that encourage accommodation rather than conflict.” While republican regimes help constrain elites through institutional structures and the rule of law, trade and foreign direct investment establish commercial ties that constrain leaders from pursuing militarily aggressive foreign policies, and the associated market instability that accompanies military action. Furthermore, trade naturally creates substate interest groups that have a stake in maintaining an open international economic system. The use of military force not only jeopardizes market persistence, but future trade and capital investment requires an expectation of collaboration rather than conflict.

For most of the classical liberals as well as for some modern theorists like Rosecrance, and contrary to most research analyzing their arguments, the effects of economic interdependence are not limited to dyadic relationships. Correspondingly, we evaluate their argument at a monadic level of analysis. Our study reveals that economic dependence significantly reduces the likelihood that a state will initiate a fatal militarized dispute. In addition, this research contributes to the democratic peace research program by conducting the first large-scale examination of the effects of democratic regimes on the initiation of disputes. Democracies are not only unlikely to engage other democracies in militarized disputes, but are also more peaceful in general. Complementing the research of Hegre (2000) and Mousseau (2000), we also find that economic development reduces the likelihood of initiating militarized disputes. But, we do not find the effects of democracy to be limited only to more developed states. The effect of democracy does increase with development; however, the direct pacifying effects of democracy and development remain. In fact, the effects of high levels of development seem stronger for nondemocratic states than democratic ones.

In conclusion, this research provides support for the existence of a monadic commercial peace. While we advance a domestic constraints argument to explain this phenomenon, we cannot rule out an alternative liberal argument emphasizing the informational properties associated with commercial exchange. Future research might not only explore more comprehensive measures of economic interdependence, such as by including foreign aid flows, foreign loans, and cultural ties, but also tests that help distinguish informational from domestic constraints arguments would help to explain better the commercial peace. Scholars might also follow Maoz (1996) and model the regional and systemic effects of economic interdependence, as well as the possible reciprocal impact militarized conflict has on openness.

REFERENCES

- Barbieri, Katherine (1996). “Economic Interdependence: A Path to Peace or a Source of Interstate Conflict.” *Journal of Peace Research*, Vol. 33, No. 1, pp. 29–49.

- Barbieri, Katherine (2002). *The Liberal Illusion: Does Trade Promote Peace?* Ann Arbor, MI: University of Michigan Press.
- Barbieri, Katherine and Gerald Schneider (1999). Globalization and Peace: Assessing New Directions in the Study of Trade and Conflict. *Journal of Peace Research*, Vol. 36, No. 4, pp. 387–404.
- Beck, Nathaniel, Jonathan N. Katz, and Richard Tucker (1998). “Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable.” *American Journal of Political Science*, Vol. 42, No. 4, pp. 1260–1288.
- Benoit, Kenneth (1996). “Democracies Really Are More Pacific (in General).” *Journal of Conflict Resolution*, Vol. 40, pp. 636–657.
- Buzan, Barry, Charles Jones and Richard Little (1993). *The Logic of Anarchy: From Neorealism to Structural Realism*, New York, NY: Columbia University Press.
- Chan, Steve (1997). “In Search of Democratic Peace: Problems and Promise.” *Mershon International Studies Review*, Vol. 41, pp. 59–91.
- Deutsch, Karl W., et al. (1957). *Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience*, Princeton, NJ: Princeton University Press.
- Dicken, Peter (1998). *Global Shift: Transforming the World Economy*. London: Paul Chapman.
- Dixon, William J. (1994). “Democracy and the Peaceful Settlement of International Conflict.” *American Political Science Review*, Vol. 88, No. 1, pp. 14–32.
- Dorussen, Hans (1999). “Balance of Power Revisited: A Multi-Country Model of Trade and Conflict.” *Journal of Peace Research*, Vol. 36, No. 4, pp. 443–462.
- Domke, William K. (1988). *War and the Changing Global System*. New Haven, CT: Yale University Press.
- Economist The* (November 8, 1997). “Trade Winds.”
- Economist The* (June 18, 1998). “The World as a Single Machine.”
- Economist The* (July 29, 1999). “The Thing that Won’t Go Away: Why the State Stays the Basic Unit.”
- Fearon, James (1994). “Domestic Political Audiences and the Escalation of International Disputes.” *American Political Science Review*, Vol. 88, pp. 577–592.
- Gartzke, Erik and Quan Li (2003). “All’s Well that Ends Well: A Reply to Oneal, Barbieri and Peters.” *Journal of Peace Research*, Vol. 40, No. 6, pp. 727–732.
- Gartzke, Erik, Quan Li, and Charles Boehmer (2001). “Investing in the Peace: Economic Interdependence and International Conflict.” *International Organization*, Vol. 55, No. 2, pp. 391–438.
- Ghoshn, Faten and Glenn Palmer (2003). “Codebook for the Militarized Interstate Dispute Data, Version 3.0.” Online: <http://cow2.la.psu.edu>.
- Gowa, Joanne (1989). “Rational Hegemons, Excludable Goods, and Small Groups: An Epitaph for Hegemonic Stability Theory.” *World Politics*, Vol. 41, No. 3, pp. 307–324.
- Hegre, Håvard (2000). Development and the Liberal Peace: What Does It Take to be a Trading State?, *Journal of Peace Research*, Vol. 37, No. 1, pp. 5–30.
- Hensel, Paul (2000). Territory: Theory and Evidence on Geography and Conflict. In *What Do We Know About War?* ed. John Vasquez. New York: Rowman and Littlefield.
- Heston, Alan, Robert Summers and Bettina Aten (2002). Penn World Table Version 6.1, Center for International Comparisons at the University of Pennsylvania (CICUP). <http://pwt.econ.upenn.edu/>.

- Hirschman, Albert O. (1980) [1945]. *National Power and the Structure of Foreign Trade*. Berkeley, CA: University of California Press.
- Huth, Paul K. and Todd L. Allee (2002). *The Democratic Peace and Territorial Conflict in the Twentieth Century*, Cambridge: Cambridge University Press.
- Jones, Daniel M., Stuart Bremer and J. David Singer (1996). "Militarized Interstate Disputes, 1816–1992: Rationale, Coding Rules, and Empirical Patterns." *Conflict Management and Peace Science*, Vol. 15, pp. 163–213.
- Keohane, Robert (1984). *After Hegemony: Cooperation and Discord in the World Political Economy*, Princeton, NJ: Princeton University Press.
- Keohane, Robert O. and Joseph S. Nye (1989). *Power and Interdependence*, Glenview, IL: Scott, Foresman.
- Leeds, Brett Ashley and David R. Davis (1997). "Domestic Political Vulnerability and International Disputes." *Journal of Conflict Resolution*, Vol. 41, No. 6, pp. 814–834.
- Leeds, Brett Ashley and David R. Davis (1999). "Beneath the Surface: Regime Type and International Interaction, 1953–78." *Journal of Peace Research*, Vol. 36, pp. 5–21.
- Lemke, Doug and William Reed (1996). "Regime Type and Status Quo Evaluations: Power Transition Theory and the Democratic Peace." *International Interactions*, Vol. 22, No. 2, pp. 143–164.
- Liang, K. and S. Zeger (1986). "Longitudinal Data Analysis Using Generalized Linear Models." *Biometrika*, Vol. 73, pp. 13–22.
- Maoz, Zeev (1996). *Domestic Sources of Global Change*, Ann Arbor: University of Michigan Press.
- Maoz, Zeev and Nasrin Abdolali (1989). "Regime Types and International Conflict, 1816–1976." *Journal of Conflict Resolution*, Vol. 33, pp. 3–35.
- Marshall, Monty and Keith Jaggers (2000). Polity IV Project: Political Regime Characteristics and Transitions, 1800–1999. <http://www.bsos.umd.edu/cidcm/polity/>
- Morrow, James (1999). "How Could Trade Affect Conflict?" *Journal of Peace Research*, Vol. 36, pp. 481–489.
- Mousseau, Michael (2000). Market Prosperity, Democratic Consolidation, and Democratic Peace. *Journal of Conflict Resolution*, Vol. 44, No. 4, pp. 472–507.
- Oneal, John R. (2003). "Measuring Interdependence and Its Pacific Benefits: A Reply to Gartzke and Li." *Journal of Peace Research*, Vol. 40, No. 6, pp. 721–726.
- Oneal, John R and Bruce M. Russett (1997). "The Classical Liberals Were Right: Democracy, Interdependence, and Conflict, 1950–1985." *International Studies Quarterly*, Vol. 41, pp. 267–294.
- Oneal, John R. and Bruce Russett (1999a). "Assessing the Liberal Peace with Alternative Specifications: Trade Still Reduces Conflict." *Journal of Peace Research* Vol. 36, No. 4, pp. 423–442.
- Oneal, John R. and Bruce Russett (1999b). "The Kantian Peace: The Pacific Benefits of Democracy, Interdependence, and International Organizations." *World Politics*, Vol. 52, p. 1.
- Partell, Peter J. and Glenn Palmer (1999). "Audience Costs and Interstate Crises: An Empirical Assessment of Fearon's Model of Dispute Outcomes." *International Studies Quarterly*, Vol. 43, No. 2, pp. 389–405.
- Polachek, Solomon W. (1980). "Conflict and Trade." *Journal of Conflict Resolution*, Vol. 24, pp. 55–78.

- Polachek, Solomon, John Robst, and Yuan-Ching Chang (1999). "Liberalism and Interdependence: Extending the Trade-Conflict Model." *Journal of Peace Research*, Vol. 36, No. 4, pp. 405–422.
- Prins, Brandon. 2001. "Domestic Politics and Interstate Disputes: Examining U.S. MID Involvement and Reciprocation, 1870–1992." *International Interactions*, forthcoming.
- Rosecrance, Richard (1986). *The Rise of the Trading State*, New York: Basic Books.
- Rousseau, David L., Christopher Gelpi, Dan Reiter, and Paul K. Huth (1996). "Assessing the Dyadic Nature of the Democratic Peace, 1918–1988." *American Political Science Review*, Vol. 90, pp. 512–533.
- Russett, Bruce, John Oneal, and David Davis (1998). "The Third Leg of the Kantian Tripod for Peace: International Organizations and Militarized Disputes, 1950–1985." *International Organization*, Vol. 52, No. 3, pp. 441–467.
- Stinnett, Douglas M., Jaroslav Tir, Philip Schafer, Paul F. Diehl, and Charles Gochman (2002). "The Correlates of War Project Direct Contiguity Data, Version 3." *Conflict Management and Peace Science*, Vol. 19, No. 2, pp. 58–66.
- Summers, Robert and Alan Heston (1991). "The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950–1988." *The Quarterly Journal of Economics*, Vol. 106, pp. 327–368.
- Vasquez, John (1993). *The War Puzzle*, Cambridge: Cambridge University Press.
- Waltz, Kenneth (1979). *Theory of International Politics*. Reading, Mass: Addison Wesley.
- Wollebæk, Hans Petter, Nils Petter Gleditsch, and Håvard Hegre (2000). "Shared Rivers and Interstate Conflict." *Political Geography*, Vol. 19, pp. 971–996.
- World Bank (1997). World Development Indicators CD-ROM.
- Zorn, Christopher J. (2001). General Estimating Equation Models for Correlated Data: A Review With Applications. *American Journal of Political Science*, Vol. 45, No. 2, pp. 470–490.

Copyright of International Interactions is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.