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**ESSAYS ON INTERDEPENDENCE, INSTITUTIONS, AND INTERNATIONAL
CONFLICT**

By

Mark Anthony Souva

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
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Department of Political Science

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ABSTRACT

ESSAYS ON INTERDEPENDENCE, INSTITUTIONS, AND INTERNATIONAL CONFLICT

By

Mark Anthony Souva

How does economic interdependence influence the prospects for peace between nations? While much has been written on the nexus between trade and conflict, we lack a comprehensive argument and analysis of the relationship between different types of trade, foreign direct investment, and international conflict. I develop an analytical model and empirically test hypotheses from the model on the relationship between strategic and non-strategic commodities, foreign direct investment and militarized conflict. I argue that trade interdependence does not always promote peace between nations. The effects of interdependence are conditional on the type of goods traded and the political relationship between states. Specifically, non-strategic trade interdependence and foreign direct investment promote peace, while strategic trade interdependence between nations lacking political affinity enhances the likelihood of dyadic conflict. This dissertation also extends the interdependence argument to state level behavior by linking economic dependence to the initiation and targeting of militarized interstate disputes. I argue that militarized states dependent on importing strategic commodities are more likely than other states' to initiate militarized disputes. Similarly, weak states with strategic resources are more likely to be targets of militarized disputes. I also find support for a monadic democratic

peace. Democracies, in general, are more peaceful than other nations, even when controlling for economic development. In a final essay, I argue that assessing the similarity of states' political and economic institutions is central to evaluating their satisfaction with the status quo, and, in turn, the likelihood of conflict between nations. In addition to the previously confirmed pacific effects of political institutional similarity, I find that states with similar economic institutions are less likely to fight each other.

**Dedicated to
my parents, Henry and Alice, and my brother, Mike.**

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Introduction

“The globalization system,” writes Thomas Friedman, “has one overarching characteristic: integration” (Friedman, 1999: 111). More specifically, “globalization” refers to two specific developments in the post-World War II international environment. The first development is an increase in economic interconnectedness between states. Economic interdependence has increased because the system leader, the United States, has established a market oriented economic system. Interdependence has also increased because of advances in the communication and transportation industries. Technological improvements in the areas of telecommunications, aviation, and shipping have lowered the cost of conducting trade with firms in other states. The second development is the spread of liberal political and economic institutions. By establishing democratic political institutions and economic institutions that protect private property, states are able to take full advantage of international markets. The adoption of liberal political and economic institutions is also encouraged by the United States. With the fall of the Soviet Union firmly ensconcing the United States as the dominant state in the world and the already tangible benefits of economic interconnectedness, the process of globalization is likely to continue.

While much has been written on globalization, in general, and the relationship between trade and conflict, we lack a comprehensive argument and analysis of the relationship between different types of trade, foreign direct investment, and international conflict. We also lack a full analysis of the

relationship between political and economic institutions and interstate dispute onset. I address these issues in a series of three essays (Chapters 2, 3, and 4). While each essay is self-contained, a focus on globalization and interstate conflict unites them. In chapter 2, I advance a conditional theory of economic interdependence. I argue that the effects of trade interdependence on the likelihood of interstate conflict vary with the type of commodity traded and the political relationship between countries. Trade in non-strategic commodities contributes to peace between states. However, trade in strategic commodities between states lacking political affinity increases the likelihood of conflict, whereas trade in strategic commodities between states with similar foreign policy preferences strengthens pacific motivations. Further, I contend that foreign direct investment contributes to international peace and stability. In chapter 3, I apply these arguments to state level behavior. I argue that, in general, economic dependence on international trade and investment makes states less likely to initiate militarized disputes, but dependence on trade makes states more likely to become targets of disputes. These relationships are also conditional. The pacifying influence of trade dependence varies with the commodities on which a state is economically dependent and its level of militarization. Military states dependent on importing strategic commodities are more likely than other states to initiate militarized interstates. Relatedly, producers of strategic commodities are more likely to be attacked by other states. In chapter 4, I argue that the similarity of economic and political institutions in a dyad contributes to satisfaction with the status quo. As a result, dyads with similar institutions are

less likely to experience militarized conflict. In short, this dissertation examines the nexus between globalization and international conflict. In the next section, I provide an overview of each chapter and preview the empirical findings.

In chapter 2, I develop an analytical model of economic interdependence and international conflict that disaggregates dyadic trade into strategic and non-strategic commodities and includes foreign direct investment. This analytical model addresses two extant weaknesses in the literature on economic interdependence and conflict. First, current research tends to treat all trade the same. No distinction is made between trade in strategic commodities like oil and non-strategic commodities like textiles. Yet, existing theoretical arguments suggest the need for disaggregating trade into strategic and non-strategic commodities. Liberal theories, for example, argue that interdependence enhances the prospects of peace between nations by increasing the opportunity costs of conflict, strengthening normative ties, and providing an additional means to signal clearly one's intentions. Realist theories counter that all types of trade interdependence are not the same. Interdependence in non-strategic commodities likely has no effect on the likelihood of conflict between states. However, interdependence in strategic commodities is likely to increase the risk of dyadic conflict. Similarly, McMillian (1997: 53) writes: "If trade in strategic goods creates conflict, it would support the realist hypothesis, but it would not necessarily undermine the arguments and expectations of liberalism if trade in other types of goods tends to inhibit conflict." Strategic and non-strategic trade are likely to have different effects on conflict behavior because they differentially

affect a state's vulnerability. Since states aim to reduce their vulnerability on others, strategic trade interdependence may increase the likelihood of conflict between states. More importantly, models and empirical tests that do not disaggregate trade into strategic and non-strategic commodities are not modeling and testing the appropriate arguments.

Other researchers have made similar observations. Morrow, Siverson, and Taberas state that if we are to express confidence in our empirical findings on trade and conflict, it is necessary to use "lower levels of analysis than aggregate trade flows" (1998: 659). Perhaps most importantly, Reuvany and Kang (1998), in the only research to study disaggregated trade, finds that the trade and conflict relationship depends on the goods traded. Given this variation across goods, he notes that there is a "need to use disaggregated trade data in future research" (Reuvany, 1999: 37).

A second weakness in the current literature on economic interdependence and conflict is that economic interdependence is defined exclusively in terms of trade. While trade is an important feature of economic interdependence, globalization has increased the flow of foreign direct investment more than trade. *The Economist* notes that "foreign investment in the past three decades has risen faster than trade and world output" (Economist, June 18, 1998). Similarly, the United Nations Conference on Trade and Development finds that "foreign direct investment jumped 27 percent in 1999 to reach an all-time high" (Foreign Policy, 2001). Studies of economic interdependence that ignore foreign direct investment are likely to have biased results due to an omitted variable problem.

From the analytical model, I derive propositions on the relationship between strategic trade, non-strategic trade, foreign investment and interstate conflict. In brief, I argue that political leaders want to retain their hold on power. To stay in power, leaders need to balance domestic welfare and international security goals, for a failure in either area can reduce a leader's tenure in office. International commerce contributes to domestic wealth, giving political leaders an incentive to engage in trade. International conflict, however, increases the risk and costs of economic transactions. As such, international conflict reduces the amount of trade between nations. Dyads with the most trade, then, face the greatest costs from interstate conflict. However, dependence on strategic commodities from a hostile regime enhances the vulnerability of a leader's hold on power. To protect their positions in power, leaders strive to reduce their vulnerability making strategic trade interdependence with adversarial states a source of conflict. Foreign direct investment, on the other hand, always reduces the likelihood of conflict between states. Like trade, foreign direct investment enhances domestic wealth. However, unlike strategic trade it does not enhance vulnerability nor does it provide an incentive for conquest. While trade can be shut off quickly, foreign investments typically take the form of fixed assets in another country. In addition, foreign direct investment is a form of "extracting" wealth from another nation; thus, high levels of foreign direct investment also reduce the potential benefits of conquest.

I empirically test these hypotheses by examining the onset of militarized interstate disputes for all dyads in the international system over the period 1970

to 1992. The empirical evidence supports the propositions of the analytical model. Non-strategic trade interdependence and foreign direct investment reduce the likelihood of a militarized interstate dispute occurring. Strategic trade interdependence, however, increases the likelihood of conflict between states lacking political affinity, but strengthens peaceful motivations between states with similar preferences. The arguments and findings concerning the conditional effect of strategic trade and the pacific effects of foreign direct investment are especially noteworthy. The central question countering arguments linking economic interdependence with peace is the outbreak of World War I. This research helps address the apparently anomalous case of the First World War. First, economic interdependence does not guarantee peace, but it does increase the prospects for peace. Second, the arguments advanced here suggest that we should have expected conflict between European nations prior to World War I given their high level of strategic trade interdependence and lack of political affinity. Third, while the major European powers did exhibit high levels of trade interdependence, there was little foreign investment between them. The growth of foreign investment is what sets modern economic interdependence apart from previous forms of interdependence.

In chapter 3, I draw on the work of Richard Rosecrance (1986, 1999) and argue that nations choose one of two paths to promoting domestic wealth: territorial aggrandizement or commercial transactions. States centered on political-military interests emphasize territorial aggrandizement and pursue militarily aggressive foreign policies. In contrast, states focused on commercial

interests emphasize exchange and pursue more peaceful foreign policies. As states focus on exchange, they become more economically dependent on international commerce in terms of both trade and investment. In turn, economic dependence increases the opportunity costs of conflict, thus encouraging state leaders to pursue more peaceful foreign policies.

As before, these arguments concerning the peaceful effects of economic engagement are conditional on the type of goods traded. Militarized states importing strategic commodities are more likely than other states to initiate militarized disputes. Similarly, less developed states exporting strategic commodities are more likely to be targets of militarized disputes. These arguments concerning the differential and conditional effects of trade are important modifications to extant arguments that simply suggest all trade contributes to peace in all circumstances.

The theoretical arguments and empirical tests in chapter 3 emphasize states, instead of dyads. This is important since many arguments on economic dependence and conflict emphasize state level behavior. The difficulty with state level arguments on international conflict is that conflict requires two or more actors. To properly evaluate these hypotheses, I examine initiated and targeted, rather than participation in, militarized interstate disputes from 1970 to 1992. The empirical evidence indicates that trade dependence on non-strategic commodities and foreign direct investment reduces the initiation of militarized disputes, whereas militarized states dependent on importing strategic commodities increases the likelihood of aggressive foreign policies. Likewise,

resource rich poor states are more likely than other states to be the targets of militarized disputes. Perhaps most important, I find that foreign direct investment reduces both the likelihood of a state initiating a dispute and the likelihood that a state will become the target of a militarized dispute.

I also find significant differences between developed democracies and developed autocracies. Specifically, developed democracies are less likely to initiate disputes, though developed nations, in general, are more likely to initiate disputes. Put differently, this analysis uncovers a monadic democratic peace in the post-World War II period. After controlling for development, interdependence, and global reach, democracies are still less likely than non-democracies to initiate militarized interstate disputes.

In chapter 4, I turn attention to the second effect of globalization, the spread of liberal institutions. The research question under investigation is whether or not similar political and economic institutions reduce the likelihood of conflict between states? I argue that foreign policy preferences are a reflection of a state's institutions. Thus, states with similar political and economic institutions are likely to have similar foreign policy preferences. When states share similar preferences, they are satisfied with the status quo. An additional question arises at this point. Is satisfaction best conceived at the dyadic or the systemic level? I create measures of satisfaction for both levels and let the data speak.

After conducting an empirical analysis of economic and political institutional similarity and the onset of militarized interstate disputes, I conclude

that institutional similarity, at both the dyadic and systemic levels of analysis, reduces the likelihood of conflict. As expected, dyads with similar institutions have less to fight over, so they fight less. I also examine the relationship between economic and political institutional similarity and different types of conflict. Does institutional similarity reduce the likelihood of all types of militarized disputes or are some types of disputes more likely with institutional similarity than other types of disputes? I find that the strongest influence of institutional similarity, whether in its political or economic form, is on reducing the likelihood of disputes over regime changes. I also find that economic institutional similarity tends to reduce the likelihood of territorial disputes more than political similarity. This last finding is positive news given the adoption of market institutions around the world, especially in China. Standard correlates of war might suggest the United States and China are heading for conflict over Taiwan, a territorial dispute. As China becomes more economically similar to the United States, however, this research suggests that military conflict becomes less likely.

Political pundits like Thomas Friedman note that globalization is “shaping the domestic politics, economic policies, and foreign relations of virtually every country” (Friedman, 1999: 110). Further, Friedman contends that globalization is a positive development in terms of contributing to peace between nations. In contrast, I argue that the effects of globalization are less straightforward. Foreign direct investment, non-strategic trade, and economic institutional similarity contribute to peace between nations. Each of these forces contributes to peace because they align the foreign policy preferences of states. Yet, when

preferences are dissimilar and a source of tension exists, such as trade in strategic commodities, economic interdependence may increase the likelihood of conflict between states. In summary, this dissertation fills important gaps in the extant research on globalization and international conflict.

Chapter 2

Disaggregated Trade, Foreign Direct Investment, and Interstate Conflict

Since the end of World War II, and especially in the last twenty years, the world has become increasingly economically interdependent. This growing economic interdependence between nations is often referred to as globalization. For theorists of international relations and foreign policymakers, a pressing question about globalization concerns its effects on international conflict and cooperation. Will increased economic interdependence contribute to peace between nations or will it exacerbate tensions and contribute to increased hostility and conflict?

Some international relations scholars argue that interdependence promotes peace. Oneal and Russett, for example, claim that “policymakers avoid the use of force against states with which they engage in economically important trade” (Oneal and Russett, 1999a: 4-5). They argue that conflict disrupts trade; therefore, trade promotes peace by increasing the costs of conflict. Other scholars argue that economic interdependence enhances the likelihood of conflict between states. Kenneth Waltz, for instance, writes that “interdependence hastens the occasion for war” (1979: 138). For Waltz, anything that increases vulnerability increases the prospects for militarized conflict, and extensive economic linkages increase a state’s vulnerability by making it more dependent on other states. From Waltz’s realist perspective, all trade is not the same; the various *types* of trade do not generate equal amounts of vulnerability.

Rather, "dependence on the importation of *strategic* goods increases the likelihood of conflict, since countries tend to pursue aggressive expansionist policies to ensure the supply of such goods" (Uchitel, 1993).

I argue that to more accurately evaluate the effects of economic interdependence on international conflict it is necessary to both disaggregate trade into strategic and non-strategic categories and to consider the effects of foreign direct investment (FDI). Over-aggregating trade is both theoretically and empirically unsound.¹ Theoretically, it does not afford an accurate assessment of the realist argument. Empirical evidence also indicates that the relationship between trade and conflict differs across commodities (Reuvany and Kang, 1998). Economic interdependence also involves more than trade alone; thus, studies that omit foreign direct investment may have biased results. While trade flows have increased threefold in the last thirty years, foreign direct investment has increased sixfold (Economist, June 18, 1998). Further, with FDI a state is already "extracting" economic benefits from another state, so FDI decreases the potential benefits of conquest. Despite their importance, we lack a theoretical model of economic interdependence and conflict that includes strategic trade, non-strategic trade, and foreign direct investment. We also lack an empirical analysis of the relationship between different types of trade, foreign direct investment, and interstate conflict.

In the next section, I review the literature on economic interdependence and conflict. This review indicates that previous studies have over-aggregated

¹ Other scholars have also called for the disaggregation of trade (see McMillian, 1997; Reuvany, 1999; and King and Zeng, 2001).

trade and neglected the impact of foreign direct investments. In the third section, I incorporate strategic trade, non-strategic trade, and foreign direct investment into an analytical model of economic interdependence and conflict. This model is an extension of Polachek's (1980) path-breaking work in this research area. From the model, I derive hypotheses that non-strategic trade and foreign direct investment should reduce conflict between nations, while the effect of strategic trade on the likelihood of conflict between nations is conditional on the political affinity of the two nations. In the fourth section of the paper, I present an empirical model to evaluate the hypotheses both from the analytical model of section three and from contending explanations. In the fifth section of the paper, I present the results of the empirical analyses. This is the first large-scale empirical study of disaggregated trade and conflict and the first study to analyze both different types of trade and foreign direct investment. The findings support the hypotheses of the analytical model, and are robust to a number of alternative specifications. In a final section, I discuss implications of this research and suggest avenues for future research.

Literature Review

This section reviews the extant literature on interdependence and conflict in order to illuminate the conceptual relationships between interdependence and conflict and reveal the areas that need further attention. Theoretical explanations linking economic interdependence to international conflict fall into two categories: liberal and realist. Liberal explanations emphasize the normative and constraining forces associated with interdependence, and conclude that these

forces enhance the prospects for peace between nations. Realist explanations emphasize the vulnerability created by interdependence, and conclude that in a self-help, anarchic system such vulnerability fosters insecurity and conflict.

Liberal Arguments

Liberal theories linking economic interdependence to international conflict emphasize connectedness and costs. "Free trade," according to David Hume, "is the vital principle by which the nations of the earth are to become united in one harmonious whole."² According to John Stuart Mill, commerce produces harmony and renders "war obsolete, by strengthening and multiplying the personal interests which are in natural opposition to it" (Mill, 1848: 582).

Other classical political philosophers like the Baron de Montesquieu emphasize the costs of disrupting trade as peace enhancing.

"Peace is the natural effect of trade. Two nations who traffic with each other become reciprocally dependent; for if one has an interest in buying, the other has interest in selling; and thus their union is founded on their mutual necessities" (de Montesquieu, 1900: 316)

Relatedly, Norman Angell argues that trade produces greater benefits than conflict. "The great danger of the modern world is not absolute shortage, but dislocation of the process of exchange, by which alone the fruits of the earth can be made available for human consumption" (1912: 31).

Modern theorists also emphasize the costs of trade. Anchoring his analysis in economic theory, Polachek (1980) argues that states want to maximize their social welfare. Since conflict disrupts trade, it reduces a nation's

² Quoted in Burton, 1946: 521.

welfare and should be avoided. "If conflict leads to a cessation or at least a diminution of trade (perhaps through tariffs or quotas), then countries with the greatest gains from trade face the highest costs of potentially lost trade and hence engage in the least conflict and the most cooperation" (Polachek, Robst, Chang, 1999: 405). Rosecrance (1986) notes that the relationship between trade and conflict is dependent not only on the utility of trade but also on the utility of war. According to Rosecrance, the choice between conflict and war "depends upon the cost and benefit of waging war on the one hand and engaging in trade on the other. The greater the restraints on trade and the fewer its likely benefits, the more willing nations have been to seek to improve their position through military force" (1986: 31).

Realist Arguments

Realist explanations revolve around the nature of the international system and the goal of states. For realists, the international system is anarchic, and therefore self-help. The primary goal of states is security (or power). To determine the effect of intervening variables like economic interdependence, one examines how they impact security in such an environment. In general, realists conclude that in an anarchic environment "interdependence hastens the occasion for war" (Waltz, 1979: 138). Interdependence is harmful as it compromises self-reliance, thus making a nation more vulnerable. Vulnerability, in turn, generates insecurity thereby pushing leaders into taking aggressive actions to alleviate their vulnerability.

The anarchic nature of international politics and the pursuit of security are not the only reasons economic interdependence enhances vulnerability. In an anarchic environment, nations must focus not only on their security, but also on relative gains. "Relative gains sensitivity is affected by the political-military relationship between the nations involved, the offense-defense balance, and system structure" (Lieberman, 1996: 148). While interdependence via trade may always produce absolute gains, it may also lead to a relative loss. In Gowa's terms (1989) such a loss is a negative security externality. The gains from trade may be used for any purpose, thus trade "increases the potential military power of any country that engages in it" (Hirschman in Baldwin, 1985: 211). As a result, nations should be more likely to trade with allies than adversaries.

Trade may not only produce a security externality, it may also lead to conflict by enhancing rivalry and enmity between nations. The driving force behind international trade is comparative advantage, which encourages a certain amount of specialization in order to maximize profit. Whether or not it is economically accurate, policymakers typically perceive international economics as a competition between states. When trade is viewed as a competition between states, it can lead to interstate rivalry and even militarized conflict. Prestowitz (1988) and Reich (1991), for example, use the idea that economics is a competition between states to advocate government subsidization of industries they view as "strategic," such as semiconductor manufacturers. In a self-help system where nations are concerned about security, an industry is perceived as having a multiplier effects, and a premium is placed on national champions, then

"trade conflict bodes ill for peace, since highly interdependent nations might be tempted to regain lost markets and resources by force" (Lieberman, 1996: 148).

Whether or not nations trade is a choice, and when evaluating any choice we must consider the alternatives. Anderton, Anderton, and Carter (1999) note that economic exchange may bring benefits, but so does appropriation. In fact, if leaders believe appropriation will produce greater benefits than exchange, then nations will pursue expansionistic policies. "The promise of capturing economic benefits from conquered territory historically has been a significant motivating force for war," writes Brooks; such "wars of conquest still occur, as Iraq's recent invasion of Kuwait amply demonstrates" (Brooks, 1999: 646). Expressing the view of economic nationalists, Rotte (1997) argues that "war can be profitable, since, by territorial expansion, it can not only secure new markets, resources, and commercial supremacy, but also contribute to a country's industrialization and production potential" (Rotte, 1997: 10).

The strategy of appropriation is most likely to occur when strategic goods are involved. "A nation's economy is particularly dependent on imports of goods for which demand is highly inelastic and domestic production is extremely inefficient, especially those that have multiplier effects on the whole economy" (Lieberman, 1996: 154). For Lieberman, when strategic goods are involved, nations are especially apt to focus on relative gains, thus increasing the likelihood of conflict. Put differently, since trade in strategic goods creates greater vulnerability than trade in non-strategic goods, this former type of trade increases the likelihood of conflict.

Empirical Research

In recent years, scholars have conducted a number of empirical tests of the economic interdependence, conceived almost exclusively in terms of trade, and conflict relationship. Polachek's seminal 1980 article is one of the first empirical tests of the relationship between trade and interstate conflict. He examines thirty states over a ten year period and finds that trade reduces conflict. In subsequent work, Polachek and his associates have expanded the empirical analysis to about a hundred states over a thirty year time period (1992; Polachek, Robst, and Chang 1999; Gasiorowski, 1986). In each of these analyses, the central dependent variable is net conflict, which is a function of acts of cooperation and conflict, while the central independent variable is dyadic trade as a percentage of gross domestic product. All of these studies find that higher levels of trade are associated with lower levels of conflict.

Domke (1988) conducts a monadic analysis and examines a much longer period, 1871-1975, than the Polachek research group. He also uses a different dependent variable. Polachek and Gasiorowski use the COPDAB database to construct an index of cooperation, whereas Domke examines the number of wars a country participated in. He also finds that trade promotes peace. Mansfield (1994) conducts a systemic investigation of the relationship between trade and conflict and finds that the amount of trade in the international system is inversely related to the amount of war in the system.

In recent years, several researchers have conducted large-N dyadic analyses of economic interdependence and conflict. In a series of articles on the

liberal peace, Oneal and Russett and their colleagues assess the relationship between dyadic trade as a percentage of gross domestic product and militarized interstate disputes (1997, 1999a, 1999b). They consistently find that trade decreases the likelihood of a militarized interstate dispute occurring.

The findings of Oneal and Russett have not gone unchallenged. Barbieri (1996) examines all dyads between 1870 and 1938, uses militarized interstate disputes as her dependent variable and finds that trade does not promote peace. Similarly, Beck, Katz, and Tucker (1998) have called into question the early findings of Oneal and Russett. They argue that Oneal and Russett's research suffers from a methodological problem, namely that in large cross-section time-series analyses one needs to control for temporal dependence. When they replicate Oneal and Russett's work, while controlling for temporal dependence between observations, they find that trade is no longer associated with peace.

A third group of researchers emphasize the potential endogeneity of both trade and conflict. Reuvery and Kang (1998) find a reciprocal relationship between conflict and bilateral trade. In some of the sixteen dyads they analyze, conflict causes trade, while in other dyads, trade causes conflict. More importantly, Reuvery and Kang (1998) is the only study to date that analyzes disaggregated trade, and they find that different types of goods have different relationships to conflict. Gartzke, Li, and Boehmer (2000) also argue that trade and conflict are both endogenous. One important implication of this argument is the relationship between trade and peace. If dyads that should be trading are not trading, then we should expect to see more conflict between them. Indeed,

Reuvany and Kang find that higher levels of trade are associated with lower levels of conflict. Gartzke, Li, and Boehmer (2000) is also significant because they include foreign direct investment under the rubric of economic interdependence. In fact, they find that foreign direct investment has a greater pacifying influence than dyadic trade.

This brief review of the literature reveals three important points. First, the effects of trade on international conflict are not clear. Some scholars argue that trade promotes peace, while other scholars suggest trade promotes conflict. Reuvany contends that the competing empirical claims regarding the relationship between trade and conflict may be the result of omitted variables (1999: 30).

Second, except in one study, researchers have treated all trade as if there were no differences between commodities. Given realist arguments regarding the importance of particular types of goods, this is an important limitation to previous studies. "In addition, despite the extant research that emphasizes the nature of the goods being traded. . .we still have little knowledge about whether trade in certain types of goods has a significant impact on conflict. If trade in strategic goods creates conflict, it would support the realist hypothesis, but it would not necessarily undermine the arguments and expectations of liberalism if trade in other types of goods tends to inhibit conflict" (McMillan, 1997: 53). Reuvany also notes that not considering variation in the type of goods traded is a central weakness in the current research program.

Third, almost all previous research has narrowly operationalized economic interdependence as trade, ignoring the importance of foreign direct investment. I

argue that this over-aggregation of trade and the omission of foreign direct investment is both unnecessary and results in an inaccurate empirical examination of the relevant theories. In the next section I develop a theory of economic interdependence and interstate conflict that incorporates both trade in different types of goods and foreign direct investment.

The Model and Hypotheses

While the focus of this research is on the political relationship between states, the primary factors driving international trade and investment are economic. To this end, I posit an expected utility model grounded in economic theory.

First, I assume state leaders are rational, unitary actors. These assumptions are common to both the liberal and realist perspectives. The assumption of rationality means leaders have preferences over alternative outcomes, they can compare these preferences, and order them in a transitive manner. Put differently, the assumption of instrumental rationality means leaders have goals and they attempt to attain these goals.³ Treating states composed of many bureaucracies and people as unitary actors is a plausible assumption when the focus is foreign policy decision-making. "In these situations, most, if not all, modern states formally confer on a single individual the choice to invoke force"

³ In the realm of foreign policy, where the stakes of a decision are high, this assumption is highly plausible. In addition, the instrumental rationality assumption "is the only general assumption of decision making available. Any other assumption requires detailed, actor-specific information to make behavioral predictions" (Lake, 1999: 40). For a more thorough discussion of this assumption, see Bueno de Mesquita, 1999, and as it applies to states, see Bendor and Hammond, 1992.

(Bueno de Mesquita and Lalman, 1992: 26). Plus, this assumption does not preclude competing domestic interests (Huth, 1996: 36).⁴

Given that firms, not states, conduct trade and investment, it may seem problematic to employ a unitary actor assumption. Governments, however, greatly influence the amount and type of business transactions that occur. First, governments establish the regulatory environment in which firms operate, and by extension the amount of business that is conducted. For instance, more commercial activity will occur in an environment that protects property rights than in an environment with non-secure property rights. In economic terms, greater protection of property rights lowers transaction costs, thereby facilitating the exchange of goods and capital. Second, governments may promote particular industries, or even firms. Governments promote specific industries by providing subsidies and tax breaks, and they do this for the political purpose of enhancing their hold on power. Subsidies and tax breaks, then, are another way that governments alter the costs of conducting business, and therefore influence the amount and type of trade that occurs both within and between states. In summary, while the state is rarely an economic agent, when examining transactions aggregated at the state level it is useful to abstract to the state.

Next, I assume state leaders desire to remain in office (Bueno de Mesquita and Siverson, 1995; Bueno de Mesquita, Morrow, Siverson, and Smith, 1999). This assumption does not mean leaders only have a single goal. Rather, it suggests leaders are aware of the benefits of office, and the best way, typically,

⁴ The seminal defense of the unitary actor assumption is Bueno de Mesquita, 1981: 20-23. Bueno de Mesquita and Lalman (1992: 25-30) and Huth (1996: 35-36) also provide extensive discussions of the unitary actor assumption.

to attain their other policy goals is to remain in office. This assumption also highlights the importance of domestic political factors. Normally, when a leader loses political office it is the result of domestic forces. It is clear how this applies to democratic political systems, where elections determine one's time in office. The fall from power of Mikhail Gorbachev, however, shows its applicability in non-democratic political systems. This "office" assumption, then, anchors the argument in domestic politics.

Next, I assume that to stay in office leaders maximize a mix of domestic welfare and international security. Put differently, politicians optimize domestic welfare and international security in order to counter the two types of forces, internal and external, that may remove a leader from power. Leaders maximize domestic welfare as it is the most effective way to ward off domestic opponents. Lewis Beck (1988) has found extensive empirical support for the proposition that economic prosperity enhances a leader's tenure in office. It is worth noting that the wealth maximization impulse applies to both autocratic and democratic regimes and it does not require the equal distribution of income. Whether a leader bestows the state's wealth on a small number of key supporters or establishes a system in which the majority of people in a society benefits is irrelevant. Rather, the wealthier a state, in absolute terms, the more secure are the political leaders.

However, the maximization of domestic welfare is not done in a vacuum. Since external forces may also remove a leader from office, security considerations influence the pursuit of welfare. While economic interdependence

may always produce an absolute economic gain, it may also lead to a relative security loss. This may occur because the gains from trade may be used for any purpose; thus trade "increases the potential military power of any country that engages in it" (Hirschman in Baldwin, 1985: 211). Because of security externalities (Gowa, 1989), nations should be more likely to trade with allies than adversaries.

Based on Polachek (1980), I define an actor's political welfare function as $W(C, Z)$, where C represents total goods and services consumption and Z represents conflict toward a particular country. Further, I define C as a function of domestic consumption, investment, exports and imports. Specifically,

$$C = q - I - X_s - X_n + M_d + M_e \quad (1)$$

Where q represents domestic consumption, (I) denotes foreign direct investment in another nation, X_s and X_n signify strategic exports and non-strategic exports. and M_d and M_e stand for strategic and non-strategic imports. Essentially, equation 1 is the standard national income identity for an open economy, where C approximates a nation's gross national product (GNP). In turn, GNP measures the productivity, or wealth, of a nation. GNP works on the principle that all production must go someplace, so it measures how output is used. In most countries, domestic consumption, q , consumes most output. In an open economy, some output is sold to other countries, therefore exports are subtracted from the total goods and services consumption in a state. Similarly, output invested in another country, (I) , is also subtracted from the home state's consumption. Finally, some consumption originates from another country, thus,

imports are added to a state's goods and services consumption. This view of an actor's political welfare function specifically incorporates both domestic and international factors. Leaders may suffer politically for purely domestic reasons (e.g. weak domestic consumption) or from a combination of domestic and international factors (e.g. minimal investment in the economy or decreases in international trade).

This depiction of consumption differs from Polachek's (1980) in two ways. First, I include a term, (I) , to capture the effects of foreign direct investment. The inclusion of this variable is motivated by both economic and international relations theory. Economic interdependence between states is not limited to trade. It also involves foreign investment. "The point about FDI is that it is far more than mere "capital": it is a uniquely potent bundle of capital, contacts, and managerial and technological knowledge. It is the cutting edge of globalisation" (Economist, February 24, 2001).

Foreign investment may occur in one of two forms: portfolio investment or foreign direct investment. "Portfolio investments are holdings of stocks and bonds designed to earn dividends and interest rather than exercise control over the use of foreign facilities" (Kenen, 2000: 163). "Direct investments create, extend, or facilitate control over productive facilities in other countries. They are the building blocks of multinational enterprises. . ." (Kenen, 2000: 280). The difference in control over resources makes foreign direct investments a greater source of economic interdependence. Because it is a central part of economic

interdependence, I include foreign direct investment in the maximization calculations of states.

In addition, foreign direct investment modifies the willingness of a state to engage in conflict with another state. Brooks, for instance, writes: "In general, as a state is increasingly able to rely on multinational corporations (MNCs) to secure needed external resources and supplies, the overall willingness of that state to engage in conquest should decrease" (Brooks, 1999: 666). Indeed, it is interesting to note that although there were large portfolio investments between the major opposing European powers prior to World War I, the amount of direct investments was small.

The other difference between Polachek's model and the one presented here is that I disaggregate international trade into strategic and non-strategic categories. Both liberal and realist motivations encourage the disaggregation of trade, yet very little work has been done in this area. In the liberal perspective, dependence on trade creates a constraint on conflict. If some types of goods are more important, for example strategic goods, then they should create a greater dependence and thus decrease the likelihood of conflict. Realists also argue that some types of goods are more important than other types of goods. However, the vulnerability attached to dependence on strategic goods promotes aggressive foreign policies. Similarly, the argument of economic nationalists is that conflict may be beneficial if it involves regaining lost markets in strategic commodities. Finally, Reuvery (1999) has found that "the gains from trade vary across goods," suggesting an empirical foundation for disaggregating trade.

I also argue that interstate conflict decreases foreign direct investment and trade, thus making investment and trade functions of conflict. This assumption follows from two arguments. First, nations engaged in militarized conflict are unlikely to trade with or invest in the enemy.⁵ Second, conflict increases the risk, and thus the cost, of commercial transactions; as a result, profits decrease so firms will be less likely to pursue those markets. If these arguments are correct, then there should be less foreign investment in politically unstable areas, where the risk of conducting business transactions is high. Evidence on the patterns of foreign investment throughout the world supports this contention (see e.g. Sobel, 1999).

In addition, I assume the political welfare function is separable in C and Z ($W_{zc} = 0$),⁶ and that there is a positive, but diminishing marginal utility of consumption ($W_c > 0$ and $W_{cc} < 0$) and conflict ($W_z > 0$ and $W_{zz} < 0$). The assumption of a diminishing marginal utility implies that the gains from either consumption or conflict decrease as one achieves higher levels of consumption or conflict. For example, if a person is very thirsty, the utility of the first glass of water they consume is greater than the utility of the second glass of water.

Finally, all actors are subject to a balance-of-payments constraint. Inclusion of a balance-of-payments constraint highlights the ever present reality of limited resources, and it makes a state's domestic welfare subject to market forces. Put differently, without a balance of payments constraint, commercial

⁵ Barbieri and Levy (1999) find that nations at war may not completely cut their trade ties, though their analysis does suggest that conflict reduces trade.

⁶ Polachek, Robst, and Chang (1999) provide a clear discussion of this assumption. As they note, it is "primarily for ease of exposition" (fn 4).

actors in one state would not have to pay commercial agents in another state. I assume the following constraint:

$$R_I + PAX_s + Px_n - Pm_d - PAm_e = 0 \quad (2)$$

Because a state's balance of payments depend on revenue from investment and the prices of goods, not the quantity, equation 2 contains revenue and price terms, e.g. R_I represents the rate of return on a foreign investment, Px_n represents the price value of non-strategic exports. Essentially, this means a state's current account plus investment equals zero. Further, in light of the international security goal, it is necessary to modify the cost of strategic exports and imports by political factors. In other words, strategic goods involve both an economic and a political cost.

Given these conditions, an actor chooses a particular level of conflict, Z , that maximizes $W(C, Z)$ subject to the balance of payments constraint.

Therefore, an actor maximizes the following Lagrangian (L):

$$L = W(Z; q - I - X_s - X_n + M_d + M_e) + \lambda(R_I + Px_n + PAX_s - Pm_d - PAm_e) \quad (3)$$

Differentiating L with respect to conflict, Z , yields a set of first order conditions (FOCs) for optimal conflict.

$$\frac{\partial L}{\partial Z} = W'(Z; q - I - X_s - X_n + M_d + M_e) + \lambda[RI'(z) + X'_n Pn'(z) + X'_s PAs'(z) - M'_d Pd'(z) - M'_e PAe'(z)] \quad (4.1)$$

$$\frac{\partial L}{\partial \lambda} = RI(z) + X_n Pn(z) + X_s PAs(z) - M_d Pd(z) - M_e PAe(z) \quad (4.2)$$

In equilibrium, the marginal gains from conflict equal the marginal costs of conflict. Rearranging equation 4.1 shows the marginal gains from conflict are

W/λ , while the marginal costs of conflict are $[M'_d P_d'(z) + M'_e P_{Ae}'(z) - R I'(z) - X'_n P_n'(z) - X'_s P_{As}'(z)]$. Keeping in mind that P_d' and P_e' are positive, and $R I'$, P_n' , and P_s' are negative, it is clear that an increase in imports, exports, or investment increases the marginal costs of conflict, which in turn decreases the gains from conflict.

Taking the total differential of the FOCs yields a set of second order conditions, from which we can derive comparative static equilibria regarding the relationship between economic interdependence and conflict. First, I analyze the effect of a change in non-strategic exports on conflict by taking the total differential of the FOCs and using Cramer's rule on the resulting system of equations to solve for dZ/dX_n .

$$dZ/dX_n = \tag{5}$$

$$- [P_n(Z)] / [I \partial R/\partial Z (q - I - X_s - X_n + M_d + M_e) + X_s \partial P_s/\partial Z (q - I - X_s - X_n + M_d + M_e) + X_n \partial P_n/\partial Z (q - I - X_s - X_n + M_d + M_e) - M_d \partial M_d/\partial Z (q - I - X_s - X_n + M_d + M_e) - M_e \partial M_e/\partial Z (q - I - X_s - X_n + M_d + M_e)]$$

To determine the effect of an increase in non-strategic exports, one needs to find the sign of this fraction. Prices are always positive, but multiplying this by a negative makes the numerator negative. Assuming a well-behaved utility function, then the Hessian must be negative definite; thus, the principle minors alternate sign making the above second order conditions produce a positive denominator. The whole term is then negative. Thus, $dZ/dX_n < 0$.

Substantively, this means conflict decreases as non-strategic exports increase. Conflict decreases because an increase in non-strategic exports

produces a welfare gain. Using the same procedure, one can analyze the effect of a change in strategic exports, non-strategic imports, strategic imports, and foreign direct investment on conflict behavior. The results are as follows (see Appendix A for the derivations). States with the highest amounts of non-strategic trade, imports and exports, and investment have the most to lose from conflict; thus, high amounts of non-strategic trade reduce the likelihood of conflict occurring between states. The story is different with strategic commerce. With non-strategic commerce, welfare considerations dominate, but with strategic commerce both welfare and security considerations are important. Because high amounts of strategic trade with a likely adversary include a political cost, there is an incentive for conflict not present when the trading partner shares similar foreign policy views. Specifically, the comparative static derivations produce the following hypotheses:

Hypothesis 1: Dyads with high amounts of non-strategic trade are less likely to experience conflict than dyads with smaller amounts of non-strategic trade.

Hypothesis 2: Dyads with close political affinity and high amounts of strategic trade are less likely to experience conflict than dyads lacking political affinity with high amounts of strategic trade.

Hypothesis 3: Dyads with high amounts of foreign direct investment are less likely to experience conflict than dyads with smaller amounts of foreign direct investment.

To summarize, the above premises lead to the following expectations on economic interdependence and military conflict. First, non-strategic trade interdependence should decrease the likelihood of conflict in a dyad. Non-strategic trade reduces the likelihood of conflict by increasing the cost of conflict. The principle of comparative advantage informs that trade increases a state's

wealth, so trade is economically beneficial. However, flows of goods between states are influenced by a variety of factors, call these transaction costs, that influence the potential benefits of commercial exchange. Governments have an important influence over transaction costs. Militarized conflict, which is a government policy, increases the transaction costs of conducting commercial transactions, and thereby decreases the flow of goods; thus, states with the most non-strategic trade have the most to lose from conflict. If a sharp reduction of trade occurs, then a political leader's hold on power is weakened by the loss of state wealth. As a result, states with high amounts of non-strategic trade will aim to avoid costly conflict.

The story is different with strategic commerce. Trade in strategic commodities enhances the likelihood of conflict between states. Strategic and non-strategic trade interdependence have different effects because the question of whether or not trade interdependence promotes peace is tied to the question of whether or not conquest pays. Based on the premises above, it is clear that the expected utility of conflict varies based on the amount of trade, the type of trade, and the political affinity between the trading states. As discussed earlier, the disruption of non-strategic trade imposes a cost, thus lowering the utility of conflict and reducing the likelihood of conflict in a dyad. A disruption of strategic trade also imposes an economic cost, but this economic cost may be outweighed by political benefits. The political benefits of conflict with a strategic trading partner may outweigh the economic costs from the disruption of trade when the two states have dissimilar foreign policy preferences. Dissimilar foreign policy

preferences generate a potential security benefit that offsets the economic loss of trade. Importantly, the security benefit applies to both sides. The benefit for the importing state is to reduce the uncertainty of supply of the strategic commodities. If conflict creates a change in the political relationship either through conquest or a change in the exporting state's policies that reduces the importing state's vulnerability to disruption of the strategic goods, then the utility of conflict will be positive. Similarly, an exporting state may also desire conflict with a trading partner. While the exporting state benefits from the trade, it needs to bear in mind security externalities. If its trading partner has very different foreign policy preferences and it diverts the gains from trade to its military, then the exporting state may also want to curtail trade. In other words, the conflict benefit for the exporting state is to keep a potential adversary weak.

Finally, I expect that foreign direct investment promotes peace between nations. Foreign direct investment is a source for peace between nations for two reasons. First, foreign direct investment brings capital, financial and human, into a country, so like trade it enhances a state's economy and generates wealth. Since conflict reduces foreign direct investment, it will rarely pay, in terms of enhancing a leader's hold on power, to disrupt investment. Second, foreign direct investment promotes peace by reducing the benefits of conquest. Conquest is a method of extracting resources from a territory. But, foreign direct investment also permits an extraction of resources, and it enables the local population to benefit. In the limit, foreign direct investment eliminates any additional benefits that conquest may provide.

Research Design

The primary focus of this research is to investigate the relationship between economic interdependence and militarized conflict between states. To analyze the propositions of the analytical model, I specify the following regression model.

$$\text{MID Onset} = \alpha + \beta_1 \text{ Non-Strategic Trade} + \beta_2 \text{ Strategic Trade} + \beta_3 \text{ FDI} + \beta_4 \text{ Political Affinity} + \beta_5 \text{ Strategic Trade} * \text{Political Affinity} + \beta_6 \text{ Democracy} + \beta_7 \text{ Power Parity} + \beta_8 \text{ Allies} + \beta_9 \text{ Distance} + \beta_{10} \text{ Contiguity} + \beta_{11} \text{ Major Powers} + \epsilon$$

This general regression model includes the central theoretical variables (trade and FDI), a number of control variables, and a dependent variable that taps into international conflict. Each variable will be described in turn. (See Appendix B for a summary of the variables, operationalizations, and data sources.)

Population of Cases and Dependent Variable

While most research examining the relationship between interdependence and conflict examines politically relevant dyads, I choose to examine all dyads. Politically relevant dyads are dyads in which both states are contiguous or when one state in the dyad is a major power. Maoz and Russett (1993) argue that the set of politically relevant dyads is an appropriate baseline for empirical analyses as this is the set most likely to experience conflict. Non-politically relevant dyads, such as Belize and Sri Lanka, have little opportunity for conflict; therefore, they should be excluded. Lemke and Reed (2001) point out that an examination of

politically relevant dyads may enhance measurement error. After a thorough analysis of the MID dataset, they conclude that “relevant dyad status is an imperfect indicator of the opportunity for conflict. To the extent that the opportunity for conflict is an explicit or implicit part of our investigations, analysis of relevant dyads introduces measurement error” (Lemke and Reed, 2001: 132).⁷ Further, in the period under analysis advances in transportation make it very easy for non-politically relevant states to trade with each other. Therefore, to reduce problems of selection bias and measurement error, I analyze all dyads.

The dependent variable is whether or not a dyad experienced a militarized interstate dispute (MID) in a particular year,⁸ as such the unit of analysis is the dyad year. I drop from the analysis dyad-years in which a dispute is ongoing. Although Oneal and Russett (1999) have argued that the decision to continue a dispute is similar to the decision to begin a dispute, it is likely these two decisions are different. Decisions to continue a dispute must weigh sunk costs and the state of the campaign, while decisions to begin a dispute face greater uncertainty. I also drop from the analysis “joiner” states. “Joiners” are states drawn into a dispute either through alliance ties or as in an effort to aid one side of the dispute.

Data limitations on commodity trade and investment data restrict the empirical domain to the period 1970-1992. The above decision rules produce a dataset with 291,541 observations. Because of missing data, however, the empirical analyses only include 104,052 observations when the trade variables

⁷ They find that about 10% of all disputes occur in non-politically relevant dyads.

⁸ See Jones, Bremer, and Singer (1996) for a discussion of the MID data set.

are included and 64,922 observations when foreign direct investment is included. While Oneal and Russett (1997, 1999a, 1999b) assume dyads with missing trade data did not have any trade, I do not set values of missing trade or foreign direct investment equal to zero. When missing values are set equal to zero (analyses not reported here), the interdependence variables are always statistically significant.

Independent Variables

Unlike previous research, I emphasize the importance of distinguishing between strategic and non-strategic commodities. However, the distinction between strategic and non-strategic goods is not entirely clear. Arguing from a comparative advantage perspective, David Baldwin says that strategic goods are “anything that is needed to pursue a given strategy and that is relatively inefficient to produce at home” (Baldwin, 1985: 215). In other words, all trade is strategic trade. Although all trade is beneficial to a nation’s economy, some commodities are more important than other commodities in contributing to a nation’s security and welfare. Forland argues that “it must be emphasized that not every item is strategic even if it is produced inefficiently: it has to be supportive of the pursued strategy” (Forland, 1991: 197). Thus, NATO’s Coordinating Committee (COCOM) on exports to the Soviet Union did not include Coca-Cola as a strategic good, though it was inefficient to produce in the Soviet Union. Citing a Truman Administration report of 1948, Forland notes that the West’s export control lists included goods of both direct and indirect military

significance, and “commodities ‘the denial of which would affect strategic sectors of the economy of the Soviet bloc’ or ‘of considerable importance to the industrial potential of Eastern European countries” (Forland, 1991: 198). In general, then, strategic goods are products that significantly affect a nation’s military power or economic health.

Based on Forland, one may classify food, minerals, iron and steel, basic manufactures, and fuels as strategic commodities. Each of these products significantly affects a nation’s economy, and in particular its military strength. An army cannot fight effectively without food, fuel, small- and heavy-arms. Reuveny and Kang (1998) conduct a Granger causality analysis of disaggregated trade and conflict, and find that conflict between states significantly influences trade in minerals, fuels, iron and steel, and basic manufactures. They conclude that “such goods may now be viewed as strategic” (1998: 597). Based on their findings, they also argue that trade in food, beverages, tobacco, machines, and transport equipment may be considered “less strategic” (1998: 597). It is likely that these latter goods are “less strategic” because there are more substitutes for them. Because of substitutes, for instance, it is very difficult to starve a nation into submission. While this should not be considered a definitive statement on what types of goods are strategic and non-strategic, it does provide theoretical and empirical support for a particular classification.

To measure strategic and non-strategic trade, it is first necessary to identify the value of trade in different commodity groups. Using data from the National Bureau for Economic Research (NBER), I categorize all dyadic trade

into their single digit SITC categories.⁹ These categories include minerals, fuels, basic manufacturers, etc (see Table 1 for a complete listing of the categories). Based on the arguments above, I operationalize strategic trade as trade in SITC categories 2, 3, 6, and 8. Non-strategic trade includes all other SITC categories. NBER commodity trade covers the period 1970-1992.

Large values of trade may or may not be important to a nation's economy, depending on the size of the economy. Therefore, I measure both strategic and non-strategic trade relative to a state's gross domestic product.¹⁰ Then, I follow O Neal and Russett's weak link argument and only include in the regression model the lower of the two trade-to-GDP ratios.

Militarized conflict also reduces FDI, thus increasing the costs of conflict. In turn, high levels of FDI should deter nations from fighting. Dyadic foreign direct investment data is unavailable for a large number of countries. As a substitute, I include a variable that measures a state's overall foreign direct investment relative to its gross domestic product. I also follow the weak link procedure for this variable. FDI data comes from the World Development Indicators produced by the World Bank. This data is available for the period 1970-1992.

⁹ SITC stands for Standard International Trade Classification, and is the United Nations system for classifying all trade between nations. SITC codes begin with ten general categories and become more specific. For instance, SITC code 0 represents trade in food and live animals. SITC code 02 more specifically identifies trade in dairy products and birds' eggs. SITC code 022 identifies trade in milk and cream and milk products other than butter or cheese. I group trade according to the 10 general SITC categories.

¹⁰ The data on Gross Domestic Product comes from Kristian Gleditsch (2000). Gleditsch's dataset is based on the Penn World Tables but is more comprehensive. In particular, it corrects a systematic problem in previous datasets by including data for a number of developing and socialist countries. To the best of my knowledge, this is the first study on interdependence and conflict to use this dataset.

Next, I include a set of control variables that are also hypothesized to affect the opportunity or willingness for conflict. Contiguity, distance, power parity, and anarchy are the central factors affecting the opportunity for conflict. Consider distance. As the distance separating two states increases, it is more difficult to mount a successful military campaign (Bueno de Mesquita, 1981; Lemke, 1995). Larger distances make it more difficult both to get troops to the battlefield and to re-supply troops. Separation, then, makes it more difficult for conflict to occur. Greater distance between countries may also have an indirect effect of decreasing the willingness for conflict. If two states are far apart, they may have minimal interaction, and thus little to fight over. I operationalize distance as the great circle distance between capital, or major, cities.¹¹

Power transition theory has also identified power parity as an important factor affecting the opportunity for conflict (Organski and Kugler, 1980; Kugler and Lemke, 1996). As the imbalance of power in a dyad increases, the probability of victory in a dispute for the weaker nation decreases. Unless the stakes are very high, the weak state will conclude that conflict is not an option as it has little probability of winning. Put differently, power parity provides an opportunity for conflict because it increases the potential benefits relative to the costs. If there is not power parity, the costs of conflict for the weaker side greatly outweigh the benefits, thus, they are expected to give in to the demands of the stronger state. If there is parity, then both sides have a chance to benefit; therefore, as power parity increases the potential benefits relative to the costs increase and conflict becomes more likely. Insofar as this argument is accurate,

¹¹ Data for this variable comes from Bennett and Stam's (2000) EUGene program, v 2.101.

then conflict should be more likely to occur under conditions of power parity than under conditions of a power imbalance. Numerous empirical studies support this hypothesis (see Kugler and Lemke, 1996; and Kugler and Lemke, 2000). I operationalize power parity as the ratio of the larger state's value on the Correlates of War Composite Capabilities index over the smaller state's value on this index.¹² Thus, greater values indicate less power parity.

In addition to opportunity, for nations to have a conflict, there must be something to fight over, that is there must be a willingness to fight. Factors that affect a nation's willingness to fight another nation include foreign and domestic policy preference similarity, territorial issues, religious and ethnic similarity. What's important about the willingness condition is that it means that the probability of conflict is not the same in all dyads (Gartzke, 1998, 2000; Werner, 2000; Gowa and Farber, 1997). Research on the democratic peace supports this contention. Lemke and Reed (1996: 145) find that "States satisfied with the status quo desire no changes to the international order, and thus have nothing over which to fight." In expected utility terms, as preference affinity decreases, the benefits of conflict increase relative to the costs. Werner (2000), for instance, argues that one of the primary benefits that a state can derive from conflict is the re-structuring of another state's foreign policy preferences. By achieving greater preference similarity, states enhance both their security and potential for economic benefits. Therefore, close political affinity takes away one of the larger potential benefits from conflict.

¹² Data for this variable comes from Bennett and Stam's EUGene program.

To measure preference affinity, I include a measure of the similarity of alliance ties in a dyad. Dyads with similar alliance portfolios are assumed to have similar foreign policy preferences and thus less to fight over. Perhaps more importantly for the present research is that the effect of strategic trade is conditional on the political affinity in the dyad. As discussed in hypothesis two, strategic trade between states with close affinity is expected to be pacifying, while strategic trade in dyads lacking affinity is expected to contribute to conflict. This measure of political affinity, *S*, draws on the work of Bueno de Mesquita (1981) and Signorino and Ritter (1999), and is based on the similarity of dyadic alliance portfolios. States with similar alliance portfolios are assumed to have similar foreign policy preferences. The variable ranges from zero to one, with higher values representing greater affinity.

Many studies have found that joint democracy reduces the likelihood of conflict between states. Lemke and Reed (1996) and Werner (2000) suggest this is the result of democracies having similar preferences. States with similar domestic political institutions “are less likely to have certain types of disagreements in the first place” (Werner, 2000: 4). I use the democracy index in the Polity IV (Marshall and Jaggers, 2000) dataset to operationalize democracy. This index ranges from 0 to 10, with higher values indicating higher levels of democracy. I also follow the weak link procedure for including this concept in the regression model. Alliances also tap into preference affinity; they indicate a similar preference on at least one foreign policy issue. Accordingly, I include a variable for alliances. Alliance is a dummy variable that equals one when a dyad

shares a defense pact, non-aggression pact, or entente, zero otherwise. Alliance data comes from the COW project via Bennett and Stam's EUGENE program.

Finally, I include a variable measuring whether or not a Major Power is a member of the dyad. Major powers have both greater capabilities and, typically, greater commitments around the world. As a result, they engage in more militarized conflicts than non-major powers. I use the Correlates of War dataset to identify major powers. For this period, the major powers are the United States, the Soviet Union/Russia, France, Britain, China, and after 1990 Germany and Japan. If at least one of these states is in a dyad, the variable takes on a value of 1, 0 otherwise.

Statistically, I analyze the above regression model using a quasi-likelihood method, specifically a general estimating equation (GEE).¹³ GEE models are especially useful for estimating time-series, cross-sectional data as they allow one to specify a variety of within group correlation structures for the panels. Beck, Katz, and Tucker (1998) suggest that observations in time-series cross-sectional data are likely to exhibit temporal dependence, and that failure to control for temporal dependence may lead to inaccurate inferences. As a remedy, they propose the use of temporal dummy variables. Although this fix is better than ignoring the issue, a better alternative is to directly incorporate one's "knowledge regarding within-unit interdependence through specification of the working correlation matrix" (Zorn, 2001: 474). To this end, I run a GEE model

¹³ See Liang and Zeger (1986) and Zorn (2001) for more technical discussions of general estimating equations.

using a logistic link function and specifying an AR(1) correlation structure.¹⁴ In addition, I employ robust standard errors to control for cross-sectional heterogeneity in the data.

The GEE approach is also useful when the substantive focus is on “making comparisons across groups” (Zorn, 2001: 475). Unlike a regular logistic model, GEE models calculate population averages. As the goal of this research is to understand whether or not dyads with high levels of economic interdependence are more or less likely to engage in militarized conflict as opposed to explaining the likelihood of a particular dyad for engaging in conflict, a GEE model is the appropriate choice.

Empirical Results

To empirically evaluate the hypotheses from the analytical model and contending arguments, I present results from five empirical models. The first model examines total dyadic trade and serves as a baseline for comparisons with prior research. Models two and three evaluate the hypotheses on non-strategic trade, strategic trade, and FDI. Models four and five examine the effects of economic interdependence on an alternative operationalization of the dependent variable. The empirical analysis provides strong support for the hypotheses.

I first run an analysis using aggregate dyadic trade for all dyads over the period 1970-1992. This is the operationalization of economic interdependence used by Oneal and Russett (1997, 1999a, 1999b) and Polachek (1980). As

¹⁴ Using a similar data set Oneal and Russett (1999a) and Zorn (2001) also specify an AR(1) correlation structure.

such, it serves as a baseline model for comparing this research to previous research. The results of Model 1 are consistent with previous studies examining dyadic trade interdependence (Oneal and Russett, 1997, 1999a, 1999b). Dyadic trade interdependence reduces the likelihood of a militarized interstate dispute. The trade interdependence variable, however, is not statistically significant at conventional levels (p -value = 1.5). This is probably a result of the particular time period under investigation. The control variables also perform as expected. Democratic institutions, power preponderance, and distance all reduce the likelihood of a dyad having a militarized dispute, while contiguous and major power dyads are more likely to experience militarized disputes. Equally important, the constant term is statistically significant and negative, indicating most dyads do not experience militarized disputes. The allies variable, however, is not statistically significant. Further exploration of the data suggests this is likely the result of a number of militarized disputes between the United States and a variety of Latin American countries with whom the United States was allied. Overall, the results of Model 1 suggest no major structural changes occurred after 1970 to make the 1970 to 1992 period vastly different from the 1950 to 1992 period that Oneal and Russett examine. This should enhance our confidence in the generalizability of the results.

The variables in a logistic regression model have a non-linear relationship with the dependent variable; as a result, it takes some care in interpreting the substantive impact of the variables. To provide a sense of the substantive impact of the central variables, I calculated first differences. A first difference

expresses the change in the probability of event occurrence between two values of an independent variable, while holding all other variables constant. For instance, after calculating a baseline model where the interval level variables are placed at their mean value and the dichotomous variables are held at zero, I recalculated the probability of event occurrence by adjusting the interdependence and, for comparison purposes, the democracy and power parity variables one standard deviation. The difference between these probabilities is one measure of the substantive influence of a variable. The third column of Model 1 shows that a one standard deviation increase in total trade interdependence leads to nearly a 16% reduction in the likelihood of the onset of a militarized interstate dispute. This is nearly the same effect as increasing the democratic characteristics of the least democratic state in the dyad, which reduces the likelihood of conflict by about 22%.

Next, I disaggregate trade into strategic and non-strategic commodities to examine their independent effects on the outbreak of militarized disputes. Recall the reason for disaggregating trade. Guided by realist arguments, I expect that different types of trade have different effects on the likelihood of conflict between nations. On the other hand, liberal arguments expect all types of trade to exert a pacifying effect. Disaggregating trade, then, affords a critical test between these competing arguments concerning economic interdependence.

The results from Model 2 indicate non-strategic trade interdependence exercises a negative influence on the occurrence of militarized interstate disputes. This effect, however, is not statistically significant. Strategic trade

interdependence, however, exercises a statistically significant and positive influence on the occurrence of MIDs! Contrary to liberal arguments, trade does not always lead to peace. Greater strategic trade interdependence increases the likelihood of conflict between nations. As expected, then, different types of trade differentially influence the likelihood of conflict between states.

While non-strategic trade interdependence is not statistically significant, it's substantive influence is meaningful. A one standard deviation increase in non-strategic trade interdependence reduces the likelihood of conflict by about 15%. Similarly, a one standard deviation increase in strategic trade interdependence increases the likelihood of a MID by about 15%. An equally important finding concerns the influence of foreign direct investment. As expected, higher levels of FDI make conflict less likely to occur, with a one standard deviation increase in foreign investment reducing the likelihood of a MID by about 10%. The rest of the variables mirror their behavior in Model 1.

While the results of Model 2 indicate that different types of trade have different effects on conflict onset, Model 2 does not fully evaluate the arguments presented earlier. The argument advanced here is that the effect of strategic trade interdependence is conditional on the political affinity in the dyad. Model 3 offers an evaluation of this argument.

As anticipated, strategic trade between states with similar foreign policy preferences reduces the likelihood of militarized conflict. Indeed, an increase in strategic trade and affinity reduces the likelihood of conflict onset by about 15% (see column 3 of Model 3). On the other hand, strategic trade between states

lacking affinity increases the likelihood of conflict. This effect is especially strong. In dyads with different foreign policy preferences, a one standard deviation increase in strategic trade interdependence increases the likelihood of conflict by 46%. These results support hypothesis two. Further, in this more fully specified model foreign direct investment is still statistically significant and reduces the likelihood of conflict between states. As before, non-strategic trade interdependence is statistically insignificant. Non-strategic trade interdependence, however, continues to exert a substantively meaningful influence on conflict onset. A one standard deviation increase in non-strategic trade interdependence reduces the likelihood of conflict by about 12%. In Model 3, the democracy variable is still not statistically significant at conventional levels, though as indicated in column 3 an increase in democracy does lead to a substantial reduction in the likelihood of conflict onset.

Robustness and Sensitivity

To enhance confidence in the findings, I conducted a number of robustness checks. The robustness analysis consists primarily in analyzing models using alternative operationalizations of the central variables. First, instead of the weak link assumption, I constructed joint measures of both strategic and non-strategic trade. This measure directly incorporates the trade dependence of both nations. For each category of trade, I multiplied state A's trade dependence by state B's trade dependence. Then, I took the square root of this value and divided by the largest value of trade dependence so that the

resulting score ranges from 0 to 1. The results remain the same. As the economic importance of strategic trade increases in the dyad, conflict becomes less likely. Similarly, the greater the amount of non-strategic trade in a dyad, the less likely the dyad is to experience militarized conflict. Foreign direct investment also remains statistically significant and negative. FDI is still operationalized via the weak link procedure as dyadic investment data is unavailable.

Next, I operationalized strategic trade only as trade in minerals and fuels, SITC category 3 goods. The idea behind this measure is that strategic goods must not simply be valuable, but capturable. Now, of course, any product, once produced, is appropriable, yet unless a single or small number of units of a product is enough to turn the tide in a military campaign it is of little use that the end product can be appropriated. For example, appropriating a few tanks is of little use to a country engaged in war. Yet if a nation is able to appropriate the technology and parts to produce tanks, then conquest may turn the tide of the war. In this sense, factories may be of limited strategic value as they are of little use without the knowledge and skills on how to run them. Commodities that are strategic in this sense are primary products like oil and other natural resources.

Commodities that are easily rendered useless like factories or service industries are much less appealing to foreign conquest than primary resources. If an opponent is willing, factories can rather easily be blown up or have their production limited due to mechanical breakdowns. Natural resources may also be rendered useless, though it is more difficult to do so. Iraq's "scorched earth" withdrawal from Kuwait in 1991, for instance, only temporarily limited the value of

Kuwait's oil wells. On the other hand, anecdotal evidence suggests that nations go to war to acquire natural resources. Germany and Japan, for instance, both pursued militarily aggressive foreign policies to secure a supply of oil for their economies.

The empirical results remain the same when strategic trade is operationalized as only including minerals and fuels. Strategic trade between dyads lacking political affinity increases the likelihood of conflict between these trading states, while strategic trade between states with similar political preferences reduces the likelihood of conflict. Non-strategic trade interdependence is still insignificant. Finally, FDI is still statistically significant and negative.

In a final set of robustness analyses, I examine the effects of economic interdependence on an alternative dependent variable. Rather than analyzing all MIDs, Model 4 only analyzes MIDs with at least one casualty. Analyzing fatal MIDs tests whether or not economic interdependence only affects the likelihood of low level disputes, or if it also influences more serious disputes.

The results from Model 4 are similar to the earlier findings. Non-strategic trade interdependence reduces the likelihood of a dyad experiencing a fatal militarized interstate dispute.¹⁵ While the non-strategic trade interdependence variable is not statistically significant, its substantive influence is impressive. A one standard deviation increase in non-strategic trade interdependence reduces

¹⁵ If strategic trade is used in place of total dyadic trade, then trade interdependence is not statistically significant at the .05 level, though it is at the .10 level. Further, if missing values of strategic trade are set equal to zero, as is the procedure followed by Oneal and Russett, then strategic trade is significant and negatively related to dispute onset.

the likelihood of a fatal militarized interstate dispute by about 37%; this is almost twice the impact of increasing the level of democracy in the least democratic state in the dyad. More importantly, the strategic trade interdependence and strategic trade-affinity interaction variables are both statistically significant and their signs are in the hypothesized direction. An increase in strategic trade interdependence increases the likelihood of a fatal dispute by 126%! This suggests that strategic commodities are associated with efforts to conquer territory. As before, strategic trade does not always increase the likelihood of a dispute. Dyads with close political affinity and high levels of strategic trade are less likely to experience a fatal dispute.

Model 5 continues to examine the influence of the disaggregated trade variables on the outbreak of fatal militarized disputes, but also incorporates foreign direct investment. FDI is statistically significant and negative, meaning higher levels of foreign direct investment reduce the likelihood that a fatal militarized dispute will occur. When FDI is included, none of the trade interdependence variables are statistically significant, though the sign of each variable is in the expected direction. Nevertheless, the trade interdependence variables continue to exert a significant substantive influence. In fact, non-strategic trade, strategic trade, and the strategic trade-affinity interaction variables all influence the outbreak of a fatal dispute more than FDI.

Conclusion

In conclusion, this research presents an analytical model of economic interdependence and interstate conflict. Unlike previous research on economic interdependence, the model incorporates different types of trade and foreign direct investment. The analytical model reveals that the relationship between trade interdependence and peace is conditional on the type of goods traded and the political relationship in the dyad. Specifically, non-strategic trade interdependence is expected to contribute to peace between nations. Similarly, strategic trade interdependence between states with similar foreign policy orientations reduces the likelihood of conflict. Contrary to the liberal argument on economic interdependence, however, I argue that trade interdependence does not always pacify. Strategic trade between states with dissimilar foreign policy preferences contributes to conflict. In addition, this research takes the liberal argument a step further by demonstrating the relationship between foreign direct investment and international conflict. Models not including FDI do not fully analyze the central concept of economic interdependence.

The second part of this research empirically examines hypotheses from both the analytical model and competing arguments. Consistent with the theoretical model, I find that all trade is not the same and that the political relationship in a dyad influences the effect of trade. Non-strategic trade interdependence contributes to peace between states, but strategic trade interdependence enhances the likelihood of conflict between states. The finding

that strategic trade between states lacking affinity contributes to conflict is especially important as it casts doubt on the standard liberal argument.

Moreover, I find that foreign direct investment is a significant influence on the outbreak of militarized disputes between states. In line with the analytical model, greater levels of foreign direct investment reduce the likelihood of a dispute occurring. This finding is especially important as it answers a central criticism of interdependence theories. As is well known, the major European powers had a high level of trade interdependence during the first decade and a half of the twentieth century, yet this trade interdependence did not prevent World War I from occurring. These same European states, however, did not have high levels of foreign direct investment either with each other or in general; thus, the nature of the economic interdependence was both one-dimensional and limited. These same states now exhibit greater levels of foreign direct investment. What has changed then between 1914 and the present is not only an increase in the number of democratic regimes in Europe, but also an increase in economic interdependence chiefly through foreign direct investment. Finally, it is important to note that the empirical results are robust to a number of alternative specifications. The ability of the argument to withstand a wide array of tests should enhance our confidence in the findings.

The policy implications of this research are subtle. States interested in promoting peace and prosperity should encourage greater economic interdependence between allies. Economic interdependence fosters peace because it enhances prosperity, which is a central influence on the ability of a

political leader to remain in power. Economic interdependence also fosters peace because it builds common interests. With interdependence, dyads have a shared goal in assuring stability and the free flow of goods. Economic interdependence, however, is not a panacea. In fact, interdependence in strategic goods may exacerbate tensions and contribute to conflict between states. The reason for the difference between strategic and non-strategic trade is that the latter enhances a state's vulnerability, thus providing an additional incentive for conflict. Political leaders, then, should pursue different trade policies with different states.

Finally, this analysis suggests a number of avenues for future research. Future research should examine the influence of different types of trade and FDI at additional levels of analysis. In particular, classical arguments on interdependence focused on the nation-state, yet little research has been conducted on the relationship between interdependence and the proclivity of a state to experience conflict. Plus, the more tests a theory can pass, especially at different levels of analysis, the more confidence we can have in the argument. Future research should also focus on refining the measures offered here and applying these concepts in a more strategic context. For instance, a true dyadic measure of foreign direct investment would permit a more accurate assessment of the theory. In addition, future research should consider the effects of different types of trade and foreign direct investment at different stages of conflict. Perhaps some types of trade are more important than other types at inhibiting the onset of conflict but not the escalation of a dispute. In examining both conflict

onset and escalation, we can more clearly distinguish between interest-based interdependence theories and signaling-based interdependence theories.

Congratulations on reaching the half-way point in this dissertation.



Chapter 3

Economic Dependence and Militarized Interstate Dispute Initiation and Targeting, 1970-1992

Does economic dependence promote peace? Realists argue either that trade is “low politics” and does not greatly affect relations between states or that it creates asymmetric gains and dependencies, which increase the likelihood of conflict. In particular, nations economically dependent on importing strategic resources are vulnerable and likely to choose a policy of military expansion to alleviate this vulnerability. In contrast, liberals argue that trade creates both domestic and international constraints on the use of force, making nations more peaceful. In the trade promotes peace arguments, the causal mechanism takes one of two forms. Some scholars suggest trade promotes peace because commercial activity develops peaceful norms for dispute settlement. Others argue that trade promotes peace by increasing the opportunity cost of conflict, thus deterring nations from military expansion.

I argue that the economic dependence and conflict nexus is more complex than previous arguments and research suggest. In particular, I address three flaws in the extant research. First, previous research treats economic dependence only as trade. In contrast, I argue that modern international economic dependence is characterized as much by foreign investment as it is by the level of trade ties. Second, current research does not distinguish between the type of commodities traded; trade in oil has the same influence as trade in textiles. In contrast, I argue that it is necessary to differentiate states based on

the types of goods they import and export. Because earlier research did not distinguish between the types of goods traded, the effect of trade was always the same, either it increased or decreased the likelihood of conflict. Third, previous research operationalizes conflict simply as participation in a militarized dispute. I argue that participation is a flawed operationalization of conflict when the unit of analysis is the nation-state. Instead, it is necessary to distinguish between initiators and targets of disputes.

After distinguishing between the types of goods traded and whether a state is an initiator or target of a dispute, I make the following hypotheses. First, trade in non-strategic commodities promotes peace. Imports of non-strategic commodities enhance a state's wealth and increase the costs of conflict, thus making a state less likely to initiate conflict. Next, the effect of importing strategic commodities depends on a state's degree of militarization. Militarized states importing strategic commodities have the ability to alleviate their economic vulnerability, making them more likely to initiate conflict than other states. Similarly, economically underdeveloped states exporting strategic commodities are more likely to be the targets of militarized disputes, while strong states exporting strategic commodities are less likely to be targets of militarized disputes. Finally, I hypothesize that foreign direct investment promotes peace. Foreign investment depends on a stable, secure environment; nations with high levels of foreign investment avoid military conflicts in order to continue drawing in investment. In addition, foreign investment decreases the benefits of conquest. With foreign investment, a nation is already extracting wealth from a territory, so

there is less of an incentive for conquest. In summary, I argue that the effect of trade on conflict varies with the type of goods traded and is conditional on a state's military power and economic development.

The paper proceeds as follows. The first section develops a modified realist theory of economic dependence and militarized conflict. Where previous research simply focuses on the benefits of economic exchange, I argue that it is necessary to view the benefits of exchange in light of a state's military power and economic development. The next section tests hypotheses from the theory against the empirical record using an event-count specification. This empirical analysis of economic dependence and conflict contributes to existing empirical research in the "trade and conflict" research program with its explicit focus on the monadic level of analysis and in its distinction between initiators and targets of militarized disputes. The empirical record strongly supports the theoretical argument. The effects of economic dependence vary with the type of good traded and are conditional on a state's military power and economic development. Further, and as expected, foreign direct investment reduces the likelihood of a state either initiating a dispute or being the target of a dispute. The paper concludes with a discussion of the implications of this research.

Commercial 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, 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: 42).

The above accurately describes economic integration at a global level, yet it does not discuss the causes or effects of this phenomenon. While it is important to understand the causes of globalization, the rest of this essay investigates the effects of this phenomenon on world politics. Previous research on economic dependence and conflict emphasizes four factors: costs, norms, vulnerability, and signaling.

Economic dependence increases the costs of conflict. As a result, Polachek (1980), Polachek, Robst, and Chang (1999), and ONeal and Russett (1997, 1999a, 1999b) argue that economic dependence promotes peace. Military conflict clearly reduces the willingness of states to engage in commercial activity. As a result, "countries with the greatest gains from trade face the highest costs of potentially lost trade and hence engage in the least conflict and the most cooperation (Polachek, Robst, Chang, 1999: 405)." ONeal and Russett make a similar argument: "Fearful of the domestic political consequences of

losing the benefits of trade, policymakers avoid the use of force against states with which they engage in economically important trade" (1999b: 4-5). While the arguments of Polachek and his colleagues and O Neal and Russett emphasize dyadic trade, they are compatible with arguments linking commerce and peace at both a monadic and systemic level as well.

Domke advances a similar theoretical argument as Polachek (1980) and O Neal and Russett (1999a, 1999b), though he emphasizes the nation-state as the appropriate referent. "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: 118). In a system level investigation of the relationship between trade and conflict, Mansfield (1994) finds an inverse relationship between trade and war. As global trade increases, nations have less incentive to pursue policies of conquest. In all of these arguments, trade promotes peace because it promotes wealth and increases the costs of conflict.

A second way in which global commerce constrains decision-makers from pursuing militarily aggressive foreign policies is by promoting peaceful interests within a state. In liberal systems the use of force is especially costly because commercial transactions develop interest groups to protect and enhance their economic interests; these interest groups inevitably pressure policymakers to avoid breaking political and economic relationships (Rosecrance, 1986). Trade, then, reduces the likelihood of interstate conflict by helping to form interest

groups that have a financial stake in maintaining a stable and cooperative political environment. Rational elites undoubtedly recognize the potential domestic costs for ignoring these important constituency groups by destabilizing commercial ties.

Peaceful norms are a second factor emphasized in the trade and conflict research program. In addition to altering the costs associated with conflict, economic integration fosters political and social ties between nations. These ties promote the development of peaceful ways to address problems. As part of the growth in global economic dependence, formal and informal rules and procedures have developed to help guide states in their decision making 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, economic dependence "cements bonds of friendship" by enabling governments to more effectively discern mutual interests (Barbieri and Schneider 1999, 387). The end result, according to Buzan, Little, and Jones (1993), may be an attenuation in the structural effects of anarchy.

While the costs of disrupted trade and norms associated with conflict resolution suggest trade dependence promotes peace, a third factor, vulnerability, emphasized in previous research 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 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 build its military 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 in Baldwin, 1985: 211). As a result, short-term asymmetries in wealth accumulation compel states to distrust the positive effects produced by expanding trade and financial ties. In short, trade 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).

A fourth factor emphasized in the trade and conflict research program is the informational potential of trade. 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, 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, 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).

Morrow (1999), however, 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" (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 other side's. The result, Morrow (1999, 488) writes, is that "trade flows...have an indeterminate effect on the initiation and escalation of international conflict."

Overall, from the primary theoretical arguments, the relationship between economic dependence and interstate conflict is unclear. Empirical research assessing the effect of trade on conflict is also ambiguous. Oneal and Russett (1997, 1999a, 1999b), for instance, find that democratic political institutions and economic interdependence constrain the use of force between nations. "Thus," they write, "interdependence and democracy contribute to what we have called the "liberal peace" (1999: 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 has cast doubts on the pacific benefits of commercial engagement. Barbieri finds that “extensive economic interdependence increases the likelihood that dyads engage in militarized dispute” (1996: 42). Beck, Katz, and Tucker (1998) argue that in large cross section time series analyses one needs to control for temporal dependence. When they replicate Oneal and Russett’s 1997 work, while controlling for temporal dependence between observations, they find that trade is no longer associated with peace. For similar reasons, Domke’s (1988) empirical findings on the pacific benefits of economic dependence may be considered inconclusive. In addition to not controlling for temporal dependence, his study does not include control variables. Similarly, Benoit (1996) analyzes the liberal peace at the monadic level. He finds a positive relationship between democracy and peace, but no relationship between economic dependence and peace.

It is likely that the inconsistent empirical findings, at least with regard to the nation-state, which is the focus of this research, result from an overly general theoretical argument, a broad operationalization of the central theoretical concept, and the omission of important control variables. Further and unlike previous research, I argue that studies of a nation-state’s involvement in military conflict need to distinguish between initiated and targeted conflict involvement as opposed simply being involved in a conflict.

A Modified Realist Theory

I contend that the effects of economic dependence must be viewed in a cost-benefit framework that emphasizes differences across commodities. First, all commodities are not the same. The vulnerability created from importing strategic commodities such as oil is greater than the vulnerability created from importing non-strategic commodities like textiles. Strategic commodities generate greater vulnerability because they have fewer substitutes and exercise multiplier effects on a state's economy and security. Next, it is important to view the effects of economic dependence in a full framework that incorporates both the utility of an outcome and the probability of the outcome in order to compare the utility of different circumstances. For instance, the utility of alleviating a vulnerability may be the same for two states, but if one state has greater military strength then the probability of being able to alleviate the vulnerability is different. In turn, our expectations should be different.

Before analyzing the effects of an independent variable, such as trade or investment, it is beneficial to specify the premises on which an argument is based. I assume nation-states are unitary, rational actors. What is perhaps most significant about the assumptions of states as unitary actors and rationality is the acceptance of them among both realist and liberal theorists.¹⁶ While multiple actors influence a decision, on major foreign policy issues a single actor, the leader of the state, ultimately makes the decision. Moreover, calling states

¹⁶ Some research in the realist tradition employing these assumptions include Krasner (1978), Waltz (1979), and Gilpin (1981). Some research in the liberal tradition emphasizing these assumptions includes Polachek (1980), Rosecrance (1986), and Oneal and Russett (1997, 1999a). For more thorough discussions of these two assumptions see Bueno de Mesquita (1981) and Huth (1996).

unitary actors does not mean domestic politics are unimportant to foreign policy decisions. Rather, a political leader's calculus is still based, in part, on domestic factors. Similarly, the assumption of rationality means state leaders have preferences and they work to attain them. In more conceptual terms, rationality implies that state leaders can connect their preferences in a transitive fashion.

Next, I assume states maximize a mix of security and wealth. Realist scholars, for instance, posit that the anarchical nature of the international system requires states to focus, first and foremost, on security (Waltz, 1979). The reason for focusing on security is to protect one's sovereignty and secure one's hold on power. Bueno de Mesquita, Morrow, and Zorick (1997), for example, have found that leaders who lose an international conflict are often removed from office. Thus, promoting national security is important if a leader is to retain political office. States focus on wealth for similar reasons. Wealth maximization helps a leader remain in office by providing the means for warding off internal and external threats. In democracies, it is often said that people vote with their pocketbook. In prosperous times a leader is more likely to be re-elected. In non-democracies, wealth, manifested as economic develop, decreases dissatisfaction with the state and the concomitant likelihood of revolution and civil war. Further, wealth enables a state to build a strong military,¹⁷ thus decreasing the likelihood of attack.

States pursue security and wealth via territorial acquisition and commercial development. Unlike Rosecrance (1986), I suggest the two methods are not mutually exclusive. In terms of wealth, territory is important primarily for

¹⁷ Indeed, one of the most common measures of power is a state's gross domestic product.

raw materials. All economies need raw materials to function. If a state does not possess necessary raw materials, then it has to obtain them either through exchange or conquest. Economic exchange is generally a more cost effective method for acquiring raw materials than military conflict.

Economic integration produces more wealth than conquest as a result of economic specialization and greater investment in the economy. Comparative advantage leads states to specialize in goods that generate the highest profits, producing an efficient and profitable business enterprise. Moreover, as states develop economically, increasing returns to scale make intra-industry trade more valuable.¹⁸ Because of increases in intra-industry trade since World War II, industrialized countries have experienced a rate of trade growth twice that of their GNP (Helpman and Krugman, 1985: 159). Plus, when a nation does not have to invest in large amounts of military weapons for the purpose of conquest, it can invest in physical capital and research and development; thus, making an economy more productive (Rosecrance, 1986: 155-157).

All trade, however, is not the same. Resources are a central factor of production; thus, "a nation's economy is particularly dependent on imports of goods for which demand is highly inelastic and domestic production is extremely inefficient, especially those that have multiplier effects on the whole economy" (Lieberman, 1996: 154). Because of their importance to a state's economy, resource starved states have an incentive to pursue policies of conquest. Conquest pays. Conquest "can be profitable, since, by territorial expansion, it

¹⁸ Helpman and Krugman (1985) note that for industrialized countries, most trade is intra-industry, while developed and undeveloped dyads primarily conduct inter-sectoral trade.

can not only secure new markets, resources, and commercial supremacy, but also contribute to a country's industrialization and production potential." (Rotte, 1997: 10). The expansionist policies of Germany and Japan in the first half of the twentieth century are consistent with this perspective.¹⁹

The differences in vulnerabilities across commodities lead to different incentives for exchange and conflict depending on the type of good at issue. States importing and exporting non-strategic commodities have no incentive to disrupt their flow as a disruption of trade is a cost. Similarly, a disruption of strategic commerce is also a cost. However, reducing vulnerability of supply of strategic goods is a benefit. In other words, states dependent on importing strategic goods are vulnerable to a disruption of supply, and such a disruption may greatly impact their security and welfare. As such, states importing strategic commodities have an incentive to either pursue conquest or at least engage in military conflict as a means for ensuring the supply of these goods.

Next, international commercial transactions involve more than trade; they also involve investment. Indeed, for Rosecrance (1999) foreign direct investment (FDI) is the essence of virtualization, a phenomenon diminishing the importance of national borders. "Virtualization is based on the growing importance of capital and capital flows (particularly foreign direct investment) in the world economy" (Rosecrance, 1999: 36).

¹⁹ Liberman (1993) also argues that conquest may not be as costly as Rosecrance (1986) maintains. Liberman (1993: 138) notes that "modernization increases the efficiency of coercion because it centralizes control over coercive resources, facilitates the quick deployment of this power over expansive regions, and gives hostage societies more to lose from resistance." In contrast, Rosecrance (1986: 37) argues that "the rise of mobilized populations, the spread of guerrilla insurgency, and the growing consciousness of ethnic nationalism would make future conquest more difficult than it was in the nineteenth century or even in World War II."

FDI is also important as it distinguishes the current era of economic activity from international economic dependence at the turn of the twentieth century. "In World Wars I and II highly developed industrial nations battled over the possession of land. They needed oil, coal, iron, and even sources of food" (Rosecrance, 1999: 30). FDI, however, lowers the incentives for conquest as investments "create, extend, or facilitate control over productive facilities in other countries" (Kenen, 2000: 280). "In general, as a state is increasingly able to rely on MNCs to secure needed external resources and supplies, the overall willingness of that state to engage in conquest should decrease" (Brooks, 1999: 666). In the 1930s, for instance, Japanese foreign policy emphasized conquest as a means for acquiring natural resources. Since the end of the Second World War, however, Japanese FDI has "overwhelmingly" focused on natural resources (Dicken, 1998: 55).

The Directionality of Conflict

Research on the democratic peace suggests that democratic states may appear equally as conflict prone as non-democratic states as a result of being frequently targeted by unconstrained autocratic regimes (see Rousseau, et al. 1993). If so, then democracy would be insignificant as an explanatory variable in monadic analyses. According to Maoz and Abdolali (1989, 6-7), "politically free states may be more likely targets of international violence than non-free states. A political elite of a non-free 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 dependence. 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 decision-making. Chan (1997: 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 proposition." Fearon (1994), as well, has suggested that initiation is a salient distinction to make when investigating conflict proneness. To the extent we believe certain factors, like trade, investment, and democratic regimes, influence the use of military force, then analyses need to pay more attention to directionality.

States with higher audience costs are less likely to initiate militarized disputes than states with lower audience costs. Audience costs are domestic political costs (Fearon, 1994). As audience costs increase, a state is able to more clearly signal its intentions and resolve, reducing the likelihood of a militarized dispute due to uncertainty. Fearon argues that democracies face higher audience costs for foreign policy failures because democratic leaders are more accountable to their publics (1994). According to Partell and Palmer, "Fearon's hypothesis is monadic. The audience cost hypothesis should apply to all high-audience-cost states, regardless of their opponent's domestic political structure" (1999: 390). The higher costs connected to foreign policy failure make

democratic states less likely to initiate militarized conflicts than non-democratic states.

In the same way that democratic regimes deter a state from initiating conflict, trade in non-strategic commodities and foreign investment also reduce the likelihood of a state initiating a dispute. States with high levels of investment and non-strategic trade 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. Greater commercial dependence, then, also increases a state's audience costs, making the state less likely to initiate militarized conflicts.

A disruption of strategic trade also creates a cost, yet there is a greater audience benefit from alleviating, even attempting to alleviate, a strategic vulnerability. The mechanics of this benefit are apparent in George W. Bush's goal to open the Alaskan National Wildlife frontier to oil exploration. Even though this new drilling is not expected to produce significant amounts of oil, the public supports the goal of reducing vulnerability.

Similar arguments explain which states are more likely to be targeted by military aggression. As before, the greater a state's level of non-strategic trade and foreign investment, the greater are the costs from conflict. In turn, states with the most non-strategic trade and investment have the most to lose from conflict so they work harder to avoid conflict. The informational properties of

trade again complement the cost arguments. Since trade facilitates the sending of signals, it reduces the likelihood of unintended conflict.

Strategic trade is again different. States exporting strategic commodities have something other states want and may be able to obtain via conflict. If a state exporting strategic commodities cannot defend itself, then it is more likely than other states to be a target of military aggression.

Hypotheses

In summary form, the above premises lead to the following expectations. Political leaders aim to retain office, as such they compare the costs and benefits of choices. Conflict disrupts non-strategic trade, thereby increasing the costs of conflict, and deterring states from initiating conflict. Moreover, non-strategic trade does not promise any benefits from conquest, so states exporting non-strategic goods are less likely than other states to be targets of military conflict. On the other hand, states' security motivation provides an incentive for a state to alleviate strategic trade vulnerability. Conflict also disrupts strategic commerce, creating a cost, but the benefits of reducing strategic trade vulnerability outweigh the costs of conflict if the probability of success is reasonable. In other words, militarized states importing strategic commodities have an incentive to reduce their vulnerability and the means to do so. Therefore, militarized states dependent on importing strategic commodities are more likely than other states to initiate militarized conflict. Similarly, weak states exporting strategic commodities are a tempting target. Finally, military conflict also disrupts foreign direct investment. Plus, states with large amounts of foreign direct investment

are not appealing targets because a potential attacker is already investing in the potential target taking away an incentive for conflict, and even if a potential attacker is not investing in the target, as a recipient of foreign direct investment the potential target has wealthy allies. Thus, high levels of foreign direct investment reduce the likelihood a state will initiate conflict and reduce the likelihood a state will be a target of military aggression.

In summary form, we have the following hypotheses.

Hypothesis 1a: The more economically dependent a state is on non-strategic trade, the less likely it is to initiate militarized conflict.

Hypothesis 1b: The more economically dependent a state is on non-strategic trade, the less likely it is to be a target of militarized conflict.

Hypothesis 2a: Militarized states economically dependent on importing strategic goods are more likely than other states to initiate militarized conflict.

Hypothesis 2b: Economically underdeveloped states with strategic commodities are more likely to be a target of militarized conflict.

Hypothesis 3a: The more economically dependent a state is on foreign direct investment, the less likely it is to initiate militarized conflict.

Hypothesis 3b: The more economically dependent a state is on foreign direct investment, the less likely it is to be a target of militarized conflict.

Research Design

To properly test any argument, it is necessary to determine the process that generates the observed data, which in this case is involvement in militarized interstate disputes. The two dependent variables of interest are the number of conflicts (MIDs) initiated and the number of times a state was the target of military aggression. Both dependent variables have important characteristics for

modeling purposes. First, they cannot be less than zero. Second, they must always take on an integer value; you cannot be involved in a partial war or a partial MID. Given the nature of the data generating process, non-normally distributed errors and a dependent variable that is only positive, discrete and unbounded, I employ an event count model.²⁰

In modeling event counts, it is important to consider possible contagion effects. International conflict, for instance, may beget a contagion effect where the number of events at time $t + 1$ is influenced by the number of events at time t . Further, international conflict is very unlikely to occur at a constant rate; a variety of circumstances are likely to change the probability of militarized conflict over time intervals. Thus, when the dependent variable is a MID, the data generating process is likely to produce overdispersion in the data. Overdispersion occurs when the variance of the expected events is greater than the expected value of the events, $V(Y_i) > E(Y_i)$. To address this potential statistical problem, I employ a Negative Binomial model, which treats the rate of event occurrence, λ , as a random variable following a gamma distribution, thereby accounting for the potential lack of independence between events. This model also adds an additional variance parameter that allows for $V(Y_i) \geq E(Y_i)$. It should be noted that as this extra parameter, σ^2 , approaches one the negative binomial approximates the Poisson.²¹

Although a Negative Binomial event count addresses overdispersion and heterogeneity in the data, it may not address problems of serial correlation. As

²⁰ Of the 856 country years involving the initiation of a MID, 23% initiate more than one MID in a year.

²¹ King (1989) and Benoit (1996) provide thorough discussions of the parameterization of the Poisson and Negative Binomial regression models.

the data is pooled, it is possible that values of some of the variables in one period are conditional on values in a prior period. One way to address this issue is with 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: 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 and reciprocate 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. The nature of the data generating process suggests the potential for serial correlation, so I specify an AR (1) correlation structure.²² I also lag all of the independent variables one year to gain more confidence in the causal relationship between the independent and dependent variables.

Dependent Variables

This paper analyzes the causes of interstate military conflict. I measure this concept by focusing 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,

²² 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.

Bremer, and Singer, 1996). Additionally, this paper emphasizes the initiation and targeting of MIDs. This research follows Leeds and Davis (1997) and Prins (2001) and defines 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 target is the non-initiating state in a dispute.

Independent Variables

The primary predictor variables of interest concern the level of a state's trade and investment activity. I use commodity trade data from the National Bureau of Economic Research (NBER). Using the NBER data, I distinguish between exports and imports and classify all trade into one of ten Standard International Trade Classification (SITC) categories. Based on Reuany and Kang (1998), I operationalize strategic imports as trade in SITC category 3—mineral fuels. Non-strategic imports encompass all other types of trade, that is trade in all other SITC categories. The argument does not simply emphasize those nations that have large absolute amounts of trade, but rather those states whose economies most depend on trade. The emphasis on domestic welfare requires that one examine trade in relationship to its overall impact on the economy. Therefore, I divide the value of trade (strategic imports and exports, non-strategic imports and exports) by the state's gross domestic product.²³ The

²³ Data for Gross Domestic Product comes from Gleditsch (2000).

NBER data is only available for the 1970 to 1992 period; this variable is also lagged one year.

Foreign direct investment is also an integral part of economic dependence. Like trade, foreign direct investment needs to be measured relative to the size of the economy. The variable foreign investment measures a state's "net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor" (World Bank, 1997). Data for this variable comes from the World Bank's World Development Indicators (1997).

It is more difficult to define militarization. The essence of the concept is that a state is primed for military aggression. Raw military expenditures are not a satisfactory measure as they are biased toward wealthier states. Japan, for example, spends about one percent of its gross domestic product on defense.²⁴ Because the Japanese economy is so large, this is a significant amount, yet few people would call Japan a military state. Instead, I create a measure of militarization based on the number of military personnel in a state. A measure based on military personnel better approximates the concept of militarization than a measure based on military expenditures because personnel are essential for conquering territory. Since larger nations, in terms of both population and territory, are likely to have more people in their military, I take a ratio of military personnel divided by total population.²⁵ Data on military personnel and total population come from the Correlates of War Composite Capabilities (COWCAP)

²⁴ CIA World Factbook: <http://www.cia.gov>

²⁵ Benoit (1996) uses a similar measure.

index.²⁶ (See Appendix A for a list of the most militarized states at the beginning of each of the last five decades.)

To the extent that global economic involvement 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, although 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. I use the Polity IV democracy index to measure the level of democracy in a state; this variable ranges from zero to ten, with higher values indicating higher levels of democracy (Marshall and Jaggers, 2000).

Previous research has also uncovered relationships between economic development, major power status and international conflict. Recent research suggests that the democratic peace may really be an economic development peace. Hegre (2000: 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: 473) writes that "the democratic peace may be limited to the prosperous market nations." Rosecrance's theory also emphasizes

²⁶ I use Bennett and Stam's (2000) EUGene program (version 2.101) to generate the data on military personnel and population. I also use EUGene to generate the data for economic development and major power status.

the importance of domestic welfare. The effect of both democracy and economic openness, then, may be contingent on the level of a state's economic development. The impact of development itself is unclear. Development may be associated with democracies, suggesting that it leads to a peaceful foreign policy. But, underdevelopment may also contribute to peace. Underdeveloped states simply do not have the means to attack other states, and given their poor financial status there is not much that a potential conqueror can gain. To measure economic development I use the energy consumption variable from the COWCAP index, divide it by the state's population, and then take the natural log. This is the same measure of economic development utilized by both Benoit (1996) and Hegre (2000).²⁷

Finally, it is necessary to consider the role major powers play in international society. Major powers have interests and responsibilities that span the globe. They also are frequently called upon to settle international issues or broker peace agreements. Major powers, then, have greater opportunities and typically a greater willingness than other states to be involved in conflict. I use the COW coding to determine which states are major powers. In the post-World War II period, the COW coding includes the United States, the Soviet Union/Russia, France, Britain, China, and after 1990 Germany and Japan.

²⁷ Mousseau (2000) operationalizes economic development as GDP per capita. Hegre (2000) shows that GDP per capita and energy consumption per capita are highly correlated. The advantage of energy consumption is that it has fewer missing values.

Empirical Results

Initiation of Militarized Interstate Disputes

An empirical analysis of the initiation of militarized interstate disputes (MIDs) for all members of the international system between 1970 and 1992 reveals strong support for the theoretical hypotheses. I begin with a baseline model that measures the influence of a state's import dependence in both strategic and non-strategic commodities, foreign direct investment, militarization, level of democracy, economic development, and major power status on the number of initiated militarized disputes per year (see Model 1a in Table 1). As indicated in Model 1a in Table 1, both trade dependence variables are statistically significant and negative. The more a state's economy is dependent on international trade, whether it be in strategic or non-strategic goods, the less likely it is to opt for military conflict against other states. However, the pacifying influence of trade dependence only extends so far. As indicated by the strategic trade-militarization interaction variable, militarized states importing strategic goods are more likely to initiate a MID. These results support hypotheses 1a and 1b. Trade, in general, is a constraint on military aggression. But, strategic trade dependence is a vulnerability states aim to alleviate, and will do so if they have the means. Consistent with the arguments of this paper, foreign direct investment also exerts a statistically significant and negative influence on the initiation of MIDs. The more a state is open to foreign investment, and thus economically dependent on other states, the less likely is it to initiate a militarized dispute.

The empirical results for Model 1a also confirm the pacifying influence of democratic institutions. Not only are democracies unlikely to enter into a MID against other democracies, democracies are also less likely to initiate MIDs in general. That is, the results for Model 1a reveal a monadic democratic peace in the post-WWII time period. Democracies are less likely to initiate disputes than non-democracies, even after controlling for the important effects of development, trade, and global reach.

Given their commitments around the world and responsibility to protect allies and client states, I also hypothesized that major powers would be likely to initiate more militarized interstate disputes than other states. The empirical analysis supports this conclusion.

Although statistical significance is important, empirical analyses may find significant variables that exhibit little or no substantive impact. Substantive significance is especially important to policy-makers who need to allocate scarce resources in the most efficient manner. One useful way to assess the substantive impact of a variable is by calculating changes in the relative risk of an event occurring. Relative risk measures the change in the risk of event occurrence given one set of values of the explanatory variables relative to the probability of event occurrence given a baseline set of values. As noted by King and Zeng (2001), relative risks are commonly reported in the popular media (e.g., five servings of fruits and vegetables a day will reduce the risk of colon cancer by fifty percent). Accordingly, I create a baseline model of event occurrence where all the interval level variables are set at their mean value and the dichotomous

variables are set at zero. Then, I assess the change in relative risk by increasing (and decreasing) the interval covariates by one standard deviation and the dummy variables from zero to one.

Calculating changes in the relative risk of event occurrence shows that trade dependence exerts a large substantive impact on the rate of MID initiation (see Column 2 of Table 1). For instance, a one standard deviation increase in non-strategic import dependence leads to a 65% decrease in the rate of MID initiation. Similarly, a one standard deviation increase in strategic import dependence leads to a 65% decrease in the risk of initiating a MID. However, militarized states that increases its strategic import dependence is 29% more likely to initiate a MID.

Model 1 also indicates that the other components of the liberal peace argument, foreign direct investment and democratic institutions, exercise an important influence on the likelihood of a state initiating a militarized dispute. If a state were to increase its level of foreign direct investment by one standard deviation over the mean for all states, it would decrease the likelihood of that state initiating a dispute by 48%. An increase in the democratic institutions and culture of a state, on the other hand, only decreases the risk of initiating a MID by 26%. Finally, the level of militarization in a state is also an important influence on MID initiation. Increasing the level of militarization in a state increases the risk of MID initiation by 28 %.

Perhaps the most interesting finding in Model 1a is that economic development is positively related to the initiation of MIDs. Other research has

found that economic development contributes to peace (Hegre, 2000; Mousseau, 2000). And, Mousseau (2000: 473) writes that "economic development may foster the values and preferences that lead to both democratic consolidation and democratic peace." To more thoroughly examine these arguments, I interact democracy with economic development.

Including the democracy-development interaction term in the analysis (Model 2) makes the story increasingly clear. The interaction of development and democracy is statistically significant and negative. The democracy variable is still significant and negative, indicating that the pacifying influence of democracy is *not* dependent upon economic development. On the other hand, non-democratic, developed states are more likely to initiate MIDs. Development without democracy seems to encourage militarily aggressive foreign policies. Further, all other variables in Model 2 retain their sign and statistical significance.

Targets of Militarized Interstate Disputes

In this section I empirically evaluate the factors influencing the likelihood of a state being targeted by military aggression. Model 3 presents the results of these analyses. As before, I determine the substantive impact of the variables by calculating changes in the relative risk of event occurrence given a change in the covariates. Changes in the relative risk of being the target of military aggression are presented in column 3 of Model 3.

As expected, higher levels of strategic exports increase the likelihood that a state will become the target of a militarized dispute (see Model 3). In fact,

strategic export dependence increases the likelihood of being targeted by about 26%. Importantly, this only applies to underdeveloped states. Wealthy states with high levels of strategic exports are less likely to be targets of military aggression. Put differently, states with high amounts of strategic resources have something other states want, and if they are weak, they are tempting targets for military aggression. Consistent with hypothesis 3b, the empirical results indicate that higher levels of foreign direct investment reduce the likelihood a state will be a target of military aggression. A one standard deviation increase in a state's level of foreign direct investment decreases the likelihood of it being the target of a militarized dispute by about 22%. This illustrates an important difference between trade and investment. Where trade may or may not contribute to peace, investment, by increasing the costs of conflict and reducing the incentives for conquest, foreign direct investment always contributes to peace.

The empirical results also reveal that democracies are neither more nor less likely to be targets of military aggression. Insofar as democracies rarely enter into military conflict with other democracies, the insignificance of this variable suggests democracies may be perceived as weak by non-democracies. While it is often said that the best way to promote peace is to prepare for war, I find that the more militarized a state, the more likely it is to be a target of military aggression. Increasing a state's level of militarization increases the likelihood it will become the target of a militarized dispute by 16%.

Robustness and Sensitivity Analysis

In this section, I analyze the sensitivity of the empirical models to alternative operationalizations of central variables. The arguments about a state's military orientation emphasize conquest as a wealth generating mechanism. Because the seizure and occupation of land are at the heart of this perspective, the military state variable is the proportion of military personnel to total population. Nonetheless, for a state's military to be most effective, it needs sophisticated weaponry. To take into account this additional aspect, I created a military index variable based on both military personnel and expenditures. For the military personnel part of the index, I determined the ratio of each state's military personnel per capita over the highest military personnel per capita in the international system for each year. I calculated the military expenditures portion of the index in a similar manner. Then, I added the two components. To make the variable range between zero and one, I divided the result by two.

Running the above analyses with the military state index variable does not change the results (see Table 3.4).²⁸ Like the military personnel variable, the military index variable is always significant and positive. The trade and investment dependence variables remain statistically significant and negative, and, perhaps most importantly, the strategic trade-militarization interaction variable is significant and positive. Thus, none of the central theoretical variables are affected by this alternative specification.

It is not uncommon to find researchers employing a dummy variable for democratic institutions, suggesting they are either present or not present. This is

²⁸ The correlation between the military state index variable and the militarization variable based only on military personnel is .83.

inspired by arguments underscoring the importance of mature and stable democratic norms and regimes. In fact, democratic peace arguments emphasize an either/or situation with respect to democratic institutions. To examine if this alternative specification affects the results, I re-ran every model using a democratic dummy variable. The variable equals 1 if a nation registered 6 or greater on the Polity IV democracy index. All results remain the same.

Conclusion

One aim of this research is to develop an argument on economic dependence and international conflict. Contrary to previous research, I argue that the relationship between trade and conflict varies with the type of goods traded and is conditional on a state's power. Non-strategic trade dependence increases the costs of conflict and contributes to peace. However, states dependent on importing strategic goods have an incentive to reduce their vulnerability, and will do so if they have the power. In other words, dependence on importing strategic goods does not contribute to peace if a state also has a large military. Moreover, I posit that previous arguments have omitted an important part of economic dependence: foreign direct investment. Economic dependence on foreign direct investment is similar to trade dependence in that it raises the costs of potential conflict. States with investment do not want to jeopardize their investments. Investment, however, differs from strategic trade in that it does not provide an incentive for attack. Foreign direct investment, then, always contributes to peace.

A second goal of this research is to appropriately test this theoretical argument. For both Immanuel Kant (1795) and Richard Rosecrance (1986, 1999), and contrary to most research analyzing their arguments, the effects of economic dependence are not limited to dyadic relationships. Correspondingly, I evaluate the influence of economic dependence on interstate conflict at a monadic level of analysis. Further, previous studies analyzing monadic arguments have over-aggregated the dependent variable. By definition, conflict involves at least two actors. To evaluate a monadic argument, then, it is necessary to distinguish between participation in interstate conflict and the initiation and targeting of interstate disputes. Failure to parse the dependent variable in this manner may lead to biased results. More generally, this research contributes to our understanding of foreign policy decision-making by distinguishing between initiators and defenders in international hostilities.

I find that states economically dependent on importing strategic goods are more likely to initiate disputes than other states, if they also have a significant military establishment. Relatedly, I find that states with strategic resources are more likely to be targets of military aggression if they are weak. In short, states will fight over strategic commodities. The pacifying influence of trade, then, only extends to non-strategic commodities. Research that does not disaggregate trade misses this important distinction. I also find that higher levels of FDI reduce the likelihood of a state initiating and reciprocating militarized disputes. Perhaps the best way to build peace, then, is to promote globalization. Finally, these findings are robust to alternative model specifications.

This research also contributes to the democratic peace research program by conducting the first large-scale examination of the effects of democratic regimes on the initiation and targeting of disputes. Democracies are not only unlikely to engage other democracies in militarized disputes, but are also more peaceful in general. However, democratic institutions do not reduce the likelihood that a state will become the target of a dispute. Complementing the research of Hegre (2000) and Mousseau (2000), this research finds a synergistic relationship between democracy and development. Developed democracies are less likely to initiate disputes than developed non-democracies. This implies that development without democratic institutions is potentially dangerous.

Chapter 4

Institutional Similarity and Interstate Conflict

In 1989, Francis Fukuyama proclaimed an end to history.²⁹ The end to which Fukuyama is referring is the end of ideological conflict between nation-states. For Fukuyama, the collapse of the Soviet empire and the concomitant spread of liberal political and economic institutions ushers in a new age of international peace. While much has been written about Fukuyama's controversial thesis, we lack a comprehensive analysis of the argument. At its core, the end of history thesis is about political and economic institutions. But, what is the relationship between political and economic institutions and interstate conflict? If two states have different political institutions, is conflict more likely to occur between them? If two states have different economic institutions, is conflict more likely to occur between them? If so, why?

I argue that institutional similarity is an important influence on the likelihood of interstate conflict between states. The central tenet of this argument, in line with Fukuyama (1989, 1992), is that a state's political and economic institutions are a reflection of its ideology. Further, ideology influences preferences. Therefore, states with similar ideology, owing to similar institutions, are likely to share similar foreign policy preferences. Gartzke (1998, 2000) notes that a necessary condition for interstate conflict is a difference in preferences; to the extent that states share similar preferences, they have less to fight over and are more likely to be at peace with each other. Power transition theorists

²⁹ Fukuyama's original article appeared in *The National Interest* (1989). He later expanded the argument into a book, *The End of History and the Last Man* (1992).

advance a similar argument (Organski and Kugler, 1981; Kugler and Lemke, 1996; Lemke and Reed, 1996). In power transition theory, the two necessary conditions for great power conflict are a power transition and dissatisfaction with the status quo. Dissatisfaction clearly implies some difference of preferences. Moreover, recent work in the power transition research program suggests that dissatisfaction is influenced by the similarity of domestic institutions in two states (Werner and Lemke, 1997).

Despite its theoretical relevance, little research has analyzed the relationship between domestic institutions and dissatisfaction. Gartzke notes that “most current explanations for the democratic peace argue implicitly that the factors that motivate conflict are not substantially less common between democracies than among other states. It is assumed that democracies are about as likely to disagree” (1998: 3). Gartzke does not examine the link between domestic institutions and satisfaction, suggesting that “joint democracy is not the primary contributor to national preferences” (1998: 11). Nonetheless, I contend that institutions are important determinants of preferences and satisfaction. Kugler and Lemke also suggest that “It might well be possible to create a valid indicator of status quo evaluations by calculating the degree to which states are domestically similar to the dominant state” (Kugler and Lemke, 2000: 154).

“The problem lies in identifying what specific domestic institutions matter” (Kugler and Lemke, 2000: 154). Drawing on Fukuyama, I argue that both the political and economic institutions in a state are important influences on the state's foreign policy preferences. A second problem lies in identifying the

appropriate reference point for assessing satisfaction with the status quo. Werner (2000) advances a dyadic preference similarity argument. Fukuyama's argument also seems to emphasize dyadic institutional similarity and satisfaction. Power transition theory, however, emphasizes satisfaction with the systemic status quo. The appropriate measure, then, should assess the similarity of institutions between the dominant state and each individual state in a dyad. To more fully address these issues, I create four new measures of satisfaction. I construct separate measures of satisfaction based on the dyadic similarity of political institutions and economic institutions. I also construct measures of satisfaction that incorporates the similarity of each state's political and economic institutions with the dominant state.

I also investigate whether the types of conflict are the same for each type of status quo satisfaction. Does dyadic satisfaction reduce one type of conflict and systemic satisfaction reduce another type of conflict? Do measures of satisfaction based on economic institutions affect different dispute types than measures of satisfaction based on political institutions?

The paper proceeds as follows. In the next section, I develop the arguments connecting domestic institutions to satisfaction with the status quo and interstate conflict. These arguments emphasize that both political and economic institutions are central to satisfaction. The argument leads to hypotheses for both economic and political institutions and both the dyadic and systemic levels of analysis. In the third section, I present two new measures of status quo satisfaction based on domestic political and economic institutions.

The fourth section of the paper tests the two hypotheses. The fifth section presents an analysis of the relationship between satisfaction based on institutional similarity and types of militarized disputes. In the final section, I discuss implications of this research and avenues for future research.

Satisfaction and Interstate Conflict

Why do nations fight?

Two sets of factors influence decisions regarding international conflict: opportunity and willingness. In more specific terms, for conflict to occur, states must have both the means and the desire to attack another state; thus, opportunity and willingness are both necessary conditions for the outbreak of conflict (Most and Starr, 1989; Gartzke, 1998). The opportunity and willingness structure is related to the other primary framework for studying international relations, namely expected utility. Expected utility is a function of the probability and utility associated with winning and losing in a conflict. In this perspective, probability is akin to opportunity and utility is similar to willingness.

Most research has focused on the opportunity dimension of conflict. This is attributable to the influence of realism, which assumes there is always a motivation for conflict so there is little reason to investigate the willingness for conflict. While I will briefly discuss factors related to opportunity and include them in the empirical model presented in section four, the primary focus of this research is exploring the willingness dimension of conflict.

To say that willingness is a necessary condition for conflict is to say that there must be something to fight over. Further, there will only be something to fight over when actors hold different preferences on an issue(s). One task, then, for students of international relations is to identify the sources of foreign policy preferences. Relatedly, if one actor is dissatisfied with the status quo, then there is potential for conflict. Lemke and Reed (1996: 145) argue that "States satisfied with the status quo desire no changes to the international order, and thus have nothing over which to fight." A second task, then, is to identify what makes states satisfied with the status quo, and how to measure such satisfaction.

Domestic Institutions As A Source of Foreign Policy Preferences

Domestic institutions are a reflection of a state's ideology, which in turn strongly influence a state's foreign policy preferences. Domestic institutions reflect a state's ideology because they are a function of the group in power. Bueno de Mesquita, Morrow, Siverson, and Smith (1999) argue that states with large winning coalitions, i.e. democratic states, provide a more extensive set of public goods. On the other hand, states with small winning coalitions provide fewer public goods. Differences in domestic institutions also influence a state's views of human rights. The United States, a democratic state, for example, has pushed for a set of universal human rights that includes freedom of religion. China, on the other hand, does not include freedom of religion in its view of human rights. Assuming there are universal human rights, which both the United States and China do, then the difference on what is a human right and what is

not is likely a reflection of the domestic institutions in a state. Finally, the change of government in Iran in 1979 led to a dramatic change in that state's foreign policy preferences. The shift from a secular autocracy to a strict religious oligarchy immediately disrupted Iran's alliances with secular states like the United States.

Because domestic institutions influence a state's foreign policy preferences, the similarity of domestic institutions between states affects a dyad's satisfaction with the status quo. Research on the relationship between democratic institutions and interstate conflict supports this contention. As is well known, two democracies rarely, if ever, engage in extensive military conflict. One explanation of the democratic peace phenomenon is that democracies share common norms of dispute reconciliation so they are able to resolve severe conflicts.³⁰ A second explanation of the democratic peace emphasizes the role of democratic institutions in communicating resolve.³¹ A third explanation, however, suggests that the democratic peace is the result of democracies having nothing to fight over.³² "It is thus satisfaction with the status quo that accounts for the lack of wars between democracies in the past two centuries (Lemke and Reed, 1996: 160)." Further, institutional similarity and satisfaction is not limited to democracies. Werner (2000: 344) finds that "politically similar states are less

³⁰ See Maoz and Russett (1993) for a discussion of the normative explanation. For a broader and survey of the democratic peace research program, see Russett and Starr (2000).

³¹ Most game theoretic analyses emphasize the institutional explanation of the democratic peace. See for example, Bueno de Mesquita, Morrow, Siverson, and Smith (1999) and Schultz (1999). Maoz and Russett (1993) also discuss the institutional explanation.

³² In addition to Lemke and Reed (1996), Gartzke advances this argument (1998, 1999).

likely to be engaged in conflict with each other than are politically disparate states."

In assessing foreign policy preferences and satisfaction, previous research has focused exclusively on political institutions and relationships. World politics, however, is not only about political relationships, but also economic relationships. Indeed, ideology is as much a function of a state's economic institutions as it is political institutions in a state. The historian Richard Pipes argues that private property rights are the basis for the establishment of liberal political systems: "property . . . provides the key to the emergence of political and legal institutions that guarantee liberty" (1999: xii). Similarly, Fukuyama argues that "In its economic manifestation, liberalism is the recognition of the rights of free economic activity and economic exchange based on private property and markets" (1992: 44). Accordingly, I contend that a central dimension along which to distinguish between states foreign policy preferences is the degree to which states protect private property.

To the extent that the protection of private property influences a state's foreign policy preferences, then dyadic satisfaction depends as much on the similarity of economic institutions as it does on the similarity of political institutions. Brawley (1993), for instance, argues that international politics is as much about economic rules as it is about political rules. When a new state becomes dominant, it establishes a particular economic order to maximize its power. According to Brawley, the type of economic order established by the dominant state is a function of both its economic factor endowments (e.g. land,

labor, and capital) and political system. What is especially important about his argument is that different political systems may favor similar economic policies depending on their factor endowments. For instance, a labor-abundant republican regime and a labor-abundant autocratic regime will both favor free trade policies for the labor intensive sector of the economy. To understand satisfaction with the status quo, then, it is necessary to consider both political and economic institutional arrangements. Similarly, in the context of power transition theory, Lemke and Reed note that for two states to be satisfied they “would have to possess similar internal economic composition as well as similar regime types” (1996: 146).

Including economic institutions in an analysis of satisfaction permits useful distinctions among states not previously possible. Olson (1996), for instance, finds that the central difference between economically developed states and economically underdeveloped states is the extent that they protect private property. Similarly, Sobel (1999) finds that differences in the protection of property rights across states is a significant influence on the amount of capital a state can attract. Additional distinctions based on protection of property rights are also possible. For instance, the United States and Sweden are both democracies. However, we can distinguish clear differences between the economic institutions in the United States and Sweden. Further, an increasing number of states are adopting free market economic institutions but retaining authoritarian political institutions. Singapore and China are the most prominent examples. If we only consider political institutions, we are likely to expect conflict

between the United States and China. But, if we consider the growing similarity in economic institutions, we may not expect conflict to occur. This distinction has not been addressed in previous research.

Institutional Similarity, Satisfaction and Interstate Conflict

Institutional similarity enhances satisfaction and reduces conflict by diminishing areas of disagreement and reducing the benefits of conflict. First, institutional similarity improves mutual satisfaction by taking away a central issue of interstate conflict: ideological disagreement. Historians of international conflict note that ideological issues have become a growing source of interstate conflict (Holsti, 1991). Ideological concerns usually revolve around both the treatment of individuals within a state and the composition of a state's government (Werner, 2000). For example, a key source of contention between the United States and China is the issue of universal human rights. The United States has pushed for a set of universal human rights that includes freedom of religion. China, on the other hand, does not include freedom of religion in its view of human rights. This ideological difference, which is a reflection of different domestic institutions, between the United States and China is clearly a source of conflict. Because ideology is a function of a state's domestic institutions, the composition of a state's government may also be a source for interstate conflict. The fear of changes to state governments prompted the Soviet Union to intervene in Hungary in 1956 and in Czechoslovakia in 1968.

Second, institutional similarity strengthens satisfaction and reduces the likelihood of conflict by reducing the benefits of conquest. Bueno de Mesquita

(1981) argues that the benefit of conflict is a function of the differences between states foreign policy preferences. As preference affinity decreases, the benefits of conflict increase relative to the costs. Werner (2000) also notes that one of the primary benefits a state can derive from conflict is the re-structuring of another state's foreign policy preferences. In short, as institutional similarity reduces the benefits of conquest, states have less incentive to fight.

The central factors affecting the opportunity dimension of conflict are distance and power parity.³³ Consider distance. As the distance separating two states increases, it is more difficult to mount a successful military campaign (Buono de Mesquita, 1981; Lemke, 1995). Larger distances make it more difficult both to get troops to the battlefield and to re-supply troops. Separation, then, makes it more difficult for conflict to occur. Greater distance between countries may also have an indirect effect of decreasing the willingness for conflict. If two states are far apart, they may have minimal interaction, and thus little to fight over.

Power transition theory has also identified power parity as an important factor affecting the opportunity for conflict (Organski and Kugler, 1981; Kugler and Lemke, 1996). As the imbalance of power in a dyad increases, the probability of victory in a dispute for the weaker nation decreases. Unless the stakes are very high, the weak state will conclude that conflict is not an option as it has little probability of winning. Put differently, power parity provides an

³³ While contiguity is also a major influence on the opportunity for conflict, I consider it a subset of distance and do not consider it separately. Contiguous dyads have minimal distance between them. Realist theories emphasize the importance of anarchy as creating an opportunity for conflict. While the international system may be anarchic, a homogeneous structure cannot exercise any leverage in explaining why some dyads experience conflict and others do not.

opportunity for conflict because it increases the potential benefits relative to the costs. If there is not power parity, the costs of conflict for the weaker side greatly outweigh the benefits, and they are expected to give in to the demands of the stronger state. If there is parity, then both sides have a chance to benefit; therefore, as power parity increases the potential benefits relative to the costs increase and conflict becomes more likely. Insofar as this argument is accurate, then conflict should be more likely to occur under conditions of power parity than under conditions of a power imbalance. Numerous empirical studies support this hypothesis (see Kugler and Lemke, 1996, 2000).

Dyadic Satisfaction vs. Systemic Satisfaction

The impact of preference similarity on conflict revolves around the status quo. However, previous research has measured the status quo at two different levels of analysis: the dyad and the system. Most research on the democratic peace focuses on the dyad as the appropriate level and unit of analysis. The research question in the democratic peace research program is whether or not two democracies are less likely than other dyads to experience interstate conflict. Similarly, Werner's (2000) research analyzes the effects of dyadic political similarity on interstate conflict. The argument is straightforward and leads to my first set of hypotheses. The hypotheses distinguish between political and economic institutions in order to examine the independent effects of each

Hypothesis 1a: Dyads with similar political institutions will have similar preferences, thus, they will be satisfied with each other and experience less conflict than dyads with dissimilar political institutions.

Hypothesis 1b: Dyads with similar economic institutions will have similar preferences, thus, they will be satisfied with each other and experience less conflict than dyads with dissimilar economic institutions.

Power transition theory also underscores the importance of satisfaction with the status quo as a central determinant of interstate conflict. The focus of power transition arguments, however, is not the dyadic status quo, but the systemic status quo. Power transition arguments emphasize a hierarchical international system, where the rules of the system are established by the dominant state. States maximize their gains when they are domestically organized in a way similar to the dominant state. Relatedly, Douglass North (1981) and Richard Rosecrance (1999) note that shared ideology is important for obtaining the benefits of a market-based system. Market systems depend on trust, and similar institutions enhance trust between actors. An individual state, then, is satisfied with the systemic status quo when its domestic institutions are similar to the domestic institutions of the dominant state. It is not entirely clear how satisfaction with the systemic status quo affects dyadic behavior. If both states in a dyad are satisfied with the systemic status quo, then conflict is not likely to occur. However, if two states are satisfied with each other, but not with the systemic leader, conflict expectations in this dyad are unclear. As a minimum, we can state the following hypothesis.

Hypothesis 2a: Dyads in which both states have political institutions similar to the dominant state should experience less conflict than other dyads.

Hypothesis 2b: Dyads in which both states have economic institutions similar to the dominant state should experience less conflict than other dyads.

Measures of Satisfaction Based on Institutional Similarity

A central question for students of international conflict is to determine the appropriate reference for satisfaction with the status quo. Clearly, the status quo is a function of time and point-of-view. At present, Israeli control over Jerusalem is the status quo on this contentious issue. One hundred years ago, however, Jerusalem was controlled by the British. This research does not address status quo issues concerning time and point-of-view. Instead, the focus here is on the appropriate level of analysis for assessing satisfaction with the status quo. Does dyadic satisfaction have a different influence on conflict behavior than systemic satisfaction? In the next section, I discuss previous measures of both dyadic and systemic satisfaction. Then, I offer a new measure based on domestic institutions.

Previous research has measured a dyad's willingness for military conflict, or satisfaction with the status quo, in four ways: alliance portfolio similarity, United Nations voting records, military build-ups, and money market discount rates. Bueno de Mesquita (1981) created a measure of dyadic affinity based on the similarity of two states alliances portfolios.³⁴ The idea is that states with similar alliances have similar foreign policy preferences, and therefore less to fight over. Two issues limit the utility of using alliance portfolios to measure foreign policy preferences. First, alliances are strategic decisions. As such, alliances only indicate specifically revealed preferences. Generally, an alliance is

³⁴ Signorino and Ritter's (1999) S-index is a statistical improvement over Bueno de Mesquita's measure. Conceptually, the measures are the same.

sometimes made to signal to a potential adversary one's commitment to a third party. If this commitment is clear, then an alliance may not be necessary. The United States does not have a formal alliance with Israel, yet all available evidence indicates that the United States is committed to the defense of Israel. The United States and Israel also seem to share similar foreign policy views, despite the absence of a formal alliance. Moreover, if a state is not directly threatened by another state, then it may not enter into any alliances, or if a state feels it is secure without an alliance, then it may not enter into any alliances. New Zealand is an example of the first situation. New Zealand is no longer a member of the ANZUS alliance, in part because it does not face any immediate threats. Yet, it is not clear that the United States and New Zealand share vastly different foreign policy preferences. Switzerland is an example of the second situation. Switzerland is a neutral country, yet on most issues the United States and Switzerland share similar views. Second, Gartzke (1998) argues that during the Cold War, states did not vary their alliance patterns, limiting the leverage of this measure.

Gartzke (1998) created a measure of dyadic affinity based on the similarity of states' United Nations voting records. This measure is similar to Bueno de Mesquita's (1981) alliance portfolio measure; the more two states vote alike, the less willingness they have for military conflict. Many United Nations votes, however, are on symbolic issues, such as condemning terrorism. Such votes are unlikely to reveal significant foreign policy preferences. Additionally, United

Nations votes on which there is a lack of unanimity tend to be on a single issue: the Middle East conflict between Israel and the Palestinians.

Werner and Kugler (1996) present a measure of dissatisfaction based on military buildups. While Werner and Kugler focus on challenger states and satisfaction with the systemic status quo, the idea of military buildups easily extends to dyads. Dyads engaging in arms races may be considered dissatisfied with each other. However, it is much less clear that the lack of an arms race implies satisfaction with the status quo.

Finally, Bueno de Mesquita (1990) uses money market discount rates to measure Germany's evaluation of the systemic status quo in the late 19th century. He argues that "a rising discount rate for a nation's money reflects a broad base of declining confidence in that nation" (Bueno de Mesquita, 1990: 42). Lemke and Reed (1996) note that this definition of satisfaction may result in the dominant state being dissatisfied with the status quo, but, by definition, the dominant must be satisfied. To address the shortcomings in previous measures, I offer a new measure of foreign policy preferences.

I argue that a state's foreign policy preferences are driven, to a large extent, by the nature of its political and economic institutions. For instance, authoritarian political institutions and extensive state control over the economy and property rights characterize communist political systems. On the other hand, democratic political systems and extensive protection of private property rights characterize liberal political systems. The Cold War ideological conflict is a reflection of this difference in political and economic institutions. Insofar as

domestic institutions influence a state's foreign policy preferences, then measuring the similarity of domestic institutions provides a broader measure of satisfaction.

Political Institutions

"Political rules [institutions] broadly define the hierarchical structure of the polity, its basic decision structure, and the explicit characteristics of agenda control (North, 1990: 47)." Phrased differently, political institutions focus on two basic questions. First, what is the power relationship between the government and the people? In other words, what means, short of violence, do the citizens of a state have for removing a political leader? Second, what is the relationship between the different branches of government? Does one branch or person dominate the political process? Are there checks and balances?

I use the Polity IV dataset to measure the nature of the political institutions in a state (Marshall and Jaggers, 2000). The Polity project produces an index of democracy for each state in the international system. This index is largely a function of four different authority dimensions: competitiveness of executive recruitment, openness of executive recruitment, executive constraints, and competitiveness of political participation. Although the Polity data provides a summary index measure of democracy in each state, there are different ways to attain the same index score (Gleditsch and Ward, 1997). For this reason, I follow Werner (2000) and disaggregate the democracy index into the above four dimensions, and create a measure, *dyadic political similarity*, of political similarity

based on the distance between states' scores on these dimensions. Like Werner, I standardize each dimension by dividing the distance by the maximum possible value for that dimension. I also multiply it by negative one so that the measure reflects political similarity instead of political dissimilarity.

Next, I created a second variable, *systemic political similarity*, measuring a dyad's satisfaction with the systemic status quo. First, I calculate the distance between state "A's" political institutions and the political institutions in the dominant state. Since this research only covers the post-World War II period, the dominant state is always the United States. Second, I calculate the distance between state "B's" political institutions and the political institutions in the dominant state. Then, I add one to each of the above scores and multiply them together. I add one to prevent multiplying by zero. Finally, I take the square root of this value and divide by the highest possible value, 21, so that the final value ranges between 0 and 1. Again, I multiply by negative one so that higher scores represent more similarity with the system leader.

Economic Institutions

Where the focus of political institutions is participation in the political process and protection of civil rights, the focus of economic institutions is the protection of private property rights. "Economic rules [institutions] define property rights, that is the bundle of rights over the use and the income to be derived from property and the ability to alienate an asset or a resource (North, 1990: 47). Institutions enhance property rights, and in turn, economic activity in two ways.

First, institutions reduce transaction costs. Transaction costs include the costs involved in negotiating, implementing, and enforcing a transaction. Transaction costs limit economic activity; they make for imperfect property rights, and therefore transaction costs are a central reason property rights need protection (North, 1990: 8). "The costs of transacting arise because information is costly and asymmetrically held by the parties to exchange (North, 1990: 108)."

Institutions counter transaction costs by providing information to actors. Second, institutions enhance property rights by reducing enforcement problems. All transactions depend on contracts and the enforcement of contracts. When enforcement is uncertain, haphazard, or costly property rights are less secure. Commenting on the importance of contract enforcement, Douglass North writes that "the inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary underdevelopment in the Third World (1990: 54)." In short, institutions protect property rights by reducing the uncertainty involved in economic transactions.

The central dimension along which to measure economic institutions is a state's protection of property rights. I use data from the International Country Risk Guide (ICRG) to measure the extent that the economic institutions in a state protect private property rights. The ICRG is produced by an international risk services firm. It is designed to provide potential foreign investors information on the protection of private property rights. ICRG data covers about 100 countries

over the period 1982 to present (see Appendix A for a list of states in the ICRG dataset).

Following Sobel (1999) and the Keefer and Knack research group (Clague, Keefer, Knack, and Olson, 1996; Knack and Keefer, 1995), I use five ICRG variables to create a measure of private property protection in a state. The variables comprising this “regulatory index” are the risk of expropriation, rule of law, repudiation of contracts, corruption in government, and bureaucratic quality. As this dataset is unfamiliar to most political scientists, I briefly describe each variable in the index.

Expropriation risk measures the probability of “outright confiscation” or “forced nationalization.” As the probability that the government will confiscate an investment increases, economic actors are less likely to invest. This measure of private property protection varies from 0 to 10, with lower scores indicating higher risk.

The rule of law variable “reflects the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and adjudicate disputes” (Knack and Keefer, 1995: 225). Higher scores indicate greater confidence in one’s government for impartial adjudication of disputes. This variable ranges from 0 to 6.

Assessing the probability that contracts are repudiated by the government taps into the amount of confidence private actors can have in the government. “In the absence of impartial state enforcement, the only impersonal exchanges taking place between private economic actors will be those that are self-

enforcing” (Knack and Keefer, 1995: 211). This variable ranges from 0 to 10, with lower scores indicating higher risk of contract repudiation.

The corruption in government variable measures the extent to which “high government officials are likely to demand special payments” and “illegal payments are generally expected throughout lower levels of government” (Knack and Keefer, 1995: 225). This variable ranges from 0 to 6, with lower scores indicating more corruption in government.

The bureaucratic quality variable measures the bureaucracy’s “autonomy from political pressure” (Knack and Keefer, 1995: 225). States with low scores on this variable have bureaucracies more concerned with political pressures than efficiency in making decisions. This variable ranges from 0 to 6.

I use these variables to create a regulatory index score for each state. The regulatory index is the sum of the five variables, where the bureaucratic quality, corruption in government, and rule of law variables are first transformed into 10 point scales to ensure equal weight for each component of the index. With the regulatory indices, I create a measure of the similarity of economic institutions between two states in a dyad. This variable, *dyadic economic similarity*, is the absolute value of the difference between the regulatory score of state “a” and the regulatory score of state “b”. I, then, divide by 50 to make the variable range between 0 and 1, with higher values indicating more similar economic institutions in the dyad.

I also created a variable, *systemic economic similarity*, measuring the similarity of the economic institutions in a dyad with the system leader. The

construction of this variable is similar to the construction of the systemic political similarity variable. First, I found the difference between the ICRG scores of states a and b and the ICRG score of the United States. Again, I added one to each of these scores to prevent multiplication by zero. Then, I multiplied them together and took the square root. Higher values of systemic economic similarity represent less similarity with the system leader.

Empirical Model

The above arguments lead me to specify the following empirical model of interstate conflict.

$$(EQ 1) \text{ Conflict} = \beta_0 + \beta_1 * \text{Political Similarity} + \beta_2 * \text{Economic Similarity} + \beta_3 * \text{Joint Democracy} + \beta_4 * \text{Trade Interdependence} + \beta_5 * \text{Foreign Direct Investment} + \beta_6 * \text{Power Parity} + \beta_7 * \text{Allies} + \beta_8 * \text{Distance} + \beta_9 * \text{Contiguity} + \beta_{10} * \text{Major Power Dyad} + e$$

I operationalize the dependent variable as whether or not a dyad experienced the onset of a new militarized interstate dispute (MID) in a particular year. Accordingly, the unit of analysis is the dyad year. "The term "militarized interstate dispute" refers to united historical cases in which the threat, display or use of military force short of war by one member state is explicitly directed towards the government, official representatives, official forces, property, or territory of another state" (Jones, Bremer, and Stuckey, 1996: 168). I also include interstate wars in the analysis; the Correlates of War project defines wars as disputes that exceed 1000 battle casualties.

Data on economic institutions are only available as far back as 1982. While the economic institutions data extend to the present, data on the dependent variable only extend to 1992. Thus, the temporal domain of this analysis covers the period 1982 to 1992. In cross-sectional terms, the analysis covers over 100 states, including developed and underdeveloped states in all regions of the world. See Appendix A for a list of countries included in the analysis.

To estimate the above model, I employ a general estimating equation (GEE), specifying a logistic link function and a first order autoregressive correlation structure. I use a logistic link function to account for the unique properties of a dichotomous dependent variable. Further, Beck, Katz, and Tucker (1998) argue that it is important to control for temporal dependence in time series, cross-section data. They do so by including temporal dummy variables or a spline function of these variables. Oneal and Russett (1999) and Zorn (2000) note that a better, and more theoretical, way to address issues of temporal dependence is to model them directly. They advocate the use of GEE models. Given the nature of the data generating process, it is likely that values of the independent variables in the preceding period strongly influence values in the current period, so I specify an AR (1) correlation structure.³⁵ I also lag all of the independent variables by one year to ensure that the independent variables are producing changes in the dependent variable and not the reverse. GEE

³⁵ While estimating an empirical model similar to one here, Oneal and Russett (1999) also specify an AR (1) correlation structure. This model produces similar results to one that uses the Beck, Katz, and Tucker (1998) spline technique. Zorn (2000) also specifies an AR (1) correlation structure for a similar empirical model.

models are advantageous for another reason. They produce population averaged results, which is more useful for making comparisons across groups. Since the focus here is on particular types, or groups of states, the GEE estimator is most appropriate.

I run two different versions of the model specified above, one with dyadic political and economic similarity and one with systemic political and economic similarity. These variables are measured as described in section three. I use data from the Polity project to measure joint democracy (Marshall and Jaggers, 2000). Specifically, I use the smaller of two dyadic democracy index scores in a dyad. This variable ranges from 0 to 10.

I measure trade interdependence as exports plus imports divided by a state's gross domestic product. As with the democracy variable, I employ the weak link operationalization and only include the less dependent state's trade interdependence in the empirical model. Data on trade interdependence comes from the International Monetary Fund.

Unlike most research analyzing economic interdependence, in addition to trade interdependence I also include a measure of foreign direct investment. Like trade interdependence, the expectation is that as a dyad's level of foreign direct investment increases, militarized conflict becomes less likely. Unfortunately, dyadic foreign direct investment data is not available for a large number of dyads. Instead I employ a monadic measure of foreign investment. The expectation is the same. The more an individual state is open to foreign investors, the less likely it should be to enter into conflict with other states. Data

on foreign direct investment comes from the World Bank's World Development Indicators (1997). I also use the weak link operationalization of this concept.

Power preponderance is the ratio of the larger state's Correlates of War Composite Capabilities (COWCAP) index over the smaller state's COWCAP index. Higher values on this measure represent less power parity.³⁶ Given the arguments of power transition theory and previous empirical findings, I expect this variable to be negative.

I also use the Correlates of War data to measure the existence of an alliance in a dyad. The COW project classifies alliances into four types: no alliance, entente, non-aggression pact, and mutual defense pact. I dichotomize this scheme, coding ententes, non-aggression and mutual defense pacts as alliances. If none of these types of alliances exists in a dyad, the variable takes on a value of 0.

Contiguity is a dichotomous variable, taking a value of 1 when two states share a land border or are separated by less than 150 miles of water. I measure distance as the great circle distance between each state's capital.

Since I analyze all dyads, as opposed to only including politically relevant dyads, I include a variable for major power dyads. Owing to greater logistic capabilities and international commitments, major powers are more likely than other states to become involved in militarized disputes. This variable takes on a value of 1 when at least one state in a dyad is a major power, 0 otherwise. The COW project classifies the following states as major powers for this period: the

³⁶ I use Bennett and Stam's (2000) EUGene program (version 2.101) to generate the COWCAP, alliance, contiguity, distance, and major power status data.

United States, the Soviet Union/Russia, France, Britain, China, Germany after 1990, and Japan after 1990.

Empirical Results

First, I analyze the influence of dyadic institutional similarity on conflict onset. The empirical results in Table 1 support hypotheses 1a and 1b (see Model 1a in Table 1). Consistent with Werner (2000), I find that higher levels of dyadic political similarity reduce the likelihood of a militarized interstate dispute (MID) occurring. Unlike previous research, however, I argue that the similarity of economic institutions in a dyad also influences the onset of MIDs. The results of Model 1a support this expectation. The greater the similarity of economic institutions in a dyad, the less likely that dyad is to experience a MID. Moreover, increasing the similarity of economic institutions in a dyad by one standard deviation reduces the likelihood of a militarized dispute by 57%, while a similar increase in the similarity of political institutions only reduces the likelihood of a dispute by 23% (see Table 2). What is perhaps most important is that the independent effects of both political similarity and economic similarity are statistically significant. Models omitting economic similarity, then, may have biased results due to model misspecification.

The other variables in Model 1a generally perform as expected. Power preponderance reduces the likelihood of conflict onset. This is especially important as it is one of the two central concepts identified in the power transition research program. Contiguous dyads are more likely to experience conflict than non-contiguous dyads. Similarly, the greater the distance between two states,

the less likely they are to experience militarized conflict. As expected, major power dyads are also more likely than other dyads to experience militarized conflict. Foreign direct investment is significant and negative, yet trade interdependence is not statistically significant. These results suggest that a liberal peace may be more a function of institutions and foreign direct investment than trade interdependence. Finally, the allies variable is not statistically significant.

An alternative explanation of the above results is that political and economic similarity are significant due to the omission of a joint democracy variable. In other words, only the portion of the political and economic similarity variables that includes joint democracies may be significantly influencing the onset of disputes. I examine this argument by including a control variable for joint democracy (see Model 1b). Including the joint democracy variable does wash out the effect of the political similarity variable. Jointly democratic dyads are less likely than other dyads to experience a militarized dispute, but the influence of political similarity does not extend to other regime types. Economic similarity, however, is statistically significant and negative. In other words, the greater the similarity between two states economic institutions, the less likely they are to experience militarized conflict. As indicated in Table 2, a one standard deviation increase in economic similarity reduces the likelihood of a dispute by 60%.

Next, I analyze the influence of joint systemic satisfaction on interstate conflict. The empirical results in Table 3 support hypothesis 2b, but not

hypothesis 2a. As anticipated, dyads in which both states have economic institutions similar to the economic institutions of the system leader are less likely to experience a militarized dispute than dyads where the economic institutions are more different from the institutions in the dominant state. The similarity of political institutions with the dominant state is also statistically significant and negative. As before, jointly democratic dyads are less likely than other types of dyads to experience a militarized dispute. Still, the effects of economic and political institutional similarity hold even in the presence of joint democracy.

Further, increasing the similarity of the economic institutions in a dyad with the system leader's institutions leads to a significant reduction, 55%, in the likelihood of conflict. This effect is greater than a similar change in the similarity of political institutions, power preponderance, or joint democracy. In brief, economic institutions matter.

While economic institutions matter, the effect of the economic interdependence is less clear. Trade interdependence is not significant. However, foreign direct investment is significant and negative. Greater levels of foreign investment reduce the likelihood of conflict onset. Moreover, the effect of foreign direct investment is substantive. A one standard deviation increase in foreign direct investment reduces the likelihood of conflict by about 20%. The other control variables in Model 2 perform similarly to the control variables in Model 1. Contiguity, distance, major power status, and allies are all statistically significant, and exert the expected effect. Power parity, contiguity, smaller distances, and major power involvement all increase the probability of a dispute

occurring. Again, the allies variable is not statistically significant. As before, this may suggest a temporal dimension to the influence of this variable.

Dyadic Satisfaction, Systemic Satisfaction, and Types of Conflict

Outside of research on territorial disputes, few studies of interstate conflict consider the issues at stake. In this section, I explore the relationship between institutional similarity and types of militarized conflict. In particular, I investigate three questions. First, do political and economic institutional similarity reduce the likelihood of similar types of conflict? Second, does dyadic similarity affect one type of conflict while systemic similarity affects another type of conflict? Third, are some types of militarized disputes less likely with high political or economic similarity than other types of militarized disputes?

A primary reason most research on interstate conflict does not analyze the issues under dispute is that we lack a comprehensive and sound dataset of the reasons for militarized disputes. The Correlates of War project includes a variable, revision type, for the issue at stake in a dispute. Unfortunately, this variable is coded into four very general categories: territorial, policy, regime change, and other. For present purposes, this coding scheme does not permit a clear identification of disputes for political versus economic reasons. For instance, a dispute classified as territorial may be motivated to free members of a similar ethnic group from oppression or a territorial dispute may be motivated to acquire natural resources. The first is an example of a politically motivated dispute, while the second is an example of an economically motivated dispute.

Nonetheless, an analysis of institutional similarity and types of dispute may provide some preliminary answers to the questions above.

To simplify the analysis, I first dichotomized the institutional similarity variables into a high similarity category and a low similarity category. A dyad is coded as highly similar if the value on the institutional similarity variable is greater than or equal to one standard deviation above the mean, otherwise it falls into the low similarity category. This results in four new dummy variables: high dyadic political similarity, high dyadic economic similarity, high systemic political similarity, and high systemic economic similarity.

When comparing political and economic institutional similarity, I find that dyads with highly similar economic institutions experience fewer territorial militarized disputes than dyads with similar political institutions (see Table 4). This holds at both levels of analysis. Dyadic economic institutional similarity results in fewer MIDs than dyadic political similarity, and systemic economic similarity results in fewer MIDs than systemic political similarity. In an analysis of territorial disputes, Huth found that “economically valuable bordering territory . . . was associated with a higher probability of a territorial dispute” (1996: 75). It is possible that more economically similar dyads are satisfied with each other economically, and thus have fewer incentives for a territorial dispute. Similarly, systemic economic similarity implies greater satisfaction with the economic status quo; thus explaining why these dyads are less likely to experience territorial disputes. To verify these suppositions, one would have to examine the

relationship between institutional similarity and disputes over economically valuable territory.

The difference between economic and political institutions with respect to disputes over policy issues is less clear. As displayed in Table 4, economic similarity at the dyadic level results in slightly fewer disputes, 16, than political similarity, 19. However, economic similarity at the systemic level is associated with more disputes, 38, than political similarity at the systemic level, 13.

Table 4 also reveals that fewer territorial disputes occur under high systemic institutional similarity than under high dyadic institutional similarity. At the systemic level, there are 10 territorial disputes in dyads with high political similarity, but at the dyadic level there are 13 territorial disputes under high political similarity. The results are similar for economic institutions. Systemic economic similarity is associated with only 2 disputes, while dyadic economic similarity is associated with 10 disputes. This is consistent with power transition theory. Territorial disputes are clear attempts to change the status quo. Insofar as systemic similarity indicates greater satisfaction with the status quo, then systemic similarity should be associated with fewer territorial disputes.

Finally, Table 4 affords a preliminary answer to whether or not some types of militarized disputes less likely with high political or economic similarity than other types of militarized disputes? Where the first two questions call for a comparison of the rows in Table 4, this question requires a comparison of the columns within a single row in Table 4. It is evident in Table 4 that the most common type of militarized dispute associated with institutionally similar dyads is

a policy issue. This applies for both economic and political similarity, as well as at the systemic and dyadic levels of analysis.

Finally, militarized disputes where a regime change is the dominant issue are highly unlikely to occur under conditions of high institutional similarity. At a minimum, this offers face validity to the institutional measures, for a regime change motivation should be unlikely when the institutions are similar. Still, one may ask why there are any cases with institutional similarity and a regime change was the central issue? Further analysis shows that a regime change motivation is only present when either the political or economic institutions are not highly similar. In other words, there are no cases in which a regime change militarized dispute occurs when both the economic and political institutions are dyadically similar.

Conclusion

Where most research on interstate conflict focuses on the opportunity dimension of conflict, this paper analyzes the willingness component. Contrary to realist theories, which imply that the anarchical structure of the international system creates an ever present willingness for conflict and the primary constraint on interstate conflict is the balance of power, I argue that the motivation for conflict varies across dyads. Satisfied dyads are less likely to engage in militarized disputes than dissatisfied dyads. This argument notwithstanding, the primary contributions of this paper lie in addressing three more specific research questions. First, what factors contribute to satisfaction? Second, does it matter if

we focus on satisfaction with a dyadic status quo or satisfaction with the systemic status quo? Third, does satisfaction reduce the likelihood of all types of militarized disputes or are some types of disputes more likely with satisfaction than other types of disputes?

With respect to the first question, I argue that satisfaction is primarily about preference similarity. In turn, preference similarity is largely a function of the similarity of domestic institutions. Unlike previous research, I argue that there are two relevant dimensions to satisfaction, a political component and an economic component. As such, I create measures of satisfaction based on both political and economic institutions. Given the theoretical uncertainty regarding the appropriate level at which to measure satisfaction with the status quo, I construct measures for both the dyadic and systemic levels.

An empirical analysis of the onset of militarized disputes over the period 1982 to 1992 supports the theoretical argument. Institutional similarity, at either the dyadic or systemic levels, reduces the likelihood of militarized interstate disputes. Perhaps most importantly, economic institutional similarity increases the likelihood of peace in a dyad more than political similarity.

On the third question, I find that the strongest effects of institutional similarity are to reduce the likelihood of militarized disputes over regime changes. I also find that economic similarity tends to reduce territorial disputes more than political similarity.

The results of this research are consistent with Fukuyama's argument on the end of history. Political and economic institutions are a reflection of a state's

ideology, and ideologically similar dyads are less likely to experience conflict than non-ideological similar dyads. Nonetheless, the results of this research should be viewed as preliminary. First, the empirical domain of the analysis is limited to ten years. It is important to test the sensitivity of these results over additional time periods. Second, the analysis of dispute types employs an unrefined measure of the issue at stake in a dispute. As further issue data sets become available, it will be important to re-examine the findings of this research.

Chapter 5

Conclusion

In this concluding section, I briefly review the contributions of this research to our understanding of world politics. I also apply insights from this research to the topic of terrorism. Too often academic work does not shed insights on real world events, and no topic is more relevant at this time than terrorism. While this dissertation is not on terrorism, it is about interstate conflict. As such, it should provide some understanding of this issue. Finally, I conclude with some observations on how to extend this research in the future.

The aim of this dissertation is to improve our understanding of the effects of globalization on international relations. The phenomenon of globalization has two dimensions: economic and political/cultural. The economic effect of globalization is to increase the economic connectedness between nations. "Over the past decade, trade has been growing twice as fast as output and foreign direct investment three times as fast" (Economist, September 28, 1996). The political/cultural effect of globalization is to increase the number of states with liberal political and economic systems. The globalization process, or using Richard Rosecrance's term virtualization process, "requires an effective regulatory state . . . This means that essentially Western commercial codes, legal systems, and relatively incorruptible political practices should be emulated in other regions of the world" (Rosecrance, 1999: 90). This dissertation explores

the influence of both of these factors, economic connectedness and institutional similarity, on interstate conflict.

In summary form, the major arguments and findings of this dissertation are as follows. I discuss each in turn.

- 1. Economic interdependence includes both trade and foreign direct investment.**
- 2. To analyze competing arguments concerning economic interdependence, it is necessary to disaggregate trade into strategic and non-strategic commodities.**
- 3. Non-strategic trade interdependence reduces dyadic conflict.**
- 4. The effect of strategic trade interdependence is conditional on the political relationship in the dyad. Dyads lacking political affinity with high levels of strategic trade interdependence are more likely than other dyads to experience militarized disputes.**
- 5. Foreign direct investment reduces the likelihood of dyadic conflict.**
- 6. States dependent on importing both strategic and non-strategic commodities are less likely than other states to initiate militarized disputes.**
- 7. Highly militarized states dependent on importing strategic commodities are more likely than other states to initiate militarized disputes.**
- 8. Democratic institutions reduce the likelihood of dispute initiation.**
- 9. Weak, that is economically under-developed, states dependent on exporting strategic commodities are more likely than other states to be targets of militarized disputes.**

10. Higher levels of foreign direct investment reduce both the likelihood of a state initiating a dispute and the likelihood that a state will be the target of a militarized dispute.
11. A state's ideology and foreign policy preferences are a reflection of the political and economic institutions in a state.
12. States with similar political and economic institutions are less likely to experience militarized conflict.
13. The strongest effect of institutional similarity is to reduce disputes over regime changes.
14. States with similar economic institutions are less likely to experience disputes over territory than states with similar political institutions.

In chapter two, I analyze the relationship between economic interdependence and militarized interstate conflict. I argue that previous studies examining the relationship between economic interdependence and international conflict are flawed because they fail to disaggregate trade into strategic and non-strategic commodities and neglect the role of foreign direct investment. The incorporation of these additional variables also permits a more rigorous research design in that I am able to address competing arguments.

I argue that non-strategic trade interdependence reduces the likelihood of conflict between states because it increases the opportunity costs of conflict. In one sense, the influence of non-strategic trade interdependence is similar to the influence of military power on interstate dynamics. Both increase the costs of

conflict, thereby constraining the actions of state leaders. But, trade does not always promote peace. I also posit that strategic trade interdependence increases the likelihood of militarized conflict between states. This effect, however, is conditional on the political affinity of the states in the dyad. The reason for the difference between non-strategic and strategic trade is that strategic trade increases a state's vulnerability and may be capturable; thus, strategic trade provides incentives for conflict that outweigh the disruption that conflict creates. Put differently, political leaders aim to retain their position in office. To do so, they must protect their state's security and enhance its welfare. States dependent on strategic commodities face both a security and welfare vulnerability. If the importing state feels the commitment to provide the goods is weak, and it will have this perception when there are different foreign policy preferences, then it has an incentive to enter into conflict.

In addition to trade interdependence, I argue that economic interdependence also involves foreign direct investment. Like trade interdependence, foreign direct investment also exercises a peaceful influence on interstate relations. Since conflict not only increases the costs of trade transactions, but also the risk, and in turn cost, of investment in another state, higher levels of foreign investment increase the opportunity costs of conflict. Foreign investment also contributes to peace between nations because it decreases the potential benefits of conquest. Under foreign direct investment, the investing nation is acquiring access to goods in the recipient nation so it has less incentive to pursue a policy of conquest to attain these same goods. In

short, foreign direct investment differs from strategic trade interdependence in that it reduces the incentives for conflict.

An empirical analysis of the onset of militarized interstate disputes for all dyads over the period 1970 to 1992 supports these arguments. I find that non-strategic trade interdependence does reduce the likelihood of conflict onset, though its effect is not statistically significant. However, the effect of strategic trade interdependence is significant and positive. Dyads with strategic trade and lacking in political affinity are more likely than other dyads to experience militarized disputes. I also find support for the pacific benefits of foreign investment. The more foreign direct investment in a state, the less likely the state is to experience a militarized dispute.

Nonetheless, these findings should be viewed as tentative. First, the empirical domain is limited. To the extent systemic forces influence the onset of militarized disputes and to the extent cycles of conflict characterize world politics, findings based on a single twelve year period can only provide limited support. Second, the arguments concerning foreign direct investment require dyadic data. Dyadic investment data, however, does not exist for a large number of countries. As such, this analysis uses state-level investment data. The finding that states with higher levels of foreign direct investment reduce the likelihood of dyadic conflict is consistent with, even if it is not a direct test of, the arguments set forth here.

Importantly, the statistical significance of these findings are present even when other relevant control variables are included. Moreover, the empirical

results are robust to alternative operationalizations of all the central theoretical variables.

In chapter three, I apply the arguments concerning the differences between strategic and non-strategic goods to state level behavior. This is important for two reasons. First, the arguments of theoreticians like Paine and Rosecrance emphasize the actions of the state. To evaluate those arguments, then, it is necessary to conduct a monadic analysis. Second, scientific findings always contain a certain amount of uncertainty. Yet, if a theoretical argument contains implications for multiple levels of analysis and we find empirical support for all of the implications, then we can express more confidence in the theory.

Because conflict requires at least two actors, state level arguments are difficult to assess. In particular, one cannot simply examine conflict participation, for we expect a state to respond if attacked. When discussing state level arguments, it is more appropriate to distinguish between the initiation of and participation in conflict. I also distinguish between initiating a dispute and being the target of a militarized dispute.

In chapter three, I argue that non-strategic and strategic import dependence, in general, reduce the likelihood that a state will initiate a militarized dispute. The reason is straightforward. States dependent on trade have more to lose if they enter into conflict with other states, even if the other disputant is not a trading partner. Conflict increases the costs of conducting business, so states with the most commerce have the most to lose. Nonetheless, states aim to alleviate dependence on strategic commodities. Since political leaders aim to

retain office and it is politically beneficial to reduce one's dependence on key commodities, militarized states dependent on importing strategic commodities are more likely than other states to initiate militarized disputes.

An empirical analysis of militarized interstate disputes over the period 1970 to 1992 supports the arguments concerning the differential effects of non-strategic and strategic trade interdependence. In addition, I find that foreign direct investment reduces the likelihood of a state initiating a dispute.

In chapter three, I also examine which states are more likely to be targets of militarized disputes. The conditional economic dependence argument laid out above suggests specific expectations regarding the targets of disputes. In particular, I expect that weak states exporting strategic commodities are more likely than other states to be the targets of aggressive foreign policies by other states. These states have something others want, and if they are not able to protect their resources, someone else is likely to attack them. On the other hand, foreign direct investment reduces the likelihood that a state will become the target of a militarized dispute. Foreign direct investment reduces the likelihood of being a target for two reasons. First, states investing in them have less incentive to attack since they are already extracting wealth. Second, states attracting investment have benefactors who do not want their investments jeopardized, thus deterring other, non-investing, states from attacking them. The empirical findings support these arguments.

In chapter four, I focus on the political/cultural dimension of globalization. Globalization is not only increasing economic connectedness between nations, it

is also spreading liberal ideology. Whereas previous research only emphasizes the relationship between a state's political institutions and its preferences, I argue that a state's ideology is a reflection of its political and economic institutions. States with similar domestic institutions will have similar foreign policy preferences, be more satisfied with the status quo, and less likely to enter into military conflict. Accordingly, I construct two new measures of satisfaction, one based on the similarity of political institutions across states and the other based on the similarity of economic institutions. I also distinguish between dyadic and systemic satisfaction.

After examining the onset of militarized disputes over the period 1982 to 1992, I conclude that institutional similarity at either the dyadic or systemic levels reduces the likelihood of a dispute occurring. Perhaps most importantly, economic institutional similarity is a stronger pacific influence than political similarity.

In chapter four, I also examine the relationship between institutional similarity and different types of militarized disputes. I find that the strongest effects of institutional similarity, whether political or economic, are to reduce the likelihood of militarized disputes over regime changes. I also find that economic similarity tends to reduce territorial disputes more than political similarity.

Economic Dependence, Institutional Similarity, and State Sponsored Terrorism

The events of September 11, 2001 have brought the issue of terrorism, and state sponsors of terrorism, to the forefront of international relations. This dissertation is not about terrorism, but it is about interstate conflict. As such, this research should provide some insights on the issue of state-supported terrorism.³⁷ A central argument of this research is that economic dependence encourages more peaceful foreign policies. Clearly, state sponsors of terrorism are not pursuing peaceful foreign policies. This dissertation, then, expects that states sponsoring terrorism should exhibit low levels of economic dependence. All the states identified by the United States Department of State as sponsors of terrorism exhibit trade dependence below the mean value of trade dependence for the international community as a whole.³⁸ In four of the states, their economic dependence is more than one standard deviation below the mean for the rest of the world. Each of these states is also far below the world mean in terms of foreign direct investment.³⁹ The lack of trade and investment dependence in these states is consistent with the argument of this dissertation.

In chapter four, I argue that institutional similarity taps into satisfaction with the status quo and a willingness for conflict. Insofar as this is accurate, we should expect the states labeled as “sponsors” of terrorism to be dissatisfied,

³⁷ The United States Department of State identifies the following as states sponsoring terrorism: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria. This list has not changed since 1993. In the next version of this report, Afghanistan is sure to be listed as well.

³⁸ Iran and Sudan have trade dependence scores of 22.92 and 21.22. Iraq's trade dependence is 50.85. Syria's trade dependence is 53.28, and assuming minimal trade for states not reporting to international agencies gives Cuba, Libya, North Korea, and Afghanistan trade dependence scores near zero. The mean of trade dependence is 61.55, and the standard deviation is 41.28.

³⁹ The World Bank reports that Cuba, Iraq, and Sudan had no foreign direct investment. The foreign direct investment as a percentage of a state's gross domestic product in Iran and Libya was negative, -.3006 and -.306 respectively. Syria's foreign investment was .5768. There is no foreign direct investment information available for North Korea and Afghanistan. The world mean for foreign investment is 1.20 with a standard deviation of 2.99.

meaning their institutions are significantly different than the institutions of the United States. The following are the political and economic similarity scores between the United States and each state sponsor of terrorism: USA and Cuba, .705 and -.400; USA and Libya, .705 and -.573; USA and Sudan, .705 and -.693; USA and Iran, .955 and -.585; USA and Iraq, .842 and -.684; USA and Syria, .842 and -.587; USA and North Korea, .842 and -.453; USA and Afghanistan, .878. The mean political similarity score for all dyads is 1.128 with a standard deviation of .333, while the mean economic similarity score is -.239 with a standard deviation of .182. All states sponsoring terrorism are below the mean value on both the political and economic measures, most by more than one standard deviation. This suggests these states are not satisfied with the status quo.

Future Research

While this dissertation improves our understanding of the effects of globalization on international relations, more research is still necessary. In particular, the discussion in chapters two and three emphasizes an opportunity cost argument in explaining the pacific benefits of economic interdependence. Others have placed more emphasis on the signaling aspects of economic interdependence. In future research, it would be useful to distinguish between the constraint and signaling explanations.

The discussion in chapter three on measuring the militarization of a state suggests an additional research enterprise. What are the determinants of major power status? Presently, we lack a definition of major powers. The low correlation between militarization and major powers suggests that major power status includes more than military power.

Finally, the discussion in chapter four underscores the importance of ideology and the similarity of ideology between states for understanding motivations for militarized conflict. However, the present indicators of political, and to a lesser extent economic, similarity are crude. Distinguishing between autocracies may be especially helpful. Presently, monarchies and military dictatorship are treated similarly, yet monarchies may be more peaceful toward other monarchies than they are toward military dictatorships. Addressing this issue may shed light on the causes of the democratic peace. Some scholars suggest that the democratic peace is a result of shared preferences among democracies. If this is true, then we are likely to observe peace in autocratic dyads of similar regime type. Others argue that democratic institutions facilitate the sending and receiving of costly signals, permitting democracies to resolve disputes at lower levels of hostility. If this is the case, then we are not likely to observe a separate peace in autocratic dyads with similar political institutions.

APPENDICES

APPENDIX A

Table 2.1: NBER SITC Trade Categories

SITC one-digit commodity group	Description
S0	Food and live animals
S1	Beverages and tobacco
S2 *	Crude materials except fuels
S3 *	Mineral fuels, lubricants
S4	Animal, vegetable oil, fat
S5	Chemical related products
S6 *	Basic manufactures
S7	Machines, transport equipment
S8 *	Miscellaneous manufactured goods
S9	Goods not classified

* Indicates Strategic Commodities

Table 2.2: Total Dyadic Trade Interdependence and Militarized Conflict, 1970-1992

Variable	β s.e.	Change in Predicted Probability of Event Occurrence
Total Dyadic Trade	-48.454 32.362	-15.67 %
Democracy	-.045 ** .020	-22.15 %
Power Parity	-.168 ** .070	-27.76 %
Allies	.407 .298	
Contiguity	3.665 *** .261	
Ln Distance	-.261 *** .105	
Dyad with a Major Power	2.000 *** .257	
Constant	-3.010 *** 1.081	
N	103386	
Wald Chi-Square	779.17 ***	

*** $p < .01$, ** $p < .05$ All significance tests are one-tail.

Note: The first differences in column 3 reflect a one standard deviation increase in each variable, while all other variables are held at their mean or modal values.

Table 2.3: Disaggregated Trade, Foreign Direct Investment and Militarized Conflict, 1970-1992

Variable	β s.e.	Change in Predicted Probability of Event Occurrence
Non-Strategic Trade	-955.574 82.766	-15.80 %
Strategic Trade	5.015 ** 2.300	14.95 %
FDI	-.063 *** .023	-9.39 %
Affinity	-2.112 ** .954	-26.17 %
Democracy	-.036 .023	-18.39 %
Power Parity	-.214 ** .088	-33.92 %
Allies	.378 .350	
Contiguity	3.522 *** .353	
Ln Distance	-.344 ** .153	
Dyad with a Major Power	2.202 *** .356	
Constant	-2.363 1.448	
N	64249	
Wald Chi-Square	573.73 ***	

*** $p < .01$, ** $p < .05$ All significance tests are one-tail.

Note: The first differences in column 3 reflect a one standard deviation increase in each variable, while all other variables are held at their mean or modal values.

Table 2.4: Conditional Trade Interdependence Model, 1970-1992

Variable	β s.e.	Change in Predicted Probability of Event Occurrence
Non-Strategic Trade	-70.316 79.246	-11.88 %
Strategic Trade	13.709 *** 3.240	46.33%
FDI	-.062 *** .023	-9.29 %
Affinity	-1.820 ** .965	-23.00 %
Strategic Trade*Affinity	-20.219 ** 8.929	-14.73 %
Democracy	-.034 .023	-17.32 %
Power Parity	-.190 ** .090	-30.74 %
Allies	.292 .347	
Contiguity	3.522 *** .351	
Ln Distance	-.370 *** .152	
Dyad with a Major Power	2.186 *** .356	
Constant	-2.385 1.450	
N	64249	
Wald Chi-Square	678.31 ***	

*** p < .01, ** p < .05 All significance tests are one-tail.

Note: The first differences in column 3 reflect a one standard deviation increase in each variable, while all other variables are held at their mean or modal values.

Table 2.5: Conditional Trade Interdependence and Fatal Militarized Disputes, 1970-1992

Variable	β s.e.	Change in Predicted Probability of Event Occurrence
Non-Strategic Trade	- 156.756 141.667	-37.22 %
Strategic Trade (SITC 3)	41.773 ** 24.928	126 %
Affinity	-.261 1.297	-3.68 %
Strategic Trade*Affinity	- 187.668 * 117.369	-83.61 %
Democracy	-.040 .042	-19.82 %
Power Parity	-.170 .123	-28.02 %
Allies	.406 .521	
Contiguity	3.674 *** .437	
Ln Distance	-.264 * .171	
Dyad with a Major Power	1.618 *** .457	
Constant	- 6.270 *** 1.764	
N	103360	
Wald Chi-Square	309.03 ***	

*** p < .01, ** p < .05 All significance tests are one-tail.

Note: The first differences in column 3 reflect an increase of one standard deviation for each variable.

Table 2.6: Conditional Trade Interdependence, FDI and Fatal Militarized Disputes, 1970-1992

Variable	β s.e.	Change in Predicted Probability of Event Occurrence
Non-Strategic Trade	- 83.388 104.631	-21.94 %
Strategic Trade (SITC 3)	42.181 24.481	129 %
FDI	-.092 ** .050	-13.49 %
Affinity	.978 1.976	15.09 %
Strategic Trade*Affinity	- 179.501 137.823	-77.09 %
Democracy	-.015 .042	-8.24 %
Power Parity	-.031 .155	-5.87 %
Allies	-.369 .856	
Contiguity	3.709 *** .735	
Ln Distance	-.601 ** .343	
Dyad with a Major Power	1.635 *** .621	
Constant	- 5.119 ** 2.963	
N	64232	
Wald Chi-Square	232.68 ***	

*** p < .01, ** p < .05 All significance tests are one-tail.

Note: The first differences in column 3 reflect an increase of one standard deviation for each variable.

Table 3.1: Economic Dependence and the Initiation of Militarized Interstate Disputes: An Event Count Analysis

Variable	MID Initiation Model 1a, 1970-1992	Changes in Relative Risk of MID Initiation
	β s.e.	
Non-Strategic Import Dependence	- 2983.408 *** 409.288	- 65 %
Strategic Import Dependence	- 10192.830 *** 1854.765	- 65 %
Strategic Import Dependence * Militarization	400734 *** 95830.230	29 %
Foreign Direct Investment	-.223 *** .023	- 48 %
Militarization	29.771 *** 2.438	28 %
Democracy	-0.072 *** 0.012	-26 %
Economic Development	0.370 * 0.032	98 %
Major Power	0.364 *** 0.125	
Constant	-.814 *** 0.081	
N	2080	

Note: *** $p < .001$; ** $p < .05$; * $p < .10$. All significance tests are one-tailed.

Changes in relative risk reflect a one standard deviation increase for the interval level variables from a baseline model where all interval level covariates are set at their mean value and categorical variables are set at zero.

Table 3.2: Developed Democracies, Economic Dependence, and the Initiation of Militarized Interstate Disputes: An Event Count Analysis

Variable	MID Initiation Model 1b, 1970-1992	Changes in Relative Risk of MID Initiation
	β s.e.	
Non-Strategic Import Dependence	- 1928.983 *** 205.138	-49 %
Strategic Import Dependence	-17857.940 *** 3329.631	-84 %
Strategic Import Dependence * Militarization	564752 *** 124477	42 %
Foreign Direct Investment	- .208 *** .020	-45 %
Militarization	30.455 *** 3.022	29 %
Democracy	-.373 *** 0.122	-79 %
Economic Development	0.502 *** 0.049	152 %
Development*Demo cracy	-0.577 *** 0.099	-40 %
Major Power	1.095 *** 0.109	
Constant	-0.900 *** 0.091	
N	2080	

Note: *** p < .001; ** p < .05; * p < .10. All significance tests are one-tailed.

Changes in relative risk reflect a one standard deviation increase for the interval level variables from a baseline model where all interval level covariates are set at their mean value and categorical variables are set at zero.

Table 3.3: Economic Dependence and Targets of Militarized Interstate Disputes: An Event Count Analysis

Variable	MID Targeting Model 2, 1970- 1992	Changes in Relative Risk of MID Initiation
	β s.e.	
Non-Strategic Export Dependence	657.684 459.200	13 %
Strategic Export Dependence	1407.171 *** 176.244	26 %
Strategic Export Dependence *	-789.585 *** 152.941	-20 %
Development Foreign Direct Investment	-.084 *** .007	-22 %
Militarization	17.858 *** 5.484	16 %
Democracy	-.030 .027	-12 %
Economic Development	-.048 .055	-8 %
Major Power	.115 .164	
Constant	-1.716 *** .189	
N	2016	

Note: *** $p < .001$; ** $p < .05$; * $p < .10$. All significance tests are one-tailed.

Changes in relative risk reflect a one standard deviation increase for the interval level variables from a baseline model where all interval level covariates are set at their mean value and categorical variables are set at zero.

Table 3.4: Initiation of Militarized Disputes With An Alternative Measure of Militarization

Variable	B s.e.
Non-Strategic Export Dependence	-1598.84 *** 247.76
Strategic Export Dependence	-15803.73 *** 4297.10
Strategic Export Dependence * Development	52181 *** 10085
Foreign Direct Investment	-.206 *** .020
Militarization	2.68 *** .282
Democracy	-.101 *** .011
Economic Development	.348 *** .035
Major Power	-.282 *** .078
Constant	-.915 *** .112
N	2030

Note: *** p < .001; ** p < .05; * p < .10. All significance tests are one-tailed.

Table 4.1: Dyadic Institutional Similarity and Militarized Interstate Conflict, 1982-1992

Variable	Model 1a	Model 1b
	β s.e.	β s.e.
Dyadic Political Similarity	-.786 * .452	-.101 .445
Dyadic Economic Similarity	-2.495 ** .822	-2.594 ** .860
Joint Democracy		-.109 * .060
Trade Interdependence	-20.447 32.820	11.900 26.083
Foreign Direct Investment	-.1953 .035	-.180 ** .035
Power Preponderance	-.246 * .133	-.242 * .130
Allies	-.115 .352	-.038 .358
Contiguity	3.855 ** .438	3.776 ** .443
Ln Distance	-.385 ** .174	-.383 ** .176
Major Power Dyad	2.000 ** .453	2.076 ** .420
Constant	-3.075 ** .1.455	-3.700 ** 1.491
N	26712	26627
Model chi-square	342.05 **	347.52 **

** p < .01, * p < .05 one tail significance test.

Table 4.2: Substantive Impact of Dyadic Satisfaction on Militarized Dispute Onset

First Difference	Model 1a	Model 1b	Model 2
Dyadic Political Similarity Increased 1 standard deviation	- 23.17 %	- 3.31 %	
Economic Similarity Increased 1 standard deviation	- 57.58 %	- 60.44 %	
Joint Democracy Increased 1 standard deviation		- 26.55 %	- 32.50 %
Systemic Political Similarity Increased 1 standard deviation			- 29.10 %
Systemic Economic Similarity Increased 1 standard deviation			- 55.45 %
Power Preponderance Increased 1 standard deviation	- 19.94 %	- 37.24 %	- 38.25%
Foreign Direct Investment Increased 1 standard deviation	- 26.43 %	- 24.68 %	- 20.92 %

Note: Changes in predicted probabilities are based on a baseline model where interval variables are set at their mean value and categorical variables are set at the modal category.

Table 4.3: Systemic Institutional Similarity and Militarized Interstate Conflict, 1982-1992

Variable	Model 2
	β s.e.
Systemic Political Similarity	-1.086 ** .616
Systemic Economic Similarity	-2.731 ** .987
Joint Democracy	-.139 ** .059
Trade Interdependence	1.101 20.652
Foreign Direct Investment	-.149 ** .040
Power Preponderance	-.250 ** .133
Allies	-.425 .394
Contiguity	3.116 ** .456
Ln Distance	-.406 ** .174
Major Power Dyad	2.569 ** .420
Constant	-3.477 ** 1.467
N	55726
Model Chi Square	580.00 **

Table 4.4: Institutional Similarity and Type of Militarized Interstate Dispute, 1982-1992

Institutional Similarity	Number of Territorial MIDs	Number of Policy Change MIDs	Number of Regime Change MIDs
Dyadic Political Similarity	13	19	1
Dyadic Economic Similarity	10	16	2
Systemic Political Similarity	10	13	1
Systemic Economic Similarity	2	38	2

Appendix B

Model Derivations

A state's Political Welfare Function = $W(C, Z)$ where C represents total goods and services consumption and Z represents conflict toward a particular country.

More specifically, C approximates the national income of a state; thus

$$C = q - I_a - X_s - X_n + M_d + M_e \quad (\text{Eq. 1})$$

Where q represents domestic consumption, I_a denotes foreign direct investment in another nation, X_s and X_n signify strategic exports and non-strategic exports, and M_d and M_e stand for strategic and non-strategic imports.

The portion of a state's economy dependent on trade and international investment can be represented as:

$$R_{I_a} + P_{X_n} + AP_{X_s} - P_{M_d} - AP_{M_e} \quad (\text{Eq. 2})$$

Where R_{I_a} signifies the rate of return on an investment, P_{X_n} , AP_{X_s} , P_{M_d} , and AP_{M_e} signify the prices of non-strategic and strategic exports and imports. Notice that the price of strategic exports and imports are modified by the political affinity of the trading states. In other words, the utility of strategic commodities is different in a dyad with close political affinity than it is in a dyad lacking political affinity. In politically dissimilar dyads, strategic goods are costly in both economic and political terms, but in politically similar dyads, strategic goods still have an economic cost but not a political cost. Assuming no balance of payments problem, then equation 2 equals zero.

Insofar as conflict affects the cost of conducting economic transactions, then I_a , X_s , X_n , M_d , and M_e , are functions of conflict.

$$\begin{aligned} R_{I_a} &= f(Z) \\ P_{X_n} &= h(Z) \\ AP_{X_s} &= j(Z) \\ P_{M_d} &= k(Z) \\ AP_{M_e} &= l(Z) \end{aligned} \quad (\text{Eqs. 3.1-3.5})$$

Further, since conflict increases transactions costs, it decreases the gains from trade and investment. Thus, conflict raises import prices, lowers export prices, and lowers the return on investments.

$$\begin{aligned}
R_{I_a} &= f' < 0 && \text{(Eqs. 4.1-4.5)} \\
P_{X_n} &= h' < 0 \\
AP_{X_s} &= j' < 0 \\
P_{M_d} &= k' > 0 \\
AP_{M_e} &= l' > 0
\end{aligned}$$

An actor chooses a particular level of conflict, Z , that maximizes $W(Z; C)$. Stated formally

$$\text{Max}_Z W(Z, \lambda; C)$$

Maximizing this function is subject to a balance of payments constraint. Therefore, an actor maximizes the following Lagrangian (L):

$$L = W(Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda(R_I + P_{X_n} + AP_{X_s} - P_{M_d} - AP_{M_e}) \quad \text{(Eq. 5)}$$

Differentiating L with respect to conflict, Z , yields a set of first order conditions (FOC) for optimal conflict.

FOCs:

$$\partial L / \partial Z = W'(Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda[I_a'(z) + X_n' P_n'(z) + X_s' A P_s'(z) - M_d' P_d'(z) - M_e' A P_e'(z)] \quad \text{(Eq. 6)}$$

$$\partial L / \partial \lambda = I_a(z) + X_n P_n(z) + X_s A P_s(z) - M_d P_d(z) - M_e A P_e(z) \quad \text{(Eq. 7)}$$

To determine how conflict responds to changes in trade or investment, I derive comparative static equilibria. To determine comparative static equilibria on a system of equations, one has to take the total differential of the FOCs (equations 6 & 7) yielding a set of second order conditions (SOCs).

SOCs:

$$\partial^2 L / \partial Z^2 =$$

$$W''(Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda[I \partial^2 R^2 / \partial Z^2(Z) + X_s \partial^2 A P_s^2 / \partial Z^2(Z) + X_n \partial^2 P_n^2 / \partial Z^2(Z) - M_d \partial^2 P_d^2 / \partial Z^2(Z) - M_e \partial^2 A P_e^2 / \partial Z^2(Z)] dZ \quad \{\text{Part A}\}$$

$$+ [\partial W^2 / \partial Z \partial q(Z; q - I_a - X_s - X_n + M_d + M_e)] dq \quad \{\text{Part B}\}$$

$$+ [- \partial W^2 / \partial Z \partial I(Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda \partial R / \partial Z(Z)] dI \quad \{\text{Part C}\}$$

$$\begin{aligned}
& + [-\partial W^2/\partial Z\partial X_s (Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda \partial A P_s/\partial Z (Z)] dX_s \text{ \{Part D\}} \\
& + [-\partial W^2/\partial Z\partial X_n (Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda \partial P_n/\partial Z (Z)] dX_n \text{ \{Part E\}} \\
& + [\partial W^2/\partial Z\partial M_d (Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda \partial A M_d/\partial Z (Z)] dM_d \text{ \{Part F\}} \\
& + [\partial W^2/\partial Z\partial M_e (Z; q - I_a - X_s - X_n + M_d + M_e) + \lambda \partial M_e/\partial Z (Z)] dM_e \text{ \{Part G\}} \\
& + [I_a + X_s + X_n - M_d - M_e] d\lambda \text{ \{Part H\}} \qquad \qquad \qquad \text{(Eq. 8)}
\end{aligned}$$

$$\partial L^2/\partial \lambda \partial Z =$$

$$\begin{aligned}
& [I \partial R/\partial Z (q - I_a - X_s - X_n + M_d + M_e) + X_s \partial A P_s/\partial Z (q - I_a - X_s - X_n + M_d + M_e) \\
& + X_n \partial P_n/\partial Z (q - I_a - X_s - X_n + M_d + M_e) - M_d \partial M_d/\partial Z (q - I_a - X_s - X_n + M_d + \\
& M_e) - M_e \partial A M_e/\partial Z (q - I_a - X_s - X_n + M_d + M_e)] dZ \text{ \{Part I\}}
\end{aligned}$$

$$+ R(Z) dI \text{ \{Part J\}}$$

$$+ A P_s(Z) dX_s \text{ \{Part K\}}$$

$$+ P_n(Z) dX_n \text{ \{Part L\}}$$

$$- A P_d(Z) dM_d \text{ \{Part M\}}$$

$$- P_e(Z) dM_e \text{ \{Part N\}}$$

$$\text{(Eq. 9)}$$

Next, I arrange the above equations into a linear system, isolating the two variables, Z and λ .

$$\begin{bmatrix} \text{Part A} & \text{Part H} \\ \text{Part I} & 0 \end{bmatrix} \begin{bmatrix} dZ \\ d\lambda \end{bmatrix} = - \begin{bmatrix} Bdq - CdI - DdX_s - EdX_n + FdM_d + GdM_e \\ 0 + JdI + KdX_s + LdX_n - MdM_d - NdM_e \end{bmatrix}$$

To find the effects of any particular parameter on Z, use Cramer's Rule: D_{ij} / D , where D signifies determinant.

Proposition 1a: In a dyad with negative political affinity, the greater the amount of strategic exports, the more likely conflict is to occur.

Proposition 1b: In a dyad with positive political affinity, the greater the amount of strategic exports, the less likely conflict is to occur.

$$\begin{aligned}
dZ/dX_s &= \begin{vmatrix} PartD & PartH \\ -PartK & 0 \end{vmatrix} / \begin{vmatrix} PartA & PartH \\ PartI & 0 \end{vmatrix} \\
&= KH / -(IH) \\
&= -(K/I) \\
&= -[APs(Z)] / [I \partial R/\partial Z (q - Ia - Xs - Xn + Md + Me) + Xs \partial APs/\partial Z (q - Ia - Xs - Xn + Md + Me) + Xn \partial Pn/\partial Z (q - Ia - Xs - Xn + Md + Me) - Md \partial Md/\partial Z (q - Ia - Xs - Xn + Md + Me) - Me \partial AMe/\partial Z (q - Ia - Xs - Xn + Md + Me)]
\end{aligned}$$

Prices, e.g. $P_s(Z)$, are always positive. However, A may be either negative or positive depending on the political affinity in the dyad. If the dyad has close political affinity, A is positive and the numerator is negative. If the dyad lacks political affinity, A is negative and the numerator is positive. Assuming a well-behaved utility function, then the Hessian must be negative definite; thus, the principle minors alternate sign making the above second order conditions produce a positive denominator. Thus,

$$\begin{aligned}
dZ/dX_s &< 0 \text{ if } A > 0 \\
&\text{and} \\
dZ/dX_s &> 0 \text{ if } A < 0
\end{aligned}$$

Proposition 1: QED.

Proposition 2: As the amount of non-strategic exports increase, conflict decreases.

$$\begin{aligned}
dZ/dX_n &= \begin{vmatrix} PartE & PartH \\ PartL & 0 \end{vmatrix} / \begin{vmatrix} PartA & PartH \\ PartI & 0 \end{vmatrix} \\
&= LH / -IH \\
&= -(K/I) \\
&= -[P_n(Z)] / [I \partial R/\partial Z (q - Ia - Xs - Xn + Md + Me) + Xs \partial P_s/\partial Z (q - Ia - Xs - Xn + Md + Me) + Xn \partial P_n/\partial Z (q - Ia - Xs - Xn + Md + Me) - Md \partial Md/\partial Z (q - Ia - Xs - Xn + Md + Me) - Me \partial Me/\partial Z (q - Ia - Xs - Xn + Md + Me)]
\end{aligned}$$

Prices, e.g. $P_s(Z)$, are always positive, but multiplying this by a negative makes the numerator negative. Assuming a well-behaved utility function, then the Hessian must be negative definite; thus, the principle minors alternate sign

making the above second order conditions produce a positive denominator. The whole term is then negative. Thus,

$$dZ/dX_n < 0$$

Proposition 2: QED.

Proposition 3a: In a dyad with negative political affinity, the greater the amount of strategic imports, the more likely conflict is to occur.

Proposition 3b: In a dyad with positive political affinity, the greater the amount of strategic imports, the less likely conflict is to occur.

$$dZ/dM_d = \frac{\begin{vmatrix} -PartF & PartH \\ PartM & 0 \end{vmatrix}}{\begin{vmatrix} PartA & PartH \\ PartI & 0 \end{vmatrix}}$$

$$= -MH / -IH$$

$$= M / I$$

$$= -AP_d(Z) / [I \partial R / \partial Z (q - I_a - X_s - X_n + M_d + M_e) + X_s \partial AP_s / \partial Z (q - I_a - X_s - X_n + M_d + M_e) + X_n \partial P_n / \partial Z (q - I_a - X_s - X_n + M_d + M_e) - M_d \partial M_d / \partial Z (q - I_a - X_s - X_n + M_d + M_e) - M_e \partial AM_e / \partial Z (q - I_a - X_s - X_n + M_d + M_e)] dZ$$

Prices, e.g. $P_s(Z)$, are always positive. However, A may be either negative or positive depending on the political affinity in the dyad. If the dyad has close political affinity, A is positive and the numerator is negative. If the dyad lacks political affinity, A is negative and the numerator is positive. Assuming a well-behaved utility function, then the Hessian must be negative definite; thus, the principle minors alternate sign making the above second order conditions produce a positive denominator. Thus,

$$dZ/dM_d < 0 \text{ if } A > 0$$

and

$$dZ/dM_d > 0 \text{ if } A < 0$$

Proposition 3: QED.

Proposition 4: As the amount of non-strategic imports increase, conflict decreases.

$$dZ/dMd = \frac{\begin{vmatrix} -PartG & PartH \\ PartN & 0 \end{vmatrix}}{\begin{vmatrix} PartA & PartH \\ PartI & 0 \end{vmatrix}}$$

$$= -NH / -IH$$

$$= N / I$$

$$= -Pe(Z) / [I \partial R / \partial Z (q - Ia - Xs - Xn + Md + Me) + Xs \partial Ps / \partial Z (q - Ia - Xs - Xn + Md + Me) + Xn \partial Pn / \partial Z (q - Ia - Xs - Xn + Md + Me) - Md \partial Md / \partial Z (q - Ia - Xs - Xn + Md + Me) - Me \partial Me / \partial Z (q - Ia - Xs - Xn + Md + Me)]$$

The numerator is again negative, and making the same assumption as before that the utility function is well behaved yields a positive denominator. Thus,

$$dZ/dMe < 0$$

Proposition 4: QED.

Proposition 5: As the amount of foreign direct investment increases, conflict decreases.

$$dZ/dI = \frac{\begin{vmatrix} PartC & PartH \\ PartJ & 0 \end{vmatrix}}{\begin{vmatrix} PartA & PartH \\ PartI & 0 \end{vmatrix}}$$

$$= JH / -IH$$

$$= - (J/I)$$

$$= - [R(Z)] / [I \partial R / \partial Z (q - Ia - Xs - Xn + Md + Me) + Xs \partial Ps / \partial Z (q - Ia - Xs - Xn + Md + Me) + Xn \partial Pn / \partial Z (q - Ia - Xs - Xn + Md + Me) - Md \partial Md / \partial Z (q - Ia - Xs - Xn + Md + Me) - Me \partial Me / \partial Z (q - Ia - Xs - Xn + Md + Me)]$$

Assuming the return on investment is positive and multiplying it by a negative makes the numerator negative. Assuming a well-behaved utility function, then the Hessian must be negative definite; thus, the principle minors alternate sign making the above second order conditions produce a positive denominator. The whole term is then negative. Thus,

$$dZ/dI < 0$$

Proposition 5: QED.

Because an increase in either exports or imports decreases conflict, one can combine Propositions 1 and 3 and Propositions 2 and 4. This produces three testable hypotheses.

Appendix C

States in the ICRG dataset and year for which data is first available

Albania	1984	Germany, FR	1982	Myanmar	1982
Algeria	1982	Ghana	1982	Namibia	1990
Angola	1984	Greece	1982	Netherlands	1982
Argentina	1982	Guatemala	1982	New Zealand	1982
Australia	1982	Guinea	1984	Nicaragua	1982
Austria	1982	Guinea-Bissau	1985	Niger	1985
Bahamas	1984	Guyana	1982	Nigeria	1982
Bahrain	1984	Haiti	1982	North Korea	1985
Bangladesh	1982	Honduras	1982	Norway	1982
Belgium	1982	Hong Kong	1982	Oman	1984
Bolivia	1982	Hungary	1984	Pakistan	1982
Botswana	1984	Iceland	1982	Panama	1982
Brazil	1982	India	1982	Papua New Guinea	1984
Brunei	1984	Indonesia	1982	Paraguay	1982
Bulgaria	1984	Iran	1982	Peru	1982
Burkina Faso	1985	Iraq	1982	Philippines	1982
Cameroon	1982	Ireland	1982	Poland	1984
Canada	1982	Israel	1982	Portugal	1982
Chile	1982	Italy	1982	Romania	1984
Colombia	1982	Jamaica	1982	Saudi Arabia	1982
Congo	1985	Japan	1982	Senegal	1982
Costa Rica	1982	Jordan	1982	Sierra Leone	1984
Cote d'Ivoire	1982	Kenya	1982	Sierra Leone	1985
Cuba	1984	Korea, Republic	1982	Singapore	1982
Cyprus	1984	Kuwait	1982	Somalia	1984
Czechoslovakia	1984	Lebanon	1982	South Africa	1982
Denmark	1982	Liberia	1982	Spain	1982
Dominican Republic	1982	Libya	1982	Sri Lanka	1982
East Germany	1984	Luxembourg	1984	Sudan	1982
Ecuador	1982	Madagascar	1984	Suriname	1985
Egypt	1982	Malawi	1982	Sweden	1982
El Salvador	1982	Malaysia	1982	Switzerland	1982
Ethiopia	1984	Mali	1984	Syria	1982
Finland	1982	Malta	1986	Taiwan	1982
France	1982	Mexico	1982	Tanzania	1982
Gabon	1982	Mongolia	1986	Thailand	1982
Gambia	1985	Morocco	1982	Togo	1982
		Mozambique	1984		

Trinidad & Tobago	1982
Tunisia	1982
Turkey	1982
United Arab Emirates	1982
Uganda	1982
United Kingdom	1982
United States	1982
Uruguay	1982
USSR	1984
Venezuela	1982
Vietnam	1984
West Germany	1982
Yemen, Arab Republic	1984
Yemen, PDR	1985
Yugoslavia	1982
Zaire	1982
Zambia	1982
Zimbabwe	1982

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