1-1-2013

Averting Dyadic Conflict: The Role Of International Political Economy

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AVERTING DYADIC CONFLICT: THE ROLE OF INTERNATIONAL POLITICAL ECONOMY

by

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DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2013

MAJOR: POLITICAL SCIENCE

Approved by:

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Advisor Date

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DEDICATION

To my loving wife Jennifer and our two beautiful children Nathan and Alyssa. You are continually with me in all endeavors. And to my mother-in-law and father-in-law, Brenda and John, for their continued support throughout this entire project. Without you all I couldn't have done it.

ACKNOWLEDGMENTS

I would like to acknowledge the contributions of Daniel Geller, Timothy Carter, Yumin Sheng, and Attila Yaprak for their support, insight, and guidance throughout the dissertation process.

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CHAPTER 1 INTRODUCTION

My dissertation attempts to answer an enduring empirical puzzle about the relationship between economics and conflict. Do dyadic economic linkages reduce the likelihood of conflict? Contemporary conventional wisdom tends to adopt the idea that economic ties somehow interact with conflict. International relations literature, however, tends to provide somewhat mixed results. The contemporary debate in the literature about the potential pacifying effects of economics is centered around the proponents of economic interdependence and the capitalist peace. For instance, the role of economic interdependence and its influence on conflict is complex, and as we will see has been open to a host of different interpretations. As Mark Crescenzi points out, there are two primary issues within the literature on economic interdependence which involve the variation in measurement, and the general lack of causal explanations in terms of how economic relationships influence the likelihood of conflict (Crescenzi 2005). One goal of this study is to provide a useful measurement of economic interdependence. In an argument that is related to the economic interdependence literature, researchers in the capitalist peace camp make the contention that free markets lead to peace (Gartzke 2007). The claim of interstate peace through economics is not novel, but the sophisticated approach by those in the capitalist peace camp has breathed new life into the debate over the role of economic ties. Skeptics maintain that the democratic peace is still the superior theory, arguing that the democratic regime type leads to peace, at least between democracies, and it accounts for the economic ties examined within the capitalist peace literature (Dafoe 2011). This study, however, moves away from the debate between the democratic peace and capitalist peace, and instead focuses on developing a synthesized theory for the role of economic ties and

peace. Moreover, my dissertation will incorporate the use of exit costs as the causal mechanism between private actors and political decision makers, which is important since the reason why economic ties reduce the likelihood of conflict has been somewhat of a missing link in the research on economics and conflict. The specific focus of this study is to generate a theory that explains why economic ties have a pacifying effect on the onset, and escalation of conflict within interstate dyads. The approach of this study, therefore, is to investigate the relationship between economics and conflict from a perspective focused on specific variables influenced by the literature on international political economy. Furthermore, a new measure, operationalized as dense economic integration (DEI), is introduced that synthesizes the tenets of economic interdependence and the aspects of capitalist peace, which theorists believe to have a pacifying effect, in an effort to explore the relationship between economics and conflict.

I invite you to join me on this journey to understand and explain the complicated relationship between economics and conflict. First, I will break down the literature on economic interdependence to understand why there is a problem with misspecification. The arguments of the capitalist peace will also be examined to explore the role different aspects of capitalism play on the global stage. The broad paradigm of neo-liberal institutionalism and the field of international political economy will be used to build a foundation from which the proposed theory in this study can be placed. Moving on from where we have been as a research community in the literature review chapter, I will introduce my theoretical contribution in the subsequent chapter. The proposed measure of DEI will be explained, and the factors that are combined to calculate the variable will be introduced. The theoretical and casual link between DEI and conflict will be explored, and the role that exit costs play will provide clarity to a somewhat murky relationship between economics and conflict. The design of my dissertation

follows, where the specific details of the study are expanded. Data sources, variable operationalizations and measurements, and statistical methodologies are designed to answer the research question about the pacification of conflict through DEI. The measure of conflict is separated into the onset of MIDs, the onset of war, and the escalation of MIDs to test what effects DEI may have at the various potential levels of interstate conflict. Next, the findings are discussed at length in terms of interpretation, but also in terms of what the findings imply. The key question, therefore, is if DEI reduces the likelihood of conflict? Finally, the contentious dyads of India-Pakistan, China-Taiwan, and Greece-Turkey are explored in a series of case studies in an attempt to apply the theoretical propositions of this study to individual cases.

Why is it that the relationship between economics and war has been so difficult to understand? The difficulty, no doubt, lies in the complexity of the units under study. On the one hand, economic ties between states encompasses a multitude of issues and interests. For instance, private actors are carrying out the actual financial transactions and foreign direct investment across borders, but it is public officials who determine trade and tariff policies. In other words, public actors determine the rules of the game, while the private actors are the players on the field. The types of issues that arise from a public and private relationship tend to be complicated because players are operating under different rules for each country. Complicating the issue of economic ties further, is the convoluted web of preferential trade agreements and politically motivated tariffs. Private actors, determined to access foreign markets, therefore must become experts in international trade and the policies specific to where they want to conduct business. Developing a theory about the relationship between economics and conflict is difficult because private and public actors must be accounted for. Furthermore, the economic intentions of states must be examined. For instance, do states engaged in economic relationships with other states

simply want to benefit from opening their markets and allowing capital to flow freely across borders; or, are these states aiming to increase economic ties to build peaceful relations? I argue that states are building economic linkages because they hold the potential to financial prosperity, and peaceful relations are the byproduct of the exit costs that are introduced into the bilateral relationship. First, states, realizing that protectionism leads to stagnation, have benefitted greatly by becoming players in the global economy. The driving force of economic integration among states, therefore, is the need to leverage foreign economies to support their own. In addition, private actors, like multinational corporations, engage in the actual trade between the states to reduce costs or expand into new markets to generate more profit. Together, these economic forces converge when two states agree to engage in a deep economic relationship, and the private actors within those states begin to invest overseas.

If the problem with understanding the relationship between economics and conflict was not already complex enough based on the economic issues, the consideration of interstate conflict only makes the relationship more complicated. Interstate war, easily one of the most enormously complex activities in the world, remains a phenomenon that we still fail to fully comprehend. Why does it occur? Are there underlying causes that we can understand? Are there any necessary or sufficient conditions for war? These questions have plagued mankind since antiquity, and a sophisticated analysis of the activity dates back to even Thucydides' account of the Peloponnesian War in 450 BC. As of this date, we do not possess a unified theory of why war occurs, but we have made considerable progress toward that goal. Although we do not fully understand all of the intricacies of war, we do know that certain conditions make war more or less likely. In fact, there is some agreement in the field that wars occur from a "conjunction of conditions" which taken together make war more likely (Geller 2004, 232). For instance, we

know that states that are close in proximity to each other are more likely to engage in conflict. On the other hand, the democratic peace theory points to dyadic peace between states with democratic forms of government. In international relations no theory can explain war on an island, and therefore we must incorporate the findings from previous research. My dissertation is no exception, and the known conditions that affect the likelihood of conflict between states are statistically controlled for.[1] These issues about the relationship between economics and conflict are explained in chapter three on theory.

Another aspect that requires attention is the causality between the effects of economic relationships on state behavior, or more specifically on interstate conflict. Determining the causality between the two phenomena is difficult because it requires a theoretical link between public and private actors. As Mansfield and Pollins argued, there is a general lack of causality in the literature between economics and conflict, and the root of the problem lies with the fact that most research glosses over the causal mechanism between the public and private spheres (Mansfield and Pollins 2003). My dissertation aims to provide such a theoretical link. Simply stated, exit costs are erected between states when they engage in DEI and neither state can leave that economic relationship without incurring costs. These exit costs, which are manifested through mutual dependence, serve as a financial barrier that links and constrains public and private actors' intentions. Political officials are constrained to avoid a decision to engage in conflict with a state if it has an economic relationship, otherwise the state would incur exit costs. Furthermore, higher levels of economic interdependence in turn lead to higher exit costs. Private actors, therefore, have a financial incentive to attempt to influence political officials into widening avenues of trade and to avoid engaging in conflict, which could disrupt current trade

[1] These conditions are discussed in the research methodology section of chapter four where I control for these effects on the likelihood of conflict.

flows. Even more, private actors may have substantial investments in the trading partner state and cannot afford to lose business because the political officials have decided to conflict with each other. This loss of business, and the effects it would have on the multinational corporation's home state, are included as exit costs to the state. The causal link, therefore, exists in the shared destiny between multinational corporations engaged in foreign investment with a certain trading partner state, and the political officials who must choose between conflictual behavior or cooperation to balance the health of their economy with foreign policy aspirations. Exit costs form a bond between the public and private spheres, because neither party wants to incur the exit costs by disrupting the current state of economic interdependence. Exit costs, and the role they play in pacifying conflict, are explored fully in chapter three in the theoretical layout.

One important note is that this study is conducted at the dyadic level, and only provides a theoretical relationship between states at that level of analysis. All state interactions discussed going forward should be assumed, if not explicitly stated, to be at the dyadic level. This is an important distinction because dyadic and monadic state relationships are two completely different levels of analysis that have separate research agendas. Dyadic relationships are between two states, and all interactions and variables explored in this study are also only between two states. As a result, the dyadic relationships studied, and the generated results, cannot be applied to monadic state interactions. In other words, states may be shown to behave more peacefully when there is a presence of high levels of DEI with the dyadic partner state, but those states may be hostile towards states outside the dyad. Dyadic and monadic interactions are theoretically distinct and results from one level of analysis cannot be extrapolated to the other. Attempting to explain the behavior of a single state, therefore, would be erroneous since the theories and propositions discussed here are only at the dyadic level. In addition, this study is a large-N

research project and dyadic interactions will be aggregated on an annual basis. As a result, any given dyad may act differently than the findings reported here, but that is to be expected with this type of study. To attempt to explain the behavior of a single dyad, based on the findings in this study, would involve performing an ecological fallacy. With that said, however, I will be attempting to apply the theoretical arguments in this study to three individual dyadic cases at the end of this study in chapter six. Following my warnings about an ecological fallacy, the case studies are only used to help explain the findings in terms of how they may play out in reality. The case studies are not intended to predict the behavior of those dyads, but the theoretical principles from this study will be examined in terms of the role DEI may have played in pacifying conflict.

The three cases included for analysis are the India-Pakistan, China-Taiwan, and Greece-Turkey dyads. Each of the dyads has had a unique history of tension, and at times the dyads have also had interrupted periods of open conflict. The case studies will be used to see if these dyads have developed economic relationships that may have had influences on restraining political decision makers from pushing tensions towards interstate war. By focusing on these dyads, I can attempt to apply the theoretical propositions in this study to states that have interesting and unique dyadic relationships. These dyads stand out primarily because each dyad has engaged in conflict over the territorial control of a region or land that both sides argue belongs as part of their state. India and Pakistan have had numerous conflicts over the Kashmir region, and which state can officially claim the region. China and Taiwan is a strange relationship because China calls for the unification of Taiwan back into being a part of China, while Taiwan struggles to maintain independence. Greece and Turkey have had a long history of conflict over the island of Cyprus, and the territorial control of the Aegean Sea. An abridged history will be provided for

each dyad to explain what has caused the conflict between the states. Furthermore, the conflicts that have occurred during the temporal domain of this study from 1965 to 2001 will be detailed. Together these dyads will be used to see if increased levels of economic integration led to peaceful relations.

In sum, the goal of my dissertation is to develop a theory that explains the relationship between economic ties and interstate conflict. First, the theoretical connections between the two phenomena will be examined to understand the relationship and the potential for the pacification of conflict through increased economic ties. I argue that the proposed measure of DEI accounts for the type of economic ties that have the potential to reduce the likelihood of conflict between states. DEI is operationalized as dyads with free trade agreements, high levels of trade density, and joint membership in economically-focused IGOs.[2] Second, the proposed causal mechanism of exit costs will be explored for the potential role they have in modifying state behavior to avoid conflict. In addition, exit costs will provide the link between the private and public spheres of international relations in terms of dyadic state behavior, a link that has been elusive. The data used in this study contain all dyads from 1965 to 2001, restricted by data availability. The hypotheses will be subjected to statistical analysis, and a conservative alpha level of .05 will be used for testing. All results are discussed at length, and the implications of my findings are explored. The next chapter contains literature that is relevant, both foundational and contemporary, to my dissertation.

[2] These independent variables are explained in chapter four on research design.

CHAPTER 2 LITERATURE REVIEW

This chapter will lay out the relevant literature that is related to the relationship between dense economic integration (DEI) and conflict. The literature review will be focused on informing the theoretical contentions of this study in the next chapter. The theoretical arguments, therefore, draw on a broad set of literature since this study examines a relationship that is interdisciplinary in nature, and spans the literature on international political economy, economic interdependence, and conflict. Since DEI is a measure to link economics and conflict, I will draw on the relevant literature and focus especially on the economic interdependence and conflict literature.

The literature review will be separated into three distinct areas of research, where each research area has a unique contribution to the study. First, the broad area of research related to international political economy (IPE) and conflict will be considered under the paradigm of neo-liberal institutionalism, where the tenets of neo-liberal institutionalism will be related to the theoretical propositions in this study. In short, the neo-liberal institutional paradigm is examined first to understand the way in which IPE relates to interstate conflict. Second, the area of research about the relationship between economic interdependence and conflict will be reviewed. This area of research is important because the theoretical relationship I propose between DEI and conflict relies on this literature for the justification of exit costs. The literature on economic interdependence, therefore, will be fully explored in this chapter, and will be highlighted again in chapter three for relevant theoretical arguments. Third, the literature on what is called the capitalist peace is examined in terms of the types of economic relationships explored in the theory. Together these three areas of research are reviewed to inform the theoretical arguments in this study in the next chapter.

The literature on economic interdependence and the capitalist peace literature have both been fertile grounds for quantitative research. For instance, the capitalist peace literature is related to the research discussed about economic interdependence, but takes a slightly different angle in terms of analysis. Unlike the literature on economic interdependence, which focuses on the interactions of states, peaceful or otherwise, under a situation of dependence, the capitalist peace literature advocates peace through increased capitalist type state interactions. The key difference between the literature on economic interdependence and the capitalist peace is that the capitalist peace camp promotes a law-like proposition that peace in the world can be achieved through increased capitalist based interactions. The literature on economic interdependence, on the other hand, is focused on studying the relationship between economic interdependence and conflict. The capitalist peace theorists may in the end, however, be correct and capitalist ties may actually promote peace through the world. That type of generalized theory, however, is not the focus of this study; rather, I will propose a theory that synthesizes the literature on economic interdependence and the capitalist peace about the likelihood of dyadic conflict. For instance, I will be studying the effects of DEI, a variable that fits well within the economic interdependence literature, on the pacification of conflict, which is similar to the capitalist peace arguments, but I will only be focusing on dyadic peace. In other words, my theoretical proposition will incorporate ideas from both sets of literature.

Liberalism, IPE, and Conflict

How does neo-liberal institutionalism help us understand the relationship between IPE and conflict? Essentially, the neo-liberal paradigm posits that countries can escape the security dilemma with certain states by increasing information about the intentions of those states. The quality of information is improved through international institutions, which enables states to

build trust through cooperation. Unlike realism, which treats information about other states' intentions as unreliable and untrustworthy, neo-liberal institutionalism treats information as a variable than can be improved. For instance, neo-liberals agree with realists that information is scarce, but since information can be changed by states, leaders will take steps to improve information available to them if they believe it will improve their standing. States, therefore, construct institutions to improve information about the intentions of states. In fact, it is argued that international institutions facilitate interstate cooperation and mutual gains by increasing information about the intentions of states, and help states to gain compliance with international agreements (Keohane and Nye 1989; Nye 2002). As the theory suggests, states that possess more information about each other can begin to cooperate over time. In addition, with institutions providing deeper and stronger information about intentions of other states, then states can start to escape the security dilemma, and can afford to cooperate. This cooperation takes the form of increased economic relations, which in turn may lead to more peaceful relations between states. For instance, the following description of the potential role for economic relations supports these theoretical contentions:

> Cobden [the renowned nineteenth century British statesmen] hoped that he had begun genuinely to persuade the peoples and Government of Europe that free trade could be 'not only a law of wealth and prosperity but a law of friendship ... a web of concord woven between people and people.' Others, such as John Bright, Henry Thomas Buckle, Sir Robert Peel, William Gladstone, John Stuart Mill, and Albert the Good proposed 'variations of the same idea' (Blainey 1973) quoted in (Polachek 1980, 59).

At the dyadic level, the argument is that economic integration increases the levels of contact and communication between both private and public actors, which leads to cooperative political relationships (Doyle 1997; Hirschman [1945] 1980; Mansfield and Pollins 2003; Stein

1993; Viner 1951). Since, the cooperation among states is carried out through international institutions, the interactions are institutionalized. Institutions set the rules and norms of the system, and states have financial incentives to abide by these rules and norms. For example, the World Trade Organization is an institution that caters to the Western economic principles of liberal economics, and countries must play by their rules to participate in the growing world trade system. Cooperation may come at a cost for some states to conform to the rules and norms, but the financial gains may outweigh the costs, therefore providing an incentive to join. In the end, these rules and norms begin to shape state behavior towards cooperation.

The contention that economics may influence the likelihood of conflict between states is not a novel idea, since many studies have attempted to understand the relationship. In fact, the ideas about economics and peace are rooted in the liberal peace literature. One of the original empirical analyses of economics and peace, and an often cited work, argued that "trade is a powerful influence for peace" (Oneal 1996). Similarly, other studies have argued for the pacifying benefits of economic interdependence (Mueller 1988; Rosecrance 1986). More recently, there have been studies on bilateral trade and bilateral war, with mixed results (see Martin 2008; Polachek 2007; Spolaore 2009). The conventional wisdom that economics interacts with, and possibly pacifies, conflict has been treated to a variety of empirical studies and there is no real consensus in the literature.

In an analysis of Immanuel Kant's work, some argue that the various pieces of his writings fit together and can be seen in today's work (see Doyle 1983; Doyle 1983, 1986; McMillan 1997; Stein 1993). In fact, it is argued that there are four causal arguments that can be discerned from Kant's liberal writings: political liberalism, economic liberalism, sociological liberalism, and sophisticated liberalism. McMillan, however, points out that these four causal arguments are

not mutually exclusive, rather they can be viewed as being complementary to each other. Political liberalism focuses on the international political constraints to conflict, and argues that states benefit from following the rules and norms of international institutions. These rules work to pacify the likelihood of conflict, and war is viewed as no longer being in the interest of the people (see Hirschman 1977; Keohane 1990; McMillan 1997). Political liberalism, therefore, influences the use of the joint membership in economically-focused IGOs variable in this study because it is an aspect of the pacification of conflict. In terms of causality, political liberalism promotes "political institutions … [which] create incentives for cooperation among states, reducing the likelihood of war" (McMillan 1997, 39).

Economic liberalism focuses on the pacifying benefits of international commerce, and the chance that it could reduce the passion for conflict (Hirschman 1977, 79). The causal link between economics and reduced conflict in economic liberalism, however, is not well specified. Instead, early attempts at causality argued that international commerce would increase the amount of good will between nations. For instance, an early casual argument was that international commerce was "viewed as a 'powerful moralizing agent' that would help improve society by contributing to good manners, industriousness, frugality, and punctuality among other things (Hirschman 1982, 1465) quoted in (McMillan 1997, 36-37). Other attempts at explaining the causal relationship suggest that peace emerges naturally from international commerce (Hirschman 1977; Keohane 1990). For example, Montesquieu states that, "commerce … polishes and softens … barbarian ways … [and] … the natural effect of commerce is to lead to peace" (McMillan 1997, 37). It has also been argued that states engaged in free trade will become dependent on one another, where the states would realize that their own economic success and wealth is dependent on their trading partner, where this dependence would reduce conflict (see

Cain 1979, 234; Stein 1993, 253; Angell 1933 [1908], 91; Rosecrance 1986; Kaysen 1990, 51). These cited studies, however, focused on the systemic level where they argued that increased trade and commerce would lead to reduced conflict in the world system because states would find it too costly to pursue their goals through conflict. As can be seen in the world today, there is a high level of international trade and also a considerable amount of conflict. The problem of looking at the entire system is that states may actually behave differently with certain dyadic partners compared to their general foreign policy prescriptions. For these reasons, therefore, my study focuses on political and economic state interactions at the dyadic level. In terms of causality, economic liberalism "focus[es] on the commercial activities [of] free trade and finance that create interests within society that restrain rulers from going to war" (McMillan 1997, 39).

Sociological liberalism focuses on the communication aspect of international interactions, and therefore also supports the use of the joint membership in economically-focused IGOs variable used in this study. For instance, "the simple act of communication paves the way to international cooperation by increasing each people's knowledge of others and their ways, customs, practices, and concerns" (Stein 1993, 249) quoted in (McMillan 1997, 38). In terms of causality, sociological liberalism "expects increased contact among individuals to create a sense of community, thus decreasing the likelihood of war" (McMillan 1997, 39).

Sophisticated liberalism focuses on a combination of political and economic liberalism, and most closely resembles the paradigm of neo-liberal institutionalism. Furthermore, the institutional rules and norms and international commerce are considered together (Keohane 1990). As Keohane argues, "the rules of international exchange and institutions must be based on the principle of state sovereignty, but they provide an incentive structure that promotes international cooperation, as well as prosperity" (Keohane 1990, 166). In other words, the causal

mechanism suggested by Keohane is through the institutions themselves that promote cooperation and economic exchange, and thus peaceful relations. The strength of the neo-liberal institutionalism argument by Keohane, is that the theory accepts the core assumptions of realism (state centrism, power, and rationality) while at the same time accepting the presence of anarchy in the world system. Anarchy is overcome, however, through cooperation in international institutions. Furthermore, Keohane is not idealistic in terms of peace, rather he argues that if the "political order is threatened, force may be required to defend it" even within the theory of neo-liberal institutionalism, and "… even though liberalism is oriented toward peaceful international relationships, its effects are not necessarily benign" (Keohane 1990, 188). Arguing along these same lines, Waltz stated that, "Close interdependence means closeness of contact and raises the prospect of at least occasional conflict" (Waltz 1970, 205). In terms of causality, sophisticated liberalism implies that "when more of the different types of causal mechanisms are present and working in conjunction with one another, interdependence will have an even stronger negative effect on interstate conflict" (McMillan 1997, 39).

Neo-liberal institutionalism is the most appropriate out of the four causal arguments for peaceful relations because, as McMillan points out, "sophisticated liberalism is more sensitive to the costly effects of interdependence" (McMillan 1997, 38). Moreover, McMillan argues that, "interdependence is still expected to decrease war, but it is not a guarantee against war or conflict more generally" (McMillan 1997, 38). If this is the case, then sophisticated liberalism provides the foundational logic for the proposed theoretical relationship between DEI and conflict. Overall, the four causal strands within liberalism are related to interdependent state behavior:

> Liberals, emphasizing the mutual benefits to be gained from trade between and among countries, expect economic interdependence to produce strong incentives for peace and, therefore, less conflict. Each causal strand of liberalism's argument emphasizes how individuals or governments react to maximize the benefits of interdependence (McMillan 1997, 42).

In addition, I argue that IPE includes aspects from each of the four causal mechanisms, but finds its roots most strongly with sophisticated liberalism, and thus neo-liberal institutionalism.

The terminology of interdependence used to describe state relationships varies across studies, and is open to different interpretations. For instance, Ken Waltz warns that the term interdependence is too vague and encompasses too much, when he stated that, "… one has to unpack the word 'interdependent' and identify the varying mixtures of relative dependence for some nations and of relative independence for others" (Waltz 1979, 153). Keohane and Nye provide a useful definition of interdependence as being "characterized by reciprocal effects among countries … Where there are reciprocal (although not necessarily symmetrical) costly effects of transactions, there is interdependence" (Keohane and Nye 1989, 8-9) quoted in (Crescenzi 2005). A simplified version states that interdependence is the presence of "shared reliance between two states" (Crescenzi 2005, 29).

Economic Interdependence and Conflict

The literature on economic interdependence and its role with conflict is an interesting line of inquiry, and provides a fertile foundation for future research. The overarching theme is the general lack of consensus in the literature about the role economic interdependence plays with conflict. The primary issue is that researchers have not only measured economic interdependence in different ways, but also have developed different mechanisms to explain how economic interdependence may affect the likelihood of conflict. The lack of consensus in relation to the operationalization of the measure itself is problematic because each iteration of the economic

interdependence measures are isolated from comparison. What is the appropriate measure for economic interdependence? The preceding question can be broken down into a question of three parts. First, what is the relationship between economic interdependence and conflict? Second, how do we measure the phenomena which deal with such a complex relationship? Third, what can we surmise about the causal link between economic interdependence and the potential for a pacification of conflict? The literature examined in this section will provide answers to these questions, but the proposed theoretical relationship between DEI and conflict in this study will provide the most clarity.

The potential for a path to peace through economic relations has become a complicated and fruitful line of research. Some important theorists studying the phenomenon point to some of the initial intuitive reasons for the pacification of conflict. For instance, it has been argued that "economic exchange and military conquest are argued to be substitute means of obtaining the resources required for political security and economic growth (Staley 1939). The suggestion that economic exchange and military conquest are substitute state activities to obtain resources is an idealist concept, however it fits well within classical liberal thought. Today, neo-liberal institutionalists have no delusions about the propensity for states to fight wars. In other words, economically interdependent states may fight fewer wars between each other, but may be just as likely to engage in conflict with other states. In a similar argument, Rosecrance states that "as trade and investment increase, countries have fewer incentives to satisfy political needs through territorial expansion, imperialism, and conquest" (Rosecrance 1986). Turning the same argument on its head, Viner argues that "barriers [constructed by states] to international economic involvement can spur conflicts that may lead to political and military discord (Viner 1951). More relevant to this study, however is Montesquieu's argument about the way in which states will

become interdependent and mutual beneficial dyadic relationships will be formed, when he stated that, “the natural effect of commerce is to lead to peace. Two nations that trade together become mutually dependent: if one has an interest in buying, the other has an interest in selling; and all unions are based on mutual needs" (Hirschman 1977, 80) quoted in (Mansfield and Pollins 2001). Montesquieu’s argument places the dyadic interdependent relationship in economic terms that holds up according to more recent definitions of economic interdependence.

In a useful summary, Mansfield and Pollins point to a lack of consensus in the literature on the role of economic interdependence on conflict, where they argue it stems from conceptual and methodological differences (Mansfield and Pollins 2003). In other words, there are various studies in the literature that use different research methodologies and conceptualizations to address the question on economic interdependence and conflict. What is the relationship? That is the most straight forward part of the question. More troubling, however, is the question: how do we measure this relationship and determine any sense of causality among these complex phenomena? Compounding this problem, Mansfield and Pollins argue that the research community has not addressed the differences in definitions and measurements among different studies (Mansfield and Pollins 2003). In a more recent study, Crescenzi attempts to synthesize the current state of the literature on economic interdependence into a new perspective on measurement and causality in relation to conflict.

Crescenzi provides a thorough summary of the literature about the relationship of economic interdependence and conflict (Crescenzi 2005). More specifically, Crescenzi points to the misspecification of the economic interdependence measure. The operationalization of economic interdependence has had many perspectives. After summarizing the current state of the literature, Crescenzi offers a definition of economic interdependence, which focuses on the

relationship between economic interdependence and conflict where he explains the role of exit costs. For instance, Crescenzi defines economic interdependence as:

> Economic interdependence exists when there are exit costs for any two states vis-a-vis their economic relationship. These costs are a function of market structure, asset specificity, and salience. The salience of interaction exacerbates interdependence, but only when market conditions constrain adaptation. Thus, the highest forms of interdependence exist when exit options are scarce, adaption is costly, and the economic relationship is highly salient (Crescenzi 2005, 43).

Other researchers have defined economic interdependence on different principles, but similar themes of exit costs are prevalent. For instance, Hirschman defines economic interdependence as:

> EI is a function of the alternatives states face with respect to economic ties. A lack of alternatives in the marketplace leads to interdependence. A lack of diversity in trading partners and a high degree of international trade as a proportion of a state's total economy both exacerbate the problem (Hirschman [1945] 1980) quoted in (Crescenzi 2005, 32).

In his definition, Hirschman points to the lack of alternatives as a reason for states to remain dependent on one another. Similarly, other authors have referred to the costliness of interdependence:

> EI results when mutual cost-benefits of economic linkage[s] in interstate relationships exceed alternatives. EI manifests itself as reciprocal opportunity costs. These costs refer to severing existing economic ties (Baldwin 1980) quoted in (Crescenzi 2005, 32) … EI involves mutual costly ties. Sensitivity refers to short-term costs of adaptation to severing economic ties or costs associated with maintaining the relationship; vulnerability refers to long-term costs that occur despite adaptation when the economic relationship is severed (Keohane and Nye 1989) quoted in (Crescenzi 2005, 32).

Once again, these definitions of economic interdependence allude to the role of exit costs. Another aspect of the economic interdependence definition within the literature refers to the role of international trade:

> EI is a function of the interaction of trade salience and symmetry between two states. Trade salience is a function of the total trade between two states as a proportion of each state's total trade with the international system. Symmetry is a function of the balance of the importance of trade between two states (Barbieri 1995) quoted in (Crescenzi 2005, 32) … Broken down into directional dependence, which is a function of the trade between the two states as a proportion of GDP for each state (Oneal and Russett 1997) quoted in (Crescenzi 2005, 32).

Barbieri provides different measures of trade to account for economic interdependence, while Oneal and Russett focus on dependent states within a dyad. It is clear, therefore, that there are various definitions of economic interdependence, but the themes are similar. Trade plays a role in developing interdependent relationships, and exit costs serve to maintain those relationships.

The causal mechanism proposed in this study is built upon the work by Crescenzi on the role exit costs play in interstate relations. Exit costs, and their pacifying role, are explored fully in chapter three on the theoretical layout of this study; however the literature defining exits costs are explained below. First, however, consider the following hypothetical story by Angell which relates to the two aspects used to define exit costs:

> The boat was leaky, the sea heavy, and the shore a long way off. It took all the efforts of the one man to row, and of the other to bail. If either had ceased both would have drowned. At one point the rower threatened the bailer that if he did not bail with more energy he would throw him overboard; to which the bailer made the obvious reply that, if he did, he (the rower) would certainly drown also. And as the rower was really dependent upon the bailer, and the bailer upon the rower, neither could use force against the other. (Angell 1914, 17) quoted in (Baldwin 1980, 483) and (Crescenzi 2005, 33).

Crescenzi expands on Angell's allegory about interstate dependence to develop his definition of exit costs. Crescenzi points out that the story implies that the two men are interdependent, but there is a need for missing information to surmise that relationship. Also, Crescenzi explains that there is a need for more information about the potential costs to the rower and bailer. The first tenet of the allegory that Crescenzi expands upon is the division of labor in the tasks that need to be performed for survival. Crescenzi relates the idea about the tasks to the concept of market structure, where each of the men holds a monopoly over their performed task, either rowing or bailing. They hold a monopoly because only one man can perform one of the tasks at a time. Second, Crescenzi argues that one man could not do 50 percent of each of the tasks, which he relates to the concept of asset specificity. The importance in Crescenzi's analysis of Angell's story is that he relates these concepts of market structure and asset specificity into a model to explain the role of exit costs in defining economic interdependence at the state level. For instance, Crescenzi argues that the concepts of market structure and asset specificity are more complex in world politics, and are therefore more difficult to calculate on an interstate basis. Both concepts, however, have an impact on the exits costs each state within a dyad with DEI must be aware of, otherwise there would be nothing stopping them from leaving the economic relationship.

It is important to step back and define market structure and asset specificity in the context of Crescenzi's definition of economic interdependence, since it forms the basis for exit costs. It should also be mentioned that asset specificity and market structure are not concepts created by Crescenzi. The terms are borrowed from economics and are used to evaluate both the makeup and structure of the economy. In addition, other theorists in economic interdependence have used the terminology or some similar idea. For example, Hirschman, discussing the importance of

adaption, defines asset specificity as "the possibility of diverting capital goods to new purposes, … the geographical mobility of the factors of production, and, above all, the ability of labor to turn new tasks" (Hirschman [1945] 1980, 28) quoted in (Crescenzi 2005, 44). Crescenzi's defines asset specificity in the following terms as, "resources that are rigid in their relation to an international economic relationship make states vulnerable to their trading partners. Resources that are more mobile or fungible enable states to adapt to potential changes that other states may threaten to impose" (Crescenzi 2005, 44). In other words, foreign direct investments in assets that cannot be adapted or repurposed easily or cost efficiently make the investor more vulnerable. States with investments in expensive and long-term assets will incur higher exit costs if they were forced to abandon those assets. Crescenzi also explains the role of market structure in terms of alternative trading partners, stating that "if such substitutes exist, then the trade-related opportunity costs of war will be low. This is precisely what the dispersion of market power implies: the existence of substitutes for import and export markets" (Gowa 1994, 118) quoted in (Crescenzi 2005, 44). The implication here is that states without viable alternative trading partners would incur higher exit costs than a state with a variety of alternative trading partners. In other words, the state without alternative trading partners will become dependent on their current trading partner. Crescenzi goes on to stitch the concepts of asset specificity and market power together into an argument about the impact on economic interaction. Equally important is the link Crescenzi suggests with dyadic state relationships, where the effects of asset specificity and market structure may be pronounced within the dyad. Crescenzi argues that:

> Together, market power interacts with asset specificity to delineate the context within which economic interaction takes place. Embedding dyadic economic activity within this systemic and domestic context provides more accurate and complex information about the economic relationship (Crescenzi 2005, 45).

Crescenzi contends that when a state has many alternative trading partners, then the exit costs from abandoning one of the state's current trading partners is low. On the other hand, when a state has a dearth of alternative trading partners, then the exit costs from abandoning one of the state's current trading partners is high. In other words, the exit costs are higher when a state has fewer alternative trading partners because the impact on the state's economy could be dramatic from a loss of trade if they were to abandon one of their few, or only, current trading partners. In terms of the measures I propose in this study, the dyadic trade density variable is the best proxy measure for the alternative trading partner phenomenon Crescenzi illustrates.[3] Dyadic trade density, which is operationalized to measure the ratio of trade within a dyad compared to the total trade of each state, can be used to assess the likelihood a state could find alternative trading partners. For instance, a state within a dyad with high levels of dyadic trade density will find it more difficult to find an alternative trading partner quickly enough to not suffer economic losses, since high levels of dyadic trade density indicates trade dependence within a dyad. On the other hand, a state within a dyad with low levels of dyadic trade density will not have much trade volume to find an alternative partner for, therefore, having much less to lose. If this is the case, then dyads with higher levels of dyadic trade density will have higher exit costs, because as Crescenzi suggests dyads with less access to alternative trading partners will have higher exit costs.

Other authors have highlighted the role of exit costs in previous research. For instance, as Hirschman explains, the way for a state to avoid incurring the exit costs from leaving a trading relationship is to supplant that relationship with an alternative. Without which, however, the state

[3] This variable, and all other variables, are discussed at length in Chapter 4 on research design.

will incur the costs of abandoning a trading relationship. Hirchman's argument is that states have the ability to avoid exit costs when there is a viable alternative partner:

> A country menaced with an interruption of trade with a given country has the alternative of diverting its trade to a third country; by doing so it evades more or less completely the damaging consequences of the stoppage of its trade with one particular country (Hirschman [1945] 1980, 29) quoted in (Crescenzi 2005).

Similarly, Gowa argues that in terms of exit costs the important aspect is whether or not a state has alternative trading partners. Gowa argues that:

> Large volumes of trade between or among prospective belligerents, however, are not necessarily a valid indicator of trade-related opportunity costs of war. Instead, what really matters is whether close substitutes exist for the export markets and imports that prewar trading partners supplied (Gowa 1994, 118) quoted in (Crescenzi 2005).

Crescenzi, who was attempting to develop a clear definition of exit costs, argues a similar point about the role of alternative trading partners. Crescenzi argues that:

> Economic interdependence is not merely a function of current economic activity. It is a function of economic activity within the context of the alternatives available to both states. If we assume that states are involved in economic relationships that maximize welfare, then the costs involved in exiting these relationships are essentially what is lost in switching from this 'best' option to the next best alternative. These alternatives could involve other trading partners or a return to autarky (economic isolation), where all the goods and services previously obtained from a trading partner must be substituted with domestic alternatives. I define the opportunity costs associated with these alternatives as *exit costs* (italics in original) (Crescenzi 2005, 41).

Taken together, Crescenzi's inclusion of asset specificity and market structure with alternative trading partners creates his definition of exit costs.

Another theoretical concern about the relationship between economic interdependence and conflict is the role played by multinational corporations, or private actors more generally, in a world system usually relegated to state power. For instance, McMillan argues that "relating trade, which is an activity of individual activities, to international conflict, which is an activity of states, requires a theory of state, society relations that has not been addressed" (McMillan 1997, 39). The distinction between the two spheres of economic interdependence is blurred to be sure, since there are overlapping economic activities among the states and private actors. Exit costs, however, do account for the complexity of state and private economic interactions. Asset specificity and market structure, however, are both outcomes of decisions made by private actors operating within the rules and norms established by the states involved in the trading relationship.

In an article aimed at exploring the theoretical connections between economic interdependence and conflict, Solomon Polachek makes the case for the pacification of conflict. For instance, Polachek states that, "it is argued that the mutual dependence established between two trading partners (dyads) is sufficient to raise the costs of conflict, thereby diminishing levels of dyadic dispute" (Polachek 1980, 55). In fact, Polachek finds that, ceteris paribus, countries with the greatest levels of economic trade engage in the least amounts of hostility, where a doubling of trade on average leads to a 20 percent diminution of belligerence. He hints at exit costs as the costs of conflict. Polachek also talks about the idea that natural peace is created through economics rather than initiated through third party nations, where he argues that "a natural peace is one based in part on mutual dependence...[where] mutual dependence makes conflict more costly, thereby increasing the incentives toward cooperation, and hence toward peace." (Polachek 1980, 56). Similar to past studies, he uses international trade as a measure of

mutual economic dependence. What Crescenzi illustrated, and I concur, is that trade alone is a poor measure for economic interdependence.

Another aspect of economic interdependence between states is the role comparative advantage can play in terms of the amount and level of trade. Polachek discusses the concept of comparative advantage and its role with economic interdependence. Since states do not produce everything they need, they find it advantageous to specialize their labor, or products they produce, to an area they are most efficient. The concept of specializing labor is known as the division of labor.

> A division of labor comes about because persons work at what they do best, and trade for what they produce inefficiently. International trade occurs for the same reason. One country is not able to produce all it needs as efficiently as another. A country is said to have a comparative advantage over another when it is relatively more efficient in the production of a particular commodity. The existence of comparative advantages enables both countries to increase their own welfare through trade. Loss of existing trade, for example because of conflict, would imply potential welfare losses. (Polachek 1980, 57).

In addition, comparative advantage implies that states will produce more of, or solely produce, only the products they are efficient at producing through cost savings like economies of scale, particular natural resources, or labor talent. If this is the case, then those same states will develop a trading relationship to acquire the products they do not produce efficiently. In the end, at least theoretically, a comparative advantage could operate on a large scale where states each produce a handful of products, and trade with each other for the items they require. Polachek suggests that the potential losses, from the type of trade dependence generated through a comparative advantage between states, have a pacifying effect on conflict. In other words, states that trade with each other to obtain a comparative advantage will be highly dependent on each other because such countries rely on each other to fulfill their trade obligations. If one state fails

to produce enough of a certain product, or conflict disrupts the flow of trade, the other state, operating under the principles of comparative advantage, will simply not have the product. As a result, states operating under a comparative advantage trading relationship need each other to produce all of the products they require. Although it is not clear if a dyad is pursuing a comparative advantage strategy, the presence of a free trade agreement is a good proxy measure.

It is clear that in terms of a definitive theoretical relationship between economic interdependence and conflict, there is a lack of consensus within the literature. In fact, many attempts have been made to understand the causal relationship between economic interdependence and conflict within the context of international relations. Most studies tend to follow the ideas laid out by Robert Keohane and Joseph Nye in terms of their mutual dependence argument. In fact, according to Keohane and Nye interdependence is synonymous with mutual dependence, where states are dependent on each other (Keohane and Nye 1977). There is a distinction in the literature on economic interdependence between measures of state interconnectedness and interdependence. This point is clearly made by Robert Keohane and Joseph Nye, who argue that:

> … interconnectedness is not the same as interdependence. The effects of transactions on interdependence will depend on the constraints, or costs, associated with them … where there are reciprocal … costly effects of transactions, there is interdependence. Where interactions do not have significant costly effects, there is simply interconnectedness. This distinction is vital if we are to understand the *politics* of interdependence. (Keohane and Nye 1989, 9) emphasis in original, quoted in (Crescenzi 2005).

In addition, Keohane and Nye adopt a similar definition from David Baldwin, where they define the components of interdependence as being vulnerable or sensitive types of dependence (Baldwin 1980; Keohane and Nye 1977). In a summary of the theoretical connection between

economic interdependence and conflict, McMillian offers a clear explanation of vulnerability and sensitivity interdependence:

> Sensitivity is the extent to which one country is affected by the actions of another, whereas vulnerability is the extent to which a country can insulate itself from the costly effects of events that occur elsewhere. Interdependence then 'means mutual dependence' (Keohane and Nye 1977, 9), a condition in which countries are both highly sensitive and vulnerable to each other (McMillan 1997, 34).

The definition of interdependence by Keohane and Nye is noticeably similar to Baldwin's definition of interdependence, where he states that interdependence can be understood as, "international relationships that would be costly to break … [and] the opportunity costs of autonomy are prohibitively high" (Baldwin 1980, 484 & 489) quoted in (McMillan 1997).

Another issue that adds complexity and confusion to the literature on economic interdependence and conflict is that studies use varying levels of analysis to explore the relationship. Some studies examine the relationship at the dyadic level, while others examine state interactions at other levels of analysis at the systemic or at the country-specific level. I argue that the dyadic level is the appropriate level of analysis for studying the relationship between economic interdependence and conflict in this study, because state interactions at the dyadic level can be influenced by aspects of the dyadic relationship outside of politics. In fact, the central tenet of my theoretical argument in this study is that dyadic economic relations can have an impact on the likelihood of dyadic conflict. This study, therefore, includes variables and data that are measured only at the dyadic level of analysis to ensure that any conclusions about the relationship under study are not erroneous.

The evidence within the literature on the relationship between economic interdependence and conflict is mixed with authors on either side of the issue. Specifically, some researchers find

that economic interdependence reduces the chance of conflict, while others contend that it increases the chances of conflict. The standoff between the two camps of researchers points, once again, to the misspecification of the measured phenomena. One interesting aspect in the literature is that researchers from opposing paradigms, like realism and liberalism, find opposing results about the relationship between economic interdependence and conflict. In a summary of the current state of the research at the time, McMillan points out this dichotomy between realists and liberals (McMillan 1997). For instance, liberals tend to support the proposition that interdependence reduces conflict. McMillan explains that researchers starting from a liberal point of view in favor of the "beneficial aspects of trade interdependence" tend to find supporting evidence (Gasiorowski and Polachek 1982; McMillan 1997; Polachek 1980; Polachek 1992; Polachek and McDonald 1992). Studies from a realist point of view, which argue that trade either has no impact or increases the chance of conflict, tend to find supporting evidence (McMillan 1997; Ripsman and Blanchard 1996; Uchitel 1993). Other authors have focused on the potential for interdependence to increase the likelihood of conflict more specifically. For instance, (Gasiorowski 1986) found that when the concept of interdependence was broken down, various aspects either increased or decreased the likelihood of conflict. Similar findings about the potential for individual aspects of interdependence to increase the likelihood of conflict have been explored (Oneal and Russett 1999). As (Mansfield and Pollins 2001, 840) point out, however, these findings were "almost certainly underspecified" since too many variables affecting the likelihood of conflict were omitted in those studies. The dichotomy in findings between realist and liberal studies is somewhat corrected if the "costly and beneficial aspects of interdependence" are included in the analysis (McMillan 1997, 52). In addition, for evidence of a negative relationship between trade and conflict the "costly aspects of interdependence must be

controlled" for (Gasiorowski 1986, 52) quoted in (McMillan 1997). Overall, the evidence on the relationship between economic interdependence and conflict is mixed. Mcmillan provides a good summary statement about the state of the literature:

> … interdependence is a multifaceted concept. It not only involves both costs and benefits for countries, but it consists of more than trade volumes between countries. When indicators of interdependence include political as well as economic dimensions, (De Vries 1990) finds that interdependence serves as a catalyst that intensifies both conflict and cooperation. When control variables measuring other forms of international relationships - such as alliance membership and joint democracy - are included in dyadic models, they may be accounting for some of these political aspects of interdependence (For example Barbieri 1995, 1996, 1996, 1996; Oneal 1996). Clearly, interdependence is a broader analytic concept that involves more than the level of trade. To make empirical and theoretical progress in understanding the link between interdependence and conflict, this complexity must be recognized and incorporated into future studies (McMillan 1997, 52).

In a comprehensive study, which includes a thorough review of the literature on economic relations and conflict, Pollins separates the international trade and politics literature into three bodies of literature where each focuses on a different aspect of a cooperative interstate relationship (Pollins 1989). First, Pollins identifies the line of literature examining the role of international trade with the occurrence of conflict. For example, Pollins argues this first body of literature claims that, "trade inhibits conflict from classical and neoclassical proofs that international trade benefits both parties to the exchange" (Pollins 1989, 467). Pollins includes a list of studies that find similar results in terms of trade reducing the likelihood of conflict (Arad and Hirsch 1983; Gasiorowski and Polachek 1982; Polachek 1980). The second body of literature classified by Pollins is what he calls the "transaction flow analysis" where it is claimed that cooperative nations will trade more, and conflictual nations will trade less (Kunimoto 1977; Nagy 1983; Pollins 1989; Savage and Deutsch 1960). The third body of literature Pollins

identifies are studies that attempt to measure the effect of institutionalized political-economic cooperation on trade flows. These political-economic institutions take the form of FTAs, which have a pacifying effect on conflict (Aitken 1973; Brada and Mendez 1983; Pelzman 1977; Pollins 1989).

Overall, the evidence from the preceding studies reiterates the fact that the economic interdependence and conflict relationship is still unresolved. In fact, the divergent findings about the effects of economic interdependence, and the lack of consensus on both the proper measurement and an explanation about how economics influences conflict points to the main area for improvement. Exit costs are included in the theoretical argument of this study to explain that when dyads reach high levels of DEI they see a reduction in the likelihood of conflict.

Capitalist Peace

The third area of research literature to highlight is the area known as the capitalist peace. The capitalist peace was positioned as a new theory to supplant the democratic peace theory, which at the time was the dominant theory for peace within the liberal paradigm. Capitalist peace theorists argue that democratic peace theory is missing a larger part of the story. Essentially, capitalist peace theorists contend that it is the economic relationships between countries that leads to democracy and peace, rather than the democratic form of government leading to peace. As a result, peaceful relationships between countries are possible through economic interactions.

Overall, numerous economic variables have been constructed to test the validity of the contention. Variables concerning trade, capital openness, and private-to-public sector ratios have been used most recently. Studies using these variables have tried to test the relationship described in what has been named the capitalist peace literature. For example, some authors argue that it is capitalism, or more precisely free markets, that are associated with peace (Gartzke

2007). Some capitalist peace proponents claim that there are free market variables that account for the peace between certain states and that regime type may be spurious, but those authors are attempting to supplant the democratic peace (see the following for a discussion on the merits of the capitalist peace over the democratic peace Gartzke 2007; Gartzke and Hewitt 2010; Gartzke and Li 2003; Gartzke, Li, and Boehmer 2001; Gleditsch 2006; McDonald 2007, 2009, 2010; Polachek 2005; Schneider and Gleditsch 2010; Weede 2005, 2010). A recent critique, however, illustrates how the free market, capitalist peace proponents may be misled and much of the error lies in their research methodology (Dafoe 2011).

A contemporary and compelling approach, which counters the free marketers, called the economic norms theory is the most recent contribution to this line of literature (see Mousseau 2000; Mousseau 2009, 2010). According to Mousseau, he has discovered that dyadic peace can be found in dyads where both states have contract-intensive economies. Mousseau's findings may be spurious, however, since the primary independent variable in his study is operationalized at the monadic level, even though he is applying his findings to dyads.

Nonetheless, Mousseau provides a valuable and in-depth structure to the literature on the capitalist peace (2010). Mousseau divides the literature into two theoretical camps on the basis of how each provides an explanation for peace. The first set of literature he labels the free-market theories of capitalist peace because the authors of those theories focus on economic variables related to one of three categories: trade, openness, or private sector ratio calculations. Mousseau argues that the public-to-private sector is a conditional measure for the democratic peace, while capitalist peace theorists, including the trade and capital openness proponents, claim to overturn the democratic peace. The second set of literature Mousseau highlights is his previous work on the social-market models of capitalist peace (see Mousseau 2009, 2010).

The Trade Model of Capitalist Peace

There has been a growing debate within the literature about the role of trade in relation to conflict. Some authors argue that since trade may promote both peace and development, then trade might account for the peace among democracies (see Weede 1996, 2005). Some adhere to the findings in the works by Barbieri where she argues that trade may increase the probability of conflict between countries (see Barbieri 1995, 1996, 1998). On the other hand, some authors adhere to the idea that trade reduces conflict (see Oneal and Russett 1999, 1999; Oneal and Russett 1997). Gartzke and Li frame the debate and spark an interesting discourse between Oneal and Russett, on one hand, and Barbieri on the other by comparing how the differing variable constructs have produced opposing views on the relationship. For instance, they contend that trade does seem to reduce conflict in agreement with Oneal and Russett (Gartzke and Li 2003). Gartzke and Li, however, argue that Barbieri suffers from incorrect variable construction; but, they acknowledge Barbieri's conclusions were correct if one ignores the errors in methodology. Both sets of authors have written replies to Gartzke and Li to defend their own methodologies (see Barbieri and Peters 2003; Gartzke and Li 2003, 2005; Hegre 2005; Oneal 2003).

Essentially, there is a disagreement about the proper specification of the measurements used in the studies. Since the studies are either approaching the question about trade and conflict differently, or under different conditions, there may be little chance of reaching a conclusion about the relationship using the same methods. Clearly, there is little consensus in the literature about the role of trade and peace. To bring clarity, it may be more beneficial to include a more complex or comprehensive measure of international trade, along with other economic aspects of state interaction, to understand the role it has with conflict. This study is aimed at such a goal.

The Capitalist Openness Model of Capitalist Peace

The capitalist openness model is the focus in the contemporary work by Gartzke. For instance, Gartzke offers three pillars which are development, foreign policy preferences, and openness to foreign investment, which work together to promote peaceful relations between states (Gartzke 2007). The conception of the third pillar offers an explanation that leaders, wishing to avoid capital flight, will work to avert war (Gartzke, Li, and Boehmer 2001). In other words, capital openness is viewed as having a pacifying effect on the onset of conflict. In fact, one study illustrates that higher levels of capital openness results in a lower probability of conflict (Gartzke 2007). In his 2007 study, Gartzke went on to make a controversial claim that the democratic peace is insignificant once you control for the proposed three pillars. This claim, however, has been contested by other authors (see Choi 2011; Dafoe 2011). Moreover, it has been argued that only the third pillar in Gartzke's work about openness is capitalist in nature, and that it is unlikely that capital openness can supplant the democratic peace (Mousseau 2010).

The Private Sector Model of Capitalist Peace

Mousseau explains how the private sector model is based on the premise that a dispute will escalate to war if there is a lack of credible commitments to peace (2010). For instance, states can avert war by improving their credibility in the pursuit of peace relations (Fearon 1995). This logic is followed by the authors of the private sector models since the need for rallying public support for conflict can have a pacifying effect. This idea is rooted in classical liberalism, and was examined by Immanuel Kant when he argued that republics might be more peaceful than autocracies because leaders would be constrained by the will of the people. More recently it has been argued that states with large private sector ratios should be more credible in their peace commitments since they would have to finance war with tax revenues (McDonald 2007, 2009). In other words, leaders must gain support from, and are constrained by, the size of the private-to-

public sector ratio present in their state. Commitments to peace, therefore, might be seen as more credible if the leader must raise tax revenue to fund war activities. States with small private-to-public sector ratios would not have the need to gain public support, thus reducing the credibility of their commitment to peace. In other words, the government could use its own funds to finance war activities with less concern for the input from the private sector. In addition, some studies argue that interstate dyads are less likely to engage in militarized disputes when at least one of the states in the dyad has a large private-to-public sector ratio (McDonald 2007, 2010).

The Social-Market Model of Capitalist Peace

The social-market theory, according to Mousseau, has shown that the democratic peace is spurious as he explains how the reason for peace in the world between some states is the presence of contract-intensive economies (Mousseau 2010). Although this is a far-reaching claim that is sure to be contested, Mousseau does provide a thorough and useful empirical analysis. At the heart of Mousseau's theory is the distinction between contract-intensive and contract-poor economies. Contract-intensive economies are characterized by preferences towards developing habits for universal rights, impartial law, and democratic regimes. Even more, contract-intensive economies trust that other states share these same preferences. Contract-poor economies, on the other hand, tend to distrust outside groups and instead form habits with their in-groups. As a result, contract-poor states tend to exclude themselves from international relationships. Briefly stated, Mousseau argues that there is an economic conditionality to the democratic peace (Mousseau 2000; Mousseau, Hegre, and Oneal 2003). Moreover, Mousseau claims that the democratic peace has been overturned (2009). Ultimately, Mousseau argues that contract-intensive states are not necessarily less war prone, but are focused on maintaining and fighting for, if necessary, global law and order (2010).

In summary, it is clear that there have been varied studies attempting to understand and explain the phenomenon of interaction between economics and conflict. There is no clear consensus in the literature about the role of economics and its potential impact on the likelihood of conflict. As discussed, this chapter has laid the theoretical foundation for the propositions in this study. First, the neo-liberal institutionalism paradigm was cited as the theoretical underpinning to the focus of this study on the role of DEI and the pacification of conflict. More specifically, the role of IPE with conflict is the larger theoretical framework that best describes this study. Second, the literature on economic interdependence was examined to inform the theoretical justification of the proposed DEI variable. Moreover, exit costs were explored through the economic interdependence literature and serve as the causal mechanism between high levels of DEI and the reduced likelihood of conflict. Third, the literature on the capitalist peace was examined because it relates to the hypotheses in this study about the pacification of conflict through economic interactions. Within the context of these three areas is where my study fits in the literature, because it attempts to provide some clarity and evidence to a broad and encompassing phenomenon that touches on a variety of state and private interactions. The theoretical propositions in the subsequent chapter are informed by the reviewed literature in this chapter.

CHAPTER 3 THEORETICAL LAYOUT

The theoretical contribution of this study to the literature on international political economy and conflict in international relations is the proposition that DEI reduces the likelihood of conflict and escalation leading up to, and including, the onset of war. The theoretical argument of my dissertation is that high levels of DEI within dyads has the effect of generating high exit costs to both states which reduces the likelihood either state will break the economic relationship, and thereby reduces the likelihood of conflict between the states. DEI is operationalized as the presence of a dyadic free trade agreement, high levels of dyadic trade density, and the presence of joint membership in economically-focused intergovernmental organizations (IGOs). These variables are defined and explored in the research design chapter. Furthermore, the DEI variable proposed in this study is a factor score based on these three independent variables, which measure different aspects of economic interdependence. The theoretical connections between economic interdependence and conflict are tentative, since authors tend to address the topic from a variety of angles. Compounding the problem is a lack of consensus in the literature that revolves around the various methodologies adopted to test the relationship.

The primary goal of this chapter, therefore, is to develop a theory that provides an explanation for the phenomena under study: the pacification of the occurrence and escalation of dyadic conflict. I propose that dyads that reach high levels of DEI will have a reduced likelihood in the chance of conflict because DEI between states generates high exit costs to the economic relationship. The pattern of regularity in terms of the pacifying behavior within dyads occurs because neither state wants to engage in conflict and incur the exit costs. The proposed theory therefore states that dyads with high levels of DEI engage in fewer conflicts with each other.

Thus, my theory is a type of "covering law" explanation about the relationship between DEI and conflict (see arguments by Hempel, Lakatos, and Popper about the explanation of phenomena by means of covering laws in Martin and McIntyre 1994; Delanty and Strydom 2003). The cause is the development of high levels of DEI within a dyad, which produces exit costs, and has the effect of reducing the likelihood of conflict occurrence and escalation between the two states. The theory proposed in my dissertation is an inductive-probabilistic form, and the theoretical arguments are supported empirically. In other words, the probability of dyadic conflict occurrence and escalation is lower when dyads engage in high levels of DEI.

My dissertation, which provides a new and encompassing measure of economic integration, is couched in the theoretical paradigm of neo-liberal institutionalism; more specifically, my dissertation is related to the literature on the theoretical connections between economic interdependence and conflict. The economic interdependence literature focuses on understanding the way in which economic ties can affect conflict. I classify my work under the neo-liberal institutionalism paradigm because the proposed new measure is a measure of economic interdependence that operates at the international institutional level. Furthermore, the focus of this study is at the dyadic level of interaction, and the international institutions developed by dyads engaging in DEI are powerful and influential in international relations. In addition, the type of interaction within a dyad engaged in high levels of DEI does not occur by chance, but is rather a devised plan to develop a lasting and mutually beneficial relationship. DEI is different from other conceptualizations of economic interdependence because it measures three important aspects of dyadic economic relationships, as opposed to former economic interdependence measures which focused primarily on trade flows.

Some of the studies examined in the previous chapter focused on examining the relationship between economic interdependence and conflict at the systemic level of analysis. The problem of looking at the entire world system is that states may actually behave differently with certain dyadic partners compared to their general foreign policy prescriptions. I argue that a given state is less likely to engage in conflict with their dyadic partners when the level of DEI is high, but that same state is just as likely to engage in conflict with other states. In other words, I am not making a theoretical argument for monadic state interactions; rather I am only focusing on the dyadic level of analysis. So, at the monadic level, I argue that states are not more or less war prone than other states; however, dyads with high levels of DEI are less likely to engage in conflict.

The three components of the DEI factor score variable were selected to capture a different aspect of dyadic economic relationships. DEI, I argue, differs from previous measures of economic interdependence because as a single measure it captures the theorized deep economic relationship that has the potential to reduce conflict. Free trade agreements, dyadic trade density, and joint membership in economically-focused IGOs each capture a specific attribute of dyadic economic relations. Free trade agreements capture the level of economic commitment between two states. Dyadic trade density is similar to previous measures used in economic interdependence studies because is calculates a ratio based on trade flows. Dyadic trade density differs, however, because it calculates the density of the trade flows within the dyad as a ratio of the entire trade flows generate by each partner state. Joint membership in economically-focused IGOs is used to measure the level of cooperation in international institutions. As discussed, arguments from neo-liberal institutionalism indicate that states can escape the security dilemma

if they can cooperate and improve information about one another, ultimately leading to increased levels of trust.

Too often, economic interdependence and international trade are used synonymously, even though trade is a type of financial interaction, and interdependence suggests a different, more established type of relationship, one where the states are mutually dependent on one another. A measurement of trade flows alone does not meet the type of interdependence that is required to truly understand how integrated two states' economies may be, and more importantly how influential the economic relationship may be on affecting foreign policy with the state's economic partners. DEI, on the other hand, is designed to measure the depth and strength of a dyad's economic relationship because it accounts for three different aspects of the relationship.

First, the presence of a free trade agreement is included in the measure because this type of trading relationship illustrates the importance two states place on their trading relationship. For instance, free trade agreements are developed to be mutually beneficial to both states in the dyad, and are used to foster higher levels or trade, thereby increasing the total amount of dyadic trade. Second, the level of dyadic trade density, a measure I will develop in a later chapter, is designed to measure the level of dyadic trade compared to the total trade of both states. In other words, dyadic trade density measures the amount of dyadic trade as a percentage of the combined total trade of each state. Dyadic trade density is useful for two reasons. The first reason is that it is a unique measure of the amount of trade flowing between the states in a dyad compared to the flows outside of the dyad, which accounts for the significance of the trading relationship to each state. The second reason dyadic trade density is useful is that it can be used to compare the trading relationships across dyads, which is important in this cross-sectional study. Third, the presence of joint dyadic membership in an economically-focused IGO is included in the DEI

measure because it is a proxy for the level of economic communication occurring within the dyad. Since it would be nearly impossible to quantify all of the actual economically related communications occurring within a dyad, the fact that both states in a dyad are members of an outside economic institution indicates the level of communication and coordination. As members of an economically-focused IGO, it can be assumed that both states are involved in cooperative efforts with each other. As in the neo-liberal institutional paradigm, states work through international institutions to improve information about the intentions of other states. In the case of economically-focused IGOs, the states interact to improve their economic standing but also forge influential relationships. Together these three variables, which were used to generate the DEI factor score, provide a unique and meaningful measure of economic interdependence.

The independent variables are theorized to represent different aspects of economic interdependence at the dyadic level. In fact, I argue that the independent variables measure unique and meaningful relationships between states. Those states, therefore, will not easily break these relationships to engage in conflict. Further, I contend that states engage in the three economic variables in this study for the primary purpose of connecting with the global economy and in the pursuit of prosperity. As a result, states engage in these economic activities for economic reasons, and peaceful relations are the byproduct of these interactions. Economic ties are made by financial decisions, therefore, and it is only after these economic ties become invaluable to a country that spillover may occur on the political side. For instance, if an economically poor and isolated nation becomes prosperous through economic ties, like the independent variables in this study, then that state may want to avoid conflict with its economic partner nations to avoid the risk of losing their economic advantage. In other words, there are high exit costs within the dyad that serve as incentives to maintain the economic relationship.

Therefore, I argue that the more a dyad engages in DEI, the more the two states become economically integrated; therefore, increasing the exit costs and reducing the likelihood they will engage in conflict with one another at the risk of losing or disrupting this economic interdependence.

As discussed in the literature review chapter, there is a complex problem with the multitude of operationalizations of economic interdependence, many of which focus on the role of international trade in various forms as a surrogate measure for economic interdependence (Mansfield and Pollins 2003). Does the use of international trade flows as a measure of economic interdependence meet the requirements of reliability and validity (Singleton and Straits 2005)? I argue that international trade flows as a measure is not valid because trade alone ignores the potential for broader economic interdependence between states. Furthermore, the use of international trade flows alone does not seem to be a reliable measure of economic interdependence either, since the results in the literature on international trade and conflict tend to offer mixed messages. Instead, I argue that international trade flows do have a pacifying effect on conflict, but only when it is measured specifically at the dyadic level and other economic interdependence measures are present between the states as well. As Mansfield and Pollins point out, the measures of economic interdependence used in the literature usually follow one of three themes: openness, vulnerability, or gain (Mansfield and Pollins 2003).

Openness, being the most common theme in the literature, is measured as the ratio of trade to total economic output. The studies examining the relationship between international trade and conflict have primarily used this measure. Since the openness measure is the most commonly employed in the literature, there is considerable evidence related to this conception of economic interdependence (Mansfield and Pollins 2003). For example, some studies use the openness

measure of international trade and find that it has a pacifying effect on the likelihood of war (Domke 1988; Mansfield 1994; Oneal 1996; Oneal and Russett 1999; Oneal and Russett 1997; Russett and Oneal 2001; Russett, Oneal, and Davis 1998). Other authors, using the same openness measure of international trade, have found contradictory results where the likelihood of war is more likely (Barbieri 1995, 1996, 1998; Beck, Katz, and Tucker 1998). These contradictory results, if nothing else, point to problems of validity and reliability with the measure itself. How is it possible to have such contradictory and statistically significant results about the same relationship? The answer is that the ratio of international trade as a measure of economic openness may be incomplete. The second theme highlighted by Mansfield and Pollins is vulnerability, which is measured as the level of trade asymmetry between two states. The vulnerability theme is more promising because it attempts to link the economies of states together, since each economy becomes vulnerable to the other states engaged in the economic relationship. Vulnerability is difficult, however, to measure since vulnerability must be calculated in a "what if" scenario. In other words, a researcher does not know how vulnerable one state may be to economic disruptions, but it is possible to say one state's economy is more or less vulnerable than another state's economy. Moreover, the third theme is gain, which is measured as the gains from trade, suffers from the same problem with developing an appropriate measure as the vulnerability theme. Gains from trade include not only the actual imports and exports volumes and profits, but also the benefit or boost an economy gains from engaging in trade. Similar to the vulnerability theme, it is difficult to calculate these measures, especially where data may be lacking.

The overall theme throughout the literature is that there are a variety of interpretations of the economic interdependence measure, as discussed in the literature review chapter. The attempt

to reduce the complexity of economic interdependence between two states into a simple measure is daunting. It is no surprise that there are many alternative measurements aimed at the same phenomenon. In their edited book, Mansfield and Pollins layout where the literature is lacking in terms of methodology, specifically pointing to the conflicting conceptualizations across various studies (Mansfield and Pollins 2003). In addition, Mansfield and Pollins highlight a general need for a better measure of economic interdependence, with the intention to develop a measure that may bring consensus to the literature in terms of an appropriate measure (Baldwin 1980; Crescenzi 2005; Gasiorowski 1986; Rosecrance et al. 1977; Rosecrance and Stein 1973; Tetreault 1980). Since there are a variety of measures, there tends to be a variety of different results. Interestingly, the choice of measurement tends to relate to the type of results for the relationship between economic interdependence and conflict (Mansfield and Pollins 2003). Openness tends to support liberal claims of the pacifying effect on war, with the exception of studies mentioned above. While on the other hand, studies using the vulnerability measure tend to support realist claims. Why is this the case? The simple answer is that the measurement for economic interdependence is misspecified, and there is a need for a new measure of economic interdependence to understand the relationship with conflict. The proposed DEI factor score in this study is a different type of measure that includes three aspects of economic interdependence, rather than only including one dimension of an economic relationship. Furthermore, this entire study is restricted to the dyadic level of analysis, while past studies included analysis at the monadic level or mixed the level of analyses together. The error with interchanging the level of analysis is explained further in the research design chapter. Economic interdependence measures, according to the literature, follow one of two typologies in terms of the relationship between the states involved in the analysis.

There are two typologies of economic interdependence defined in the literature which characterize the states in terms of their economic dependence. The two typologies are sensitivity interdependence and vulnerability interdependence, which were explained in chapter two in the literature review. The basic definition of each type of interdependence definition, however, is worth repeating here. Note that the definition of vulnerability interdependence is different from the theme of vulnerability described by Mansfield and Pollins (2003). Vulnerability interdependence is related to the costs each country would suffer if the relationship was disrupted (Baldwin 1980; Keohane and Nye 1977). In other words, the economies are vulnerable in the case of any disruption in the economic relationship, where the disruption would have dire consequences for either state's economy. If one state within a dyad, which is engaged in such a vulnerable relationship, suffered an economic collapse then a similar collapse could be expected in the partner state of the dyad. Sensitivity interdependence, on the other hand, relates to the idea that the conditions in state A are contingent upon the conditions in state B (Baldwin 1980; Keohane and Nye 1977). For example, if the inflation rate rises in state B by a certain percentage, it would be expected that an established change in the inflation rate in state A would occur. In other words, the two economies are sensitive to changes in each other, unlike vulnerability interdependence where the states are vulnerable in a general sense. The key difference between the sensitivity and vulnerability, therefore, is the costs that the states would bear should relations be disrupted. In vulnerability interdependence the costs could be diffuse or generalized in the sense that economic problems affect both states. Sensitivity interdependence, however, focuses on specific costs or economic issues where the states are directly interlinked. Vulnerability and sensitivity interdependence are not mutually exclusive typologies of economic relationships, however, each typology accounts for different aspects of the relationships. For

instance, as Mansfield and Pollins point out, it is difficult to find a measure that accounts for both vulnerability and sensitivity interdependence (2003). Instead, studies usually adopt measures of economic interdependence that fit one of the typologies. DEI, proposed in this study, is a measure of economic interdependence that covers both typologies.

The DEI measurement in this study is different from previous attempts to operationalize economic interdependence because it encompasses a larger variety of state-level economic linkages at the dyadic level. DEI does not conform to one of the three themes of openness, vulnerability, or gain since the measure accounts for a combination of different aspects of economic ties. The DEI variable, however, could be classified as being closest to a vulnerability measure, since the exit costs that are erected serve as barriers to economic disruption, and in turn political conflict. These exit cost barriers are indicative of the level of dependence or vulnerability between two states. In terms of the typologies of economic interdependence, the DEI variable does meet the definition criteria set forth by Baldwin for sensitivity and vulnerability (Baldwin 1980). The proposed DEI measure meets the criteria to be defined as a vulnerability measure because dyads that are engaged in high levels of DEI have deep relationships that would be too costly to disrupt. Even more, the relationship is intertwined in the dyad to the point where the two countries may rely heavily on the partner state's continued cooperation in the economic enterprise. The economies within a given dyad where high levels of DEI are present, therefore, are vulnerable to one another. Without the continued economic relationship between the states in a given dyad, it is possible that each country could lose a significant level of their economic base. These potential exit costs to their respective economies may influence the states to avoid conflict, which if pursued would likely disrupt their economic relationship.

Second, DEI also meets the criteria for the definition of sensitivity in terms of economic interdependence. A dyad engaged in high levels of DEI may have become so interconnected that the economies tend to fluctuate together. For example, if state A and state B are engaged in high levels of DEI, then issues that change in one state's economy could have similar effects on the other state's economy. In other words, if state A experiences a period of inflation or economic stagnation, it could in turn result in consumers purchasing less in the market. State B, therefore, could also be affected by the slowing of the economy in state A, since the consumers in state A may be purchasing fewer items from state B. As a result, changes in one state's economy are mirrored in the other state's economy. If this is the case, then two countries with economies that are sensitive to one another could not afford to disrupt their economic relationship, with the risk of potentially severe economic consequences. In addition, since the economies are sensitive to one another, then the states may be more reluctant to follow policies that could disrupt their economic partner with the fear that any disruption would return to their own economy. In other words, if the economies of the states within a given dyad are highly sensitive to one another, then the states may seek to avoid conflict in an effort to maintain a level of stability. As a result, dyads with high levels of economic sensitivity may be restrained to engage in conflict since doing so could incur high exit costs.

The theoretical relationship between DEI and conflict is complex, but the logical reasoning for the theorized pacification is grounded in the neo-liberal institutionalism paradigm. The proposed DEI variable in this study builds on this neo-liberal idea as a manifestation of the type of interaction that can lead to these levels of trust, which in turn may lead to more peaceful interactions. For instance, economic relationships and cooperation through international institutions at the dyadic level can build trust between the states, which in turn can lead to more

cooperative and trusting relationships. From an economic perspective, the existence of exit costs generated from a deep economic relationship is the actual mechanism that aids decision makers to avoid conflict. It is the development of trust and cooperation, however, that leads to the high level of DEI and in turn high exit costs.

According to Mansfield and Pollins, there is a problem of three parts within the literature about the lack of causal explanations included in theories between economic interdependence and the likelihood of conflict (Mansfield and Pollins 2003). The first problem is that there is a wide variety of actors involved in the relationship between economic interdependence and conflict. Essentially, it is difficult to attempt to offer a full explanation for the behavior between these two phenomena because the actors encompass entire states, but also the complex interactions of private economic actors. Mansfield and Pollins label this first issue as the many actors problem (2003). The second problem Mansfield and Pollins mention is about the complexity of strategic interactions used to pursue goals. In other words, it is not clear, or at least the strategic interactions are hidden from scrutiny, how actors choose to carry out their goals. The third problem is about the type of interactions that must occur to alter the political decisions about conflict. In other words, Mansfield and Pollins are referring to the causal mechanism that links the economic interactions and political decision makers. These three problems are pointed at the link between the idea that economic interdependence reduces conflict. This is an important question because if DEI is shown to reduce the likelihood of conflict, then the next question should be how does DEI have a pacifying effect. Which actors are involved, and how do they pursue their goals? How are political decision makers influenced enough to affect the likelihood of conflict? The answer to this question is that high levels of dyadic DEI generates high exit

costs, therefore, providing states with an incentive to avoid engaging in conflict and incurring the exit costs.

Exit costs to breaking an economic relationship between states are created when the states within a dyad become dependent on one another to a point where the economies need each other to be healthy. Without the presence of economic transactions and interactions within the dyad, the economies may become stagnant and suffer. The potential for stagnation and economic problems to each of the states in the dyad are the exit costs that are generated as DEI increases. As a result, higher DEI levels are associated with higher exit costs, thereby reducing the likelihood either state in a dyad would be willing to engage in conflict and suffer those exit costs. In other words, if the exit costs are high, then a state will have to pay higher economic costs if they choose to engage in conflict. If this is the case, then dyads with higher levels of DEI will have higher exit costs, and these costs may have a detrimental economic impact on the states. States within a dyad that want to maintain their economic strength, therefore, will tend to be risk averse in terms of disrupting the dyadic economic relationship and potentially incurring exit costs. States within dyads, wanting to preserve the beneficial status of having high levels of DEI, are less likely to disrupt the economic relationship with one another to avoid incurring exit costs. The calculation of exit costs is not straightforward, but they can be understood better by examining the different types of economic interdependence that may lead to them. Economic interdependence can take on two forms as either sensitivity interdependence or vulnerability interdependence.

The exit cost definition technically falls within the vulnerability typology of economic interdependence, but is an entirely new approach to address the economic interdependence and conflict relationship (Baldwin 1980; Crescenzi 2005; Mansfield and Pollins 2003). Exit costs are

a novel approach to examining the economic and conflict relationship that is outside the three more common themes in the literature of openness, vulnerability, and gains from trade. The key difference with the exit cost approach is that it is an attempt to formalize the causal mechanism between economic interdependence and the pacification of conflict, while the previous themes in the literature were focused on measuring economic interdependence. Although causal claims were offered in previous studies, those claims lacked the economic principles and clarity of the exit cost approach. One of the issues highlighted in the literature is that measures of economic interdependence fail to explain why the relationship with conflict exists, especially since the relationships tend to be strong (Crescenzi 2005; Mansfield and Pollins 2003). The usefulness of the exit cost conception is that it offers an explanation of the theoretical relationship between economic interdependence and conflict. According to Crescenzi, the creation of exit costs is a result of economic interdependence which influence political decisions about conflict. For instance, Crescenzi defines economic interdependence in terms of exit costs:

> Economic interdependence exists when there are exit costs for any two states vis-a-vis their economic relationship. These costs are a function of market structure, asset specificity, and salience. The salience of interaction exacerbates interdependence, but only when market conditions constrain adaptation. Thus, the highest forms of interdependence exist when exit options are scarce, adaption is costly, and the economic relationship is highly salient (Crescenzi 2005, 43).

Previous theoretical arguments for exit costs, and the proposed theoretical relationships between economic interdependence and conflict were fully discussed in the literature review chapter, but some of the main points will be emphasized to support my theoretical contentions. The three components of exit costs are the structure of the market, asset specificity in relation to the trading industries, and the salience of the interdependence. The proposed DEI variable in this

study is the type of economic interdependence measurement that meets the criteria of exit costs as defined by Crescenzi. Note that the three criteria for exit costs argued by Crescenzi are related to international relationships, more specifically to foreign economic activities. The term asset specificity is about industries where the means of production are highly specialized and cannot be easily, or more precisely, would not be cost effective to change the product offering of a factory or to sell it. In other words, highly asset specific industries that have invested capital into factories overseas for a certain purpose are essentially tied to those investments. Other corporations, or the local population, cannot use the factories and the investing corporation cannot easily modify the type of production being performed at the factory. The market structure term is related to the composition of the economic market, where the market's structure favors some industries or corporations over others. Finally, the term salience is used to describe how well the economic interdependence relationship is known. Together these three criteria, according to Crenscenzi, comprise the costs in his exit cost definition of economic interdependence. I argue that the DEI factor score, and the independent variables in this study, can generate the type of exit costs Crescenzi described.

Each of the three independent variables used to generate the DEI factor score aid in the development of exit costs at the dyadic level. First, since free trade agreements are designed to promote long-term economic relationships, there should be an increased likelihood of higher asset specificity among the industries involved in trade. Second, dyads with high levels of dyadic trade density are highly involved economically with each other and cannot easily break that relationship. Third, dyads with joint membership in economically-focused IGOs improve the salience of the economic relationship, because the relationship is publicized through the IGOs. In terms of Crescenzi's exit cost definition, free trade agreements make adaptation costly, dyadic

trade density makes exit options scarce, and joint membership in economically-focused IGOs makes the economic relationship highly salient. First, I will relate free trade agreements with Crescenzi's asset specificity criteria. Industries engaged in costly investments with their trading partners want to maintain peaceful and stable relations to ensure their investment is not squandered. For instance, multinational corporations (MNCs), operating in a given dyad that recently reached high levels of DEI, can begin to increase the level of foreign direct investment from their home state to the partner state in the dyad. These MNCs, therefore, are more willing to invest assets in the foreign market of the partner state that are specific to a particular product. In other words, the level of asset specificity would increase within dyads that have high levels of DEI because the invested assets may only be used for a specific purpose, and cannot be sold or retrofitted to perform different tasks. This is not a problem in a dyad with high levels of DEI, since I argue that this type of economic relationship leads to lasting peaceful relationships. MNCs operating in dyads with low levels of DEI, on the other hand, cannot trust that the political relationship will not sour and therefore are less likely to direct FDI into asset specific areas. If this is the case, then high asset specificity increases the amount of exit costs to the dyad.

Second, I will explain how dyadic trade density influences the market structure criteria in Crescenzi's definition. The structure of a dyadic market is altered by the level of dyadic trade density since the economies are linked together through trade. Dyads with high levels of dyadic trade density have economies that are heavily dependent on one another since the prosperity of either of the states' economies depends on the success of the trading relationship. The structure of the market within a dyad with high levels of dyadic trade density, therefore, is configured to maximize import and export efficiencies, economies of scale, and potentially a comparative advantage. If this is the case, then the dyadic market is structured to support the dyadic trading

relationship when there are high levels of dyadic trade density, therefore, increasing the amount of exit costs to the dyad.

Third, I will explain how the salience of an economic relationship, a criteria in Crescenzi's definition, is improved through the joint membership in economically-focused IGOs. The salience of the economic relationship is publicized because both states in a given dyad are members of an IGO which is designed to promote economic relations. Membership in such an IGO, therefore, is a form of legitimization of the relationship and makes states more likely to adhere to their agreements. Dyads that break economic agreements, and are members of economically-focused IGOs, may have their decisions scrutinized publicly. Dyads without membership in such IGOs can essentially break their commitments behind closed doors. As a result, dyads with joint membership in economically-focused IGOs have higher exit costs because the economic relationship is highly salient. In the language of Crescenzi's exit cost definition, dyads with high levels of DEI are highly salient, exit options are costly, and the dyads are less able to adapt to rapid changes in the economic relationship because the investing MNCs expect a peaceful relationship and are less risk averse. High levels of DEI, therefore, represent all three aspects of the exit cost definition of economic interdependence.

The exit costs are technically calculable observations about a given dyadic relationship, but it is not necessary to calculate these costs for the purposes of this study. Instead, exit costs are the causal mechanism between DEI and conflict, which produce the pacifying effect. For this study, I am concerned with developing a theory that explains why DEI pacifies conflict. Exit costs, therefore, are the mechanism through which DEI pacifies conflict by erecting high exit costs that either state would have to incur to engage in conflict with the partner state. In other words, high levels of DEI leads to high exit costs, which in turn reduces the likelihood the states in a dyad

would want to incur those exit costs. As a result, politicians and economic leaders have incentives to avoid incurring the exit costs and thereby maintaining peaceful relations with the dyadic partner state. The role of exit costs may appear during the course of bargaining, where costliness related to foregoing economic exchange is highlighted. Furthermore, private actors could use their considerable financial assets and clout to influence political decision makers about policies related to conflict that could disrupt the level of economic exchange. Economic and business leaders have purely financial incentives to avoid the exit costs, while politicians have electoral incentives to maintain a healthy economy and may also feel direct pressure from the economic and business leaders to avoid conflict.

MNCs are concerned with their financial well-being, and are only concerned with international politics in terms of the rules they must follow. If it is possible for an MNC to influence policies related to international trade or economic relationships with other states, then an MNC may attempt to influence decision makers. The primary goal of MNCs, like all businesses, is to pursue a return on their investments to appease shareholders. What then of politics? These private actors, however, are required to operate according to the rules set forth by the political decision makers. MNCs have the ability to persuade political decision makers into thinking about the economic repercussions before acting hastily with other nations. Since the global economy demands active participation for a country to be prosperous, countries that meddle in the affairs of MNCs and private actors introduce artificial constraints and disturbances into the regular flows of capital and goods. For these reasons, most states pursue liberal economic approaches, and private actors are the driving force behind economic prosperity. MNCs pursue profits and opportunities for growth with the only concern to observe the minimum legal requirements. If this is the case, then what is international politics to a

corporation? International politics is nothing more than another issue that must be addressed in the pursuit of profits. Corporations are not in the business of making moral decisions, instead morality and setting legal limits is up to the politicians to regulate the corporations. MNCs, therefore, are in the business of making money. As a result, corporations will doggedly pursue the objective to maintain reliable avenues for trade and economic integration with other nations if it is financially beneficial. The presence of exit costs within a given dyad serve the purpose of an economic incentive for corporations, and politicians, to maintain the current economic relationship. Politics, then, are on the receiving end of the persuasion from economic interests to maintain peaceful interactions with nations, or at a minimum avoid disrupting economic potential. Since the MNCs and other private actors benefit from high levels of DEI within a given dyad, they will use whatever influence at their disposal to maintain or improve the dyadic economic relationship. In other words, private actors, who benefit from high levels of DEI and stable interactions, would prefer to maintain that level of economic interaction. Private actors, therefore, will influence public decision makers to avoid conflict by bringing their concerns to the bargaining table. The high exit costs will be felt by the economy as a whole, but private actors engaged in the actual trading will suffer as well.

Research Question

The research question of my dissertation explores the relationship between economics and the likelihood of conflict. Specifically, the relationship between DEI and dyadic conflict at different stages is examined. The relationships between DEI and war, MIDs, and the escalation of MIDs are tested. The following research question is aimed at exploring the potential of a pacifying relationship between the proposed DEI variable and the conflict stages already mentioned. The following is the research question:

Do high levels of dense economic integration (DEI) between two states reduce the likelihood of escalating conflict up to, and including, the level of interstate war?

The research question is one-tailed because it asks about a pacifying effect on the likelihood of conflict. The hypothesized relationship between DEI and conflict, therefore, is that they are inversely related to one another. In other words, I argue that when the level of DEI increases within a dyad, that dyad should see a reduced likelihood of conflict. Three hypotheses are used to the test the relationships described in the research question.

Hypotheses

The hypotheses in this study are designed to test the effect of DEI on the onset of war, the onset of MIDs, and escalation of MIDs. Thus, there are three hypotheses which test for the potential pacifying effects of DEI on the various stages of conflict. All of the hypotheses are looking for an inverse relationship between DEI and conflict. In other words, I hypothesize that as the level of DEI increases, the likelihood of dyadic conflict decreases. Moreover, the logic of the argument indicates that when the level of DEI decreases, the likelihood of conflict increases. The DEI variable and the dependent variables, therefore, are theorized to change in opposite directions. As discussed at the beginning of this chapter, dyads with high levels of DEI are deterred from engaging in conflict by the existence of high exit costs. The exit costs are erected because of the high levels of DEI, and are the mechanisms through which DEI may have a pacifying effect on conflict. The results from hypothesis testing will be provided in the results chapter, and the specific testing decisions about the null hypotheses are detailed in the discussion section of the results chapter.

The first hypothesis tests the relationship between DEI and the onset of dyadic war. The hypothesis is designed to test for an inverse relationship between DEI and the onset of war. Furthermore, the question at the heart of hypothesis one asks whether dyads that exhibit higher levels of DEI are less likely to engage in war. Specifically, hypothesis one states that increases in the level of DEI present within a dyad are correlated with a lower likelihood of the onset of dyadic war. Only new wars are considered in the analysis, while ongoing wars are ignored for the theoretical reasons discussed in the research design chapter. Furthermore, the war dependent variable will also be defined and explored in the research design chapter. Note that since only new wars are considered, the occurrence of war in the dataset is a rather rare event. Thus, hypothesis one states that:

> *H1: Dyadic dense economic integration (DEI) is postulated to vary inversely with the onset of war.*

The second hypothesis tests the relationship between DEI and the onset of dyadic MIDs. The hypothesis is designed to test for an inverse relationship between DEI and the onset of MIDs. Furthermore, the question at the heart of hypothesis two asks whether dyads that exhibit higher levels of DEI are less likely to engage in MIDs. Specifically, hypothesis two states that increases in the level of DEI present within a dyad are correlated with a lower likelihood of the onset of dyadic MIDs. Since MIDs occur more often than wars, the likelihood of generating meaningful results is increased since the sample size is larger. Only new MIDs are considered in the analysis, while ongoing MIDs are ignored for the theoretical reasons discussed in the research design chapter. Furthermore, the MIDs dependent variable will also be defined and explored in the research design chapter. Thus, hypothesis two states that:

H2: Dyadic dense economic integration (DEI) is postulated to vary inversely with the onset of militarized interstate disputes (MIDs).

The third hypothesis tests the relationship between DEI and the escalation of MIDs. The hypothesis is designed to test for an inverse relationship between DEI and the escalation of MIDs. Furthermore, the question at the heart of hypothesis three asks whether dyads that exhibit higher levels of DEI are less likely to engage in escalatory behavior with one another. Specifically, hypothesis three states that increases in DEI present within a dyad are correlated with a lower likelihood of the escalation of dyadic MIDs. Conflict escalation is a measure of the behavior of states in terms of the degree of hostile foreign relations. Specifically, conflict escalation includes five different stages of international relations at the dyadic level that range from peaceful interactions to interstate war. The stages of conflict are represented by five levels where level one indicates there is no dispute, level two indicates a threat, level three indicates the display of force, level four indicates the use of force, and level five indicates interstate war. Each of the five levels of hostility are possible observations for each dyad at any given time, but this study uses only the highest level of hostility at the dyadic level recorded on an annual basis. The construction of the escalation dependent variable is fully defined and examined in the research design chapter. The five levels of hostility are measured on an ordinal scale, where at each level I argue that DEI reduces the likelihood of a dyad reaching higher levels. Hypothesis three, in other words, examines the proposition that higher levels of DEI reduces the likelihood of a dyad increasing the level of hostility along the different stages towards war. Unlike the onset of war and MIDs variables, which only measure new conflicts, the escalation of MIDs variable

measures the hostility in a given year regardless if that hostility level was associated with a new or ongoing conflict. Thus, hypothesis three states that:

> *H3: Dyadic dense economic integration (DEI) is postulated to vary inversely with the escalation of militarized interstate disputes (MIDs).*

Hypothesis three is also important because there is a lack of research within the economic interdependence literature involving conflict escalation (Mansfield and Pollins 2003). According to some theorists, economics may have different effects at the various stages of conflict escalation (see Gartzke 2003). Since the escalation of MIDs variable is ordinal, the appropriate statistical technique is ordered logistic regression. The choices about statistical models and their interpretations are discussed at length in the research design chapter. As with the onset of war and onset of MIDs variables, the escalation of MIDs variable will be tested using traditional hypothesis testing. These results are included in the results chapter. Based on the statistical technique used to assess the relationship between DEI and escalation, however, results for individual escalation stages are difficult to interpret. As a result, predicted probability differences for each of the stages of conflict will be examined to understand the effect DEI may have at each level of hostility. For example, high levels of DEI may have a strong pacifying effect at the threat level of hostility, but a weaker effect at the use of force level. These individual effects will be explored in the discussion section of the results chapter.

Much of the literature, according to Mansfield and Pollins, provides considerable insight into the onset of conflict and the role economic interdependence plays, but there is little available evidence on the influences economic interdependence may have on conflict escalation (For a discussion about the lack of evidence on the escalation of conflict see Mansfield, Pevehouse, and

Bearce 1999; Morrow 2003). In fact, studies have focused on generating empirical results on the onset of conflict, but the evidence on the escalation of conflict is lacking (Mansfield and Pollins 2003). Although conflict escalation is not a new area of study, it is theoretically different from studying the onset of new conflicts. Conflict escalation does not differentiate between new and existing conflicts, and instead the variable measures the state of conflict within a dyad. For this reason, there are three separate dependent variables and three hypotheses. The first two dependent variables measure the onset of war and the onset of MIDs, while the third dependent variable measures the level of conflict escalation. My dissertation, therefore, evaluates both the onset and escalation of conflict at the dyadic level. The hypotheses postulate that DEI varies inversely with each of the three dependent variables.

To test for the pacifying effect of DEI on the likelihood of dyadic conflict and escalation, three dependent variables measured at different stages of conflict were used: the onset of dyadic war, the onset of dyadic MIDs, and the escalation of dyadic MIDs. The onset of war variable is a dichotomous measure of the occurrence of new wars between two states. The onset of MIDs variable is a dichotomous measure of the occurrence of new MIDs between two states. The escalation variable is an ordinal measure of the escalation of MIDs between two states. Furthermore, the escalation of conflict is an area where more research is needed in terms of the relationship with economic interdependence. These variables are explicitly defined and explored in the data section on dependent variables located in the research design chapter.

To reduce the potential for confounding or spurious relationships, various variables were controlled for. Based on previous research, the following control variables have been shown to be related to the likelihood of conflict at varying stages: contiguity, distance between states, military balance, presence of nuclear weapons, presence of a military alliance, absence of

territorial conflict, regime type, and cultural distance. The evidence about these variables has shown that, through various research studies, each has a relationship with interstate conflict. To ensure that the relationship between DEI and conflict is not spurious, the effects of the listed variables must be controlled for. These variables are defined and explored in the data section on control variables, where the relationships with conflict are explained.

In conclusion, the theoretical foundations of my dissertation are laid out in the preceding chapter. I have shown that there is a lack of consensus not only about the relationship between economics and conflict, but also about the conception of economic interdependence. As argued in this chapter, economic interdependence is theoretically useful, but the measure itself has been operationalized in different ways. In addition, as Mansfield and Pollins explain, the majority of studies about economic interdependence and conflict revolve around the theme of openness, and therefore, around trade flows. The proposed DEI factor score variable, however, is designed to capture three important aspects of a given dyadic economic relationship. Free trade agreements capture the level of commitment to the economic relationship. Dyadic trade density captures the amount of trade dependence within a given dyad. Joint membership in economically-focused IGOs captures the level of economic cooperation and communication within a given dyad. The reasons why dyadic DEI affects the likelihood of conflict was also explored. Exit costs were introduced and the theoretical concepts were broken down to illustrate how DEI meets the criteria of exit costs defined by Crescenzi. Dyads with high levels of DEI erect exit costs; therefore, reducing the likelihood the economic relationship will be disrupted and in turn reduces the likelihood of conflict. Political and economic leaders react to the exit costs because the financial incentive is to avoid paying them. In other words, exit costs serve the purpose of influencing the decision makers to avoid disruptive activities, including conflict with their

partner states. The theoretical contribution of this study includes a new set of measures to use in the study about economics and conflict, and also develops a causal explanation for the pacification of conflict.

In the following chapter, the research design of the study is fully expanded. Each of the proposed variables are operationalized and clearly defined. The construction of the data and sources of information are explained. In addition, the models are constructed and the statistical techniques are discussed. The development of the hypothesis testing and measures used to explore the relationships between DEI and the various conflict stages is also included.

CHAPTER 4 RESEARCH DESIGN

The intent of this chapter is to explain the research design of my dissertation by expanding upon the overall design structure of the study, the methodology used to test the theorized relationships, and to discuss the variables used in constructing the dataset. Further, this chapter will detail how I have approached the research question about the relationship between DEI and conflict. How the data was gathered, which sources were used, and important coding decisions about the data are considered at length. The models and statistical methods selected to test the hypotheses are also discussed in depth.

The spatial domain of my dissertation covers all dyadic relationships in the international system. Dyads are formed based on a pair of states' country codes in a given year according to the Correlates of War (COW) project's codebook. The temporal domain of this study ranges from 1965 to 2001 since some of the variables limit the range of coverage due to data availability. The earliest data available for annual dyadic international organization data is 1965. Prior to 1965, dyadic international organization data is only available in five-year increments. The most recent dyadic conflict data available from the COW and Maoz datasets is 2001. This temporal period covers interstate interactions during the latter part of the cold war and the post-cold war periods. There is an interesting opportunity available since the temporal domain covers cold war and post-cold war periods. I will be able to test my models during the cold war and after it had ended to see if my results remain the same. It is interesting because the world system changed from a bipolar to a unipolar world during the temporal domain of this study. The analysis of this opportunity will be conducted as a robustness check in chapter six.

The units of analysis for my dissertation are interstate dyads, aggregated annually. In other words, the units under analysis will be the dyads for each year. This unit of analysis, only

examining dyadic relationships on an annual basis, has some impact on the variables in the study. For example, the dependent variable on conflict escalation may report multiple stages of escalation throughout a given year, but only the highest level of hostility in a given year will be recorded. Furthermore, since this study is examining the potential pacifying effect of DEI on the likelihood of conflict at the dyadic level, the appropriate unit of analysis must be at the same level of analysis.

There are 479,179 observations that span the temporal and spatial domains. This number may seem large since the study only ranges from 1965 to 2001, but it is the nature of dyadic relationships that make the number large. Each record, or observation, in the dataset represents one dyadic relationship in a given year which consists of two states. For example, USA and China in 1981 would be one record. Since this dataset is constructed as a non-directional dyad year dataset, however, there is only one record per dyad per year. For example, USA-China in 1981 is a record, but China-USA in 1981 is not a record.[4] There are a total of 19,120 distinct dyads in the dataset covering the years from 1965 to 2001. Note that the number of dyads in a given year is likely different since some states dissolved and others entered the system. For example, the dissolution of the Soviet Union added a number of new states, and thus new dyads, to the international system, while at the same time removing other dyads. The coding decisions regarding state membership in a given year are provided in the COW project codebook.

Another type of dyadic data is the directed dyad year dataset, which contains two records for every dyad for each year. If such a dataset was used in this study, then the number of observations would be much larger. In a directed dyad year dataset, therefore, there would be

[4] On a practical level, the dataset is structured according to the COW project codebook so that the state with the lower country code is listed first. For example, USA's country code is 2 while China's country code is 710, thus the only records that will appear for this dyad is USA-China for each year from 1965 to 2001. There will never be a dyad listed for China-USA.

two records for USA and China in 1981: USA-China 1981 and China-USA 1981. The underlying logical choice between the two types of datasets is related to the type of analysis and if there is a need to include initiator information. A directed dyad year dataset, containing two records for each dyad, can distinguish which state initiated a given conflict. In addition, a directed dataset provides information about which state conceded first in a given conflict. My dissertation, however, uses a non-directed dataset, with one record per dyad, because my analysis does not require the distinction about which state initiated and which state conceded in a given conflict. The lack of initiator information is the inherent limitation in a non-directed dyad year dataset, but is not of concern for this study since it does not affect my analysis.

There are two reasons I selected a non-directed dyad year dataset for this study. First, from a theoretical perspective the additional information about conflict initiators was not necessary for my analysis. For instance, the hypotheses are designed to test the potential pacifying effects of DEI on various stages of dyadic conflict, rather than on which state in the dyad was the aggressor or pacifying force. Although those are interesting inquiries, that analysis must be examined in a future study. Second, on a more practical level, much of the data for the various independent and control variables was primarily available in the non-directed dyad year format. As a result, the data in this case is the limiting factor. In the future, it is likely that more datasets will be converted into directed dyad year format because the demand in the field points to analysis that includes the level of detail about initiators. Directed dyad datasets, therefore, will likely become the standard for future data construction (Bennett 2003).

Methodology

Two statistical techniques were used to test each of the three hypotheses in this study. First, logistic regression was used to test hypothesis one for the onset of war, and hypothesis two for

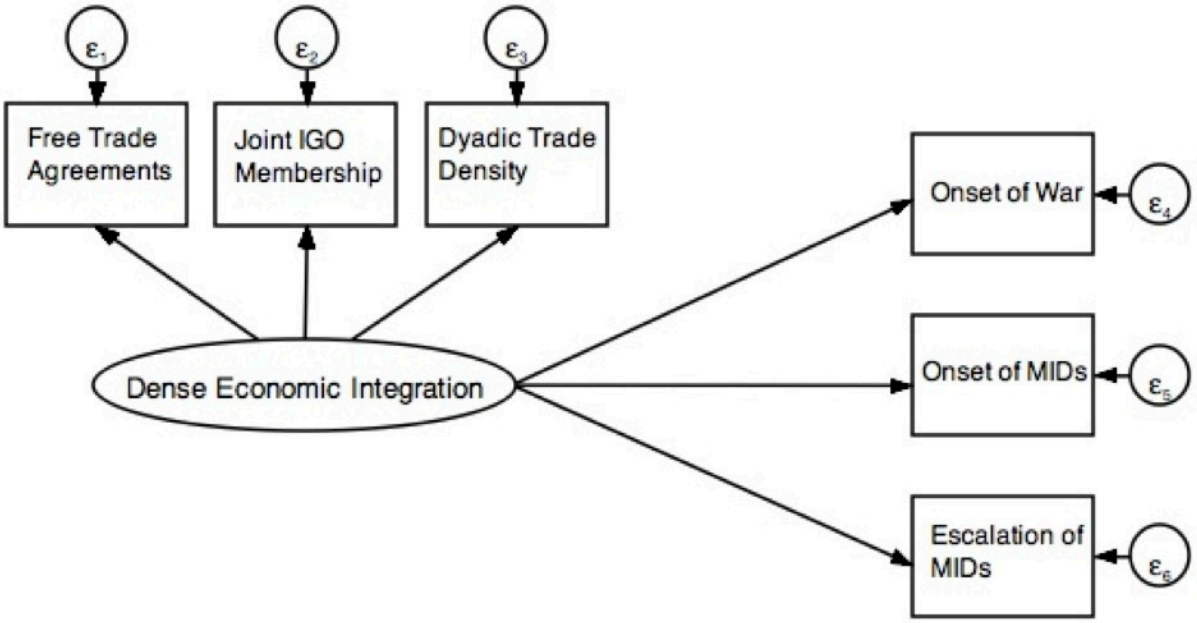
the onset of MIDs because both dependent variables are dichotomous. Logistic regression calculates the log-odds of seeing an outcome of 1, or in the case of the dependent variables the log-odds of conflict occurring. As with the more common ordinary least squares regression, logistic regression allows the researcher to control for the effects of potential confounding variables, by in effect holding those variables constant. Second, ordered logistic regression was used to test hypothesis three for the escalation of conflict since the dependent variable is rank ordered from one to five. Ordered logistic regression, is intended for analysis where the dependent variable is rank ordered in a finite set, and is therefore not a continuous variable. The ordered logistic regression model calculates the ordered log-odds of one of the higher categories occurring. For example, the log-odds of a high hostility level of war compared to a lower hostility level of threat occurring. Otherwise, the ordered logistic regression is similar to the logistic regression model in terms of interpretation.

Two models were used to test the relationship between DEI and the three dependent variables. First, the independent variables were used in a multivariate model individually to test the relationship between each independent variable and the three dependent variables. Second, factor analysis was used to create the DEI variable used in a separate analysis on the three dependent variables. So, in sum, there are six total models used in the analysis. There are three multivariate models that test the independent variables against each of the three dependent variables. In addition, there are three factor score models that test the factor score of DEI against each of the three dependent variables. One important note is that the three factor score models were used for hypothesis testing. Hypothesis one, testing for the inverse relationship between DEI and the onset of war, is analyzed in the first factor score model. Hypothesis two, testing for the inverse relationship between DEI and the onset of a MID, is analyzed in the second factor

score model. Hypothesis three, testing for the inverse relationship between DEI and the escalation of conflict, is analyzed in the third factor score model. The multivariate models were used to only better understand the individual effects of the independent variables.

Factor analysis was used to create a composite measure of DEI since the independent variables are correlated with each other. Since standard ordinary least squares regression can produce results that are misspecified when there are high levels of multicollinearity, factor analysis was used to create a composite score for use in analysis. In fact, the three independent variables in the study are operationalized as DEI, and moderate to high levels of multicollinearity between the independent variables supports my theoretical contention that each variable is an aspect of economic integration between states. The independent variables, in other words, are measuring different but related aspects of dyadic economic interaction. The user-written program Polychoric for Stata was used to create the factor score (Kolenikov 2004). This program was used because two of the three independent variables are dichotomous, and the standard Stata factor score package is meant to handle continuous variables. Only one factor score met the eigenvalue threshold of at least 1.0, and was the only score kept for analysis (Kennedy 2008; Kim and Mueller 1978). This factor represents the operationalized variable of DEI. Figure 1 illustrates the relationships of the factor analysis model in a structural equation model format. Note that DEI is a latent variable and the three independent variables are observed.

Figure 1: Structural Equation Model for DEI Factor Score



The multivariate models were used to assess the individual effects of each independent variable on each of the three dependent variables. The multivariate models include the following independent variables: free trade agreements, dyadic trade density, and joint membership in economically-focused IGOs. Free trade agreements are measured as a dichotomous measure for the presence of an agreement within a dyad. Dyadic trade density is a calculated variable that measures the level of trade within a dyad. Joint membership in economically-focused IGOs is a dichotomous measure for the presence of dyadic membership in at least one of these organizations. These independent variables are fully explored in the next section on variables. Equation 1 illustrates the relationships in the multivariate model.

$$War_{ij} / MID_{ij} / Escalation_{ij} = \beta_0 + \beta_1 \cdot FTA_{ij} + \beta_2 \cdot JIGO_{ij} + \beta_3 \cdot DTD_{ij} + (controls_{ij}) + \varepsilon_{ij} \quad (1)$$

where,

ij = states within a given dyad

FTA = Free Trade Agreements = 1 if bilateral FTA present, 0 otherwise

JIGO = Joint IGO Membership = 1 if joint membership present, 0 otherwise

DTD = Dyadic Trade Density = ratio of bilateral to total monadic trade

Temporal Dependence

A potential risk to this study is the possibility for temporal dependence among the dependent variables because they may be correlated over time. Temporal dependence is a complex problem that is especially troublesome for studies in international relations. Studies, like this one, that span both time and space may suffer from temporal dependence. The logic behind the problem is that dyadic behavior may be dependent on what happened in the past. For instance, if heightened hostilities exist for three years between two states, then what happens in the fourth year of conflict may be largely dependent on the level of conflict in the last few years. Using an example is useful to illustrate the problem. In the case of the conflict between the USA and Afghanistan during the recent Operation Enduring Freedom, the likelihood of conflict in 2005 may largely be dependent on the level of conflict in 2004 and the previous years of conflict. There have been a variety of techniques used in the literature to attempt to correct for the potential distorting effects of temporal dependence. One of the original techniques was to simply cluster the standard errors at the dyad level, but it is a method of treating temporal dependence as a nuisance rather than attempting to interpret the effects of temporal dependence. The clustering technique also ignored the dynamic effects of temporal dependence and essentially did not do enough to correct the potentially misleading results from models suffering from temporal dependence.

Another technique to correct for temporal dependence involves the use of creating lagged dependent variables. The dependent variables in the study would be lagged by one year, or some other year based on theory, and then those variables would be included as control variables in the model. In other words, the idea of lagged dependent variables is to include a variable in the analysis that represents the level of conflict for a previous year. The effect of the lagged dependent variables is that the potential distorting effect of temporal dependence is controlled; however, the lagged variable technique has some flaws. First, the researcher has to decide at what level to lag the dependent variables. A one year lag seems to be the convention, but that number could be incorrect especially depending on the structure of the study. Having the researcher determine a potentially arbitrary level of lag for the dependent variables is problematic. Second, the use of a single lagged variable at a certain lag year does not fully control for the effects of temporal dependence. In fact, the preceding years before the lag may actually influence the likelihood of conflict even more. As a result, using lagged dependent variables is one technique to control for this phenomenon, but it is not the ideal approach. Instead, the techniques available to researchers have improved and so has the ease of implementation.

There have been developments on the issue of temporal dependence and more advanced methods are available. In this study, to control for temporal dependence, I employed the time cubed approach. The time cubed approach is a technique where the researcher creates variables to control for temporal dependence, which are then included as control variables in the model (for an introduction and discussion of the technique and examples comparing the time cubed approach to other methods see Carter and Signorino 2010). Although the lagged dependent variable and time cubed approaches have a similar implementation in terms of including the

created variables in the analysis, the techniques are in fact very different. Where the lagged dependent variable approach uses an arbitrary time period lag, the time cubed approach uses a cubic polynomial method to create the time variables. The time cubed technique is extremely easy to implement since the researcher simply creates three variables. First, a base variable is created that counts the years since the last conflict occurred, which can be performed through built-in options in Stata or through a user-written program like BTSCS. The mathematical calculation for this first time variable is built on the work by Beck, Katz, and Tucker (1998). In their 1998 work, the authors illustrated how binary time-series, cross-sectional data is essentially hazard data (Beck, Katz, and Tucker 1998). As a result, studies using data structured in that format could use hazard models or create cubic spline variables to control for temporal dependence. Hazard models made available a new statistical technique that scholars in international relations could use in their studies, and cubic splines provided a much improved technique for dealing with temporal dependence.

The problem with the cubic spline approach to control for temporal dependence, however is that it required the analyst to have the forethought of when the data will be influenced by time. In other words, the researcher would be required to select cubic knot points where the effects of time would be most influential. As Carter and Signorino explain, however, there is a no agreed upon way to choose cubic knots in international relations (Carter and Signorino 2010). Instead, the researcher is essentially selecting knots at random or basing their selection from previous research even if the data or time periods differ. The time cubed approach solves this dilemma with a simple mathematical technique, which leads to the second and third variables that the researcher creates. The second and third variables are simply the square and cube of the original time since the last conflict variable. The results from the time cubed approach roughly duplicate

the results from the cubic spline approach, and avoids the pitfalls of choosing cubic knots (Carter and Signorino 2010). Another benefit of the time cubed technique compared to the lagged dependent variable technique, is it includes multiple time periods to control for the effects of temporal dependence. The lagged dependent variable technique only includes one time period, if the technique is used in the common way, or possibly multiple arbitrary time periods. Time cubed is a powerful technique that is simple to implement, and in turn provides the researcher a method for not only controlling for temporal dependence, but for analyzing the effects as well. In summary, the time cubed approach is implemented by including the time since the last conflict within the dyad, and that time squared and cubed in the model (for a thorough and clear discussion of the issue of temporal dependence see Beck, Katz, and Tucker 1998; Carter and Signorino 2010; Crescenzi and Enterline 2001; De Boef and Keele 2008). Equation 2 from (Carter and Signorino 2010) shows the modified logistic regression equation used to include the time cubed technique to control for temporal dependence:

$$\text{since, } h\left(t \mid x_{i,t}\right) = \left(y_{i,t} = 1 \mid x_{i,t}\right) \tag{2}$$

$$\text{then, } \Pr\left(y_{i,t} = 1\right) = \frac{1}{1 + \exp\left[-\left(x_{i,t}\beta + \alpha_1 t_i + \alpha_2 t_i^2 + \alpha_3 t_i^3\right)\right]}$$

where, $\alpha_1 t_i + \alpha_2 t_i^2 + \alpha_3 t_i^3$ is the cubic polynomial approximation of the hazard.

Another potential problem with dyadic international relations data is that the standard errors may be correlated. As a result, the model may be misspecified and it may incorrectly predict outcomes (for a discussion on the use of robust standard errors with empirical comparisons see Zorn 2006). In addition, since standard errors are used in significance level

tests, the model may be too optimistic and produce results that are significant erroneously. The problem stems from the fact that there is correlation among the residuals. Standard error calculations therefore may be wrong since the assumption is that there is no correlation among the residuals. Robust standard errors, clustered on unique dyad identities, allows arbitrary correlation among the residuals for each dyad, but assumes independence between different dyads. For example, the dyad of USA and China would be one cluster, which would be the same cluster for all of the years the dyad is present in the dataset. Clustering on the dyad identity assumes that the relationship between USA and China is dependent throughout the years in the study, but that clustered dyad is independent from other dyads in the dataset. The models in this study, therefore, were clustered on the dyadic units to control for potential serial correlation among the residuals, which resulted in 19,120 clusters used in the analysis.

Two techniques have been used in the models in this study to control for the effects of temporal dependence, and for the effects of serial correlation among the residuals. Both potentially distorting effects are possible because of the structure of large-N dyadic datasets commonly employed in international relations. The time cubed technique was used to control for the effects of temporal dependence that may have altered the results. In addition, robust standard errors, clustered on the unique dyadic identities was used to control for potential effects of correlation among the residuals within dyads.

Variables

The theoretical arguments and hypotheses of this study will be tested using available data from various sources. The data, therefore, are derived from separate datasets each with its own advantages and concerns. Since my dissertation is a large-N design and includes many variables, each of the independent variables and control variables were retrieved from different sources.

The underlying theoretical reasons for using a specific variable and the coding decisions pertaining to the imported data are described throughout the remainder of the chapter. Data sources are separated into categories of dependent, independent, and control variables for clarity.

Dependent Variables

To test for the potential pacifying effect of DEI on dyadic conflict, three dependent variables have been used to represent three different stages in dyadic conflict. The first dependent variable represents the onset of dyadic war, the second represents the onset of MIDs within a dyad, and the third represents the escalation of MIDs within a dyad. The data on conflict was gathered from the Maoz dataset, which represents a modified version of the original MIDs data available from the Correlates of War (COW) project (Maoz 2005). Other than filling in the dyadic MIDs data prior to 1993, the Maoz dataset includes original historical research for individual observations to improve clarity. MIDs data from Maoz covers the dyad-years from 1816 to 2001, but this study will only use data from 1965 to 2001 because of the time constraints of the independent variables. The Maoz dataset contains variables already coded for each of the three dependent variables. This study adopted the same coding decisions used in the Maoz dataset to maintain the standard convention. The dataset contains a variable for new wars that was used as the first dependent variable for the onset of war in this study. New wars are distinct in that only the first year of a given war is coded, while subsequent years of the same war are coded as if there is no war. This is an important distinction that will be explained later in this section. The Maoz dataset also includes a measure for new MIDs which was used as the second dependent variable for the onset of MIDs in this study. The third dependent variable on the escalation of MIDs is included in the Maoz dataset as the highest recorded hostility level within a

dyad in a given year. The coding decisions of the dependent variables will be described further below.

Onset of War

The first dependent variable represents the onset of dyadic war. The Maoz data for the onset of war was coded as a dichotomous dummy variable where dyads that engaged in a new war in a given year were coded as 1, while dyads that were absent of war or had an ongoing war were coded as 0. War, as defined by the COW project, "must involve sustained combat, involving organized armed forces, resulting in a minimum of 1,000 battle-related combatant fatalities within a twelve month period" (Small and Singer 1982).

Onset of MIDs

The second dependent variable represents the onset of MIDs within a dyad. The Maoz data for the onset of MIDs was coded as a dichotomous dummy variable where dyads that engaged in a new MID in a given year were coded as 1, while dyads that were absent of a MID or had an ongoing MID were coded as 0.

Escalation of MIDs

The third dependent variable represents the escalation of MIDs within a dyad. The Maoz data on hostility levels was used to measure escalatory behavior. The data is coded on a scale from one to five. A hostility level of one represents no conflict, level two is for threat, level three is for the display of force, level four is for the use of force, and level five represents interstate war. Although multiple levels of hostility in a given year may be reached within a dyad, only the highest level of hostility is coded. For example, if a dyad engaged in a display of force early in a given year and then engaged in a use of force later in the year, then the only hostility level

recorded that year would be the use of force. Table 1 lists the coding decisions and contents of the three dependent variables.

Table 1: Dependent Variables

	Operationalizations	
	Type	Coding*
Dependent Variables:		
Onset of War	Dichotomous	Presence of a War = 1, no War = 0
Onset of MIDs	Dichotomous	Presence of a MID = 1, no MID = 0
Escalation of MIDs	Ordinal	Highest Annual Hostility Level: 0 = Not a dispute dyad 1 = Threat 2 = Display of Force 3 = Use of Force 4 = War

* Note all variables are measured at the dyadic level.

There is a clear distinction between the third dependent variable on escalation and the first two dependent variables on war and MIDs, respectively. The third dependent variable for conflict escalation includes both new and ongoing conflicts. In other words, the escalation of MIDs variable is coded to include all of the available annual data on hostility levels, which includes new heightened hostilities and ones that last for years within a dyad. The first two dependent variables, on the other hand, on war and MIDs are coded to only include new conflicts that occur within a dyad. Thus, the first two dependent variables are distinguished as the onset of

war and the onset of MIDs. The difference may seem subtle, but the consequences of this coding decision may severely impact the results.

There is a theoretical reason for coding the dependent variables in this way. The inclusion of ongoing conflict distorts not only the theoretical contentions, but also has serious implications on the results of the models. For instance, a given independent variable may have a strong relationship with reducing the likelihood of new conflicts emerging within a dyad, while simultaneously having very little influence on ending a war that is already in progress. Similarly, an independent variable that is shown to end hostilities within a dyad may do little to prevent the occurrence of new conflicts in the future. The distinction, therefore, is both necessary and prudent to ensure that the results provided in the analysis are measuring the phenomena appropriately. Failure to separate new conflicts from ongoing conflicts can, at a minimum, inflate statistical significant results thereby misleading the researcher to make false conclusions.

In one comprehensive survey of the literature in international relations on conflict, the authors lay out the theoretical reasons for distinguishing between new and ongoing conflicts (Bennett and Stam 2003). Bennett and Stam argue that there is a theoretical difference between the onset of conflict and the continuation of conflict, and warn researchers to consider this difference in developing their models. For instance, Bennett and Stam argue that a phenomenon that starts a new war may have a different effect on the war continuing into the following year (2003). If this is the case, then models that do not differentiate between new and ongoing conflicts could suffer from either misspecification or inflated results. One reason is that the number of wars and MIDs is drastically reduced if only new conflicts are used in the analysis. Another reason is related to the researcher's theoretical relationship since one could question whether the model is having an effect on increasing or decreasing the likelihood of conflict or the

likelihood of continuing the conflict, the effect on the former is a much different question than the latter. To ensure the theorized relationships are accurate in analyses, researchers must distinguish between new and ongoing wars. The theoretical relationship under examination in this study is that DEI has an inverse relationship with the onset of war, the onset of MIDs, and the escalation of MIDs. For this reason, the war and MIDs dependent variables were coded as new conflicts to reflect this distinction, while the escalation of conflict dependent variables was coded to include new and ongoing conflicts. The escalation of conflict dependent variable was coded as new and ongoing conflicts because the changes in hostility level may change during a MID. For example, a MID may last five years and in each year the hostility level could range from a threat to an interstate war. This level of variation is valuable to understand how DEI affects the hostility levels within dyads. The first two dependent variables on the onset of war and MIDs, on the other hand, would only be coded as a new conflict in the first year and ignore the remainder of the conflict. For example, a five-year war would be coded as a war in the first year only to signify it as the onset of the war. In terms of coding decisions, the onset of conflict was coded as 1 in the first year of conflict, while the subsequent years of the same conflict were coded as 0. In addition, any years of peace were also coded as 0. These coding decisions are shown below in table 2. In the following table, the USA-Iraq dyad is used as an example to illustrate how coding only new disputes changes the total number of recorded disputes for use in analysis.

Table 2: Onset v. Ongoing Coding Decisions - USA-Iraq Example

Year	MID or War Present?	New Dispute?	*Ongoing Disputes* Coding	*Onset of Disputes Only* Coding
1985	No	No	0	0
1986	No	No	0	0
1987	Yes	Yes	1	1
1988	Yes	Yes	1	1
1989	No	No	0	0
1990	Yes	Yes	1	1
1991	Yes	No	1	0
1992	Yes	Yes	1	1
1993	Yes	No	1	0
1994	Yes	Yes	1	1
1995	Yes	No	1	0
1996	Yes	Yes	1	1
1997	Yes	Yes	1	1
1998	Yes	No	1	0
1999	Yes	No	1	0
2000	Yes	No	1	0
2001	Yes	No	1	0
Total Number of Disputes			14	7

As shown in table 2, by coding only new disputes the total number of disputes for use in analysis is reduced by half. As a result, for the purposes of this study, there were only seven new disputes in the USA-Iraq dyad from 1985 to 2001. Only these seven disputes were used in the statistical analysis for the onset of MIDs, or the onset of war in the cases that the disputes reached that level of hostility. For the conflict escalation variable, however, the ongoing dispute

coding was used because the variable is designed to measure annual changes in hostility levels regardless if there was a new dispute or not.

Independent Variables

There are three independent variables in this study which capture different aspects of economic integration. The first independent variable is the presence of an FTA within the dyad, the second is the presence of joint membership in economically-focused IGOs, and the third is high levels of dyadic trade density. From a theoretical perspective, each of the three independent variables is explained below. In addition, the coding decisions used to create each variable is detailed. For hypothesis testing DEI has been operationalized as a factor score based on these three independent variables. The creation of the DEI factor score was discussed earlier.

Free Trade Agreements

Free trade agreements are arrangements where "governments eliminate tariffs on goods entering their markets from their FTA partners" while simultaneously maintaining autonomous tariffs with non-FTA partners (Oatley 2012). FTAs tend to be bilateral agreements where two states agree to trade specified goods without artificial government interference. I argue that when countries have committed to a bilateral FTA, then those countries may be less likely to break that trade agreement to engage in conflict. An FTA, therefore, is a consideration that must be examined in rational calculations for conflict. If nothing else, the presence of an FTA adds a level of interdependence within that dyad that must be consciously broken if the dyad were to engage in conflict. For instance, trade linkages "increase the opportunity cost of war as a military conflict would destroy those gains by destroying trade" (Martin 2010). In other words, FTAs increase the exit costs within a given dyad. Economic leaders and multinational firms, whose international business may be drastically affected by the removal of an FTA, may attempt to

persuade political leaders to avoid conflict if possible. In addition, FTAs create lasting economic linkages where economies within the dyad may become dependent on one another because the economic success of a country may depend on free trade with a partner country. Breaking an FTA to engage in conflict, therefore, may substantially impact a country's economy by disrupting trade flows the economy relies on, and by incurring exit costs. If this is the case, then one might expect that FTAs play a part in reducing the likelihood of dyadic conflict if countries are not willing to break the trading agreement to engage in conflict. In other words, the countries in the dyad may have economic incentives to not engage in conflict with their FTA partners. FTAs, therefore, are a form of high exit costs since breaking these economic relationships could have dramatic effects on state's economy (Crescenzi 2005).

Data on FTAs between states is available from an online dataset (De Sousa 2011). The temporal coverage of the data includes all FTAs recorded with the World Trade Organization from 1958 to 2008. This dyadic dataset includes a coded dichotomous variable on the presence of an FTA or not within a given dyad. FTA data was coded as 1 to represent the presence of an FTA for a given dyad-year, and was coded as 0 to represent the lack of an FTA.

Dyadic Trade Density

The debate over trade has focused on the volume of trade between two states and the effect it has on conflict. Specifically, major authors in the trade literature have used a ratio of bilateral trade and gross domestic product to measure the level of dependence a state's economy has on trade relations (see Bliss and Russett 1998; Oneal and Russett 1999, 1999; Oneal and Russett 1997). I argue that a trade dependence ratio alone does not reflect the type of relationship I want to examine between two states. Instead I will calculate a variable to measure the density of trade as a ratio to the total trade of each state within the dyad. In addition, it has been argued that the

ratio of trade to economic output within a country is a valid measure of economic openness in terms of both sensitivity and vulnerability interdependence, however Mansfield and Pollins disagree (Mansfield and Pollins 2003). Instead, the authors contend that economic openness is a useful measure of sensitivity interdependence since it captures the extent the economies are intertwined, but that openness as an indicator of vulnerability interdependence can be questioned on three grounds (Mansfield and Pollins 2003). First, the size of trade as a percentage of national income may not reflect the costs to the states if their economic relations were disrupted. Second, the ratio tends to be highly correlated with each state's economic size. Third, the cost conception in such openness measures is too restrictive. Dyadic trade density, used in this study, however does not suffer from these critiques since it is not measuring the level of dependence a state's economy has on trade with a dyadic partner or the level of openness in the economy. Instead, dyadic trade density is a measure of trade denseness in terms of the total amount of a state's trade that is linked to its dyadic partner's total trade. As a result, the size of one dyadic partner's economy does not influence the dyadic trade density statistic, nor could the statistic be correlated with the size of a state's economy, since the economic size is not part of the measure. Dyadic trade density, therefore, is operationalized as the ratio of bilateral trade to the total trade of each country within the dyad. This variable measures the density of trade within the dyad and allows for comparisons across dyads.

Data on dyadic trade density is available from the COW project annually for each dyad-year (Barbieri 2008). Data is available annually from 1870 to 2006. The volume of dyadic trade flows will be used to calculate the density of trade within a given dyad. Data on annual trade flows will be combined for both countries within a given dyad. The combined bilateral trade

flows will be used to calculate a ratio from the total monadic trade flows of each country.[5] Since some dyads do not have trading relationships, there is a chance for a dyad to have zero dyadic trade density. There are two situations where this could occur. First, and the more likely scenario, is where each state in a given dyad will have trading partners with states outside of the dyad, but they simply do not trade with each other. Second, it is possible that the states within a dyad do not trade at all, although very unlikely. In each situation, the calculation I proposed for dyadic trade density will result in zero, since zero divided by any number is zero. This is not a theoretical problem because a dyad exhibiting zero trade density is not arbitrary since zero means something. It does, however, pose a mathematical problem when you try to take the natural logarithm function of a zero. The natural logarithm of dyadic trade density is used since the numbers are not normally distributed. Instead, they are skewed with a number of dyads having a ratio near ten percent, while others hover close to zero. As a result, I have added a constant number of 0.01 to all dyads to correct the mathematical issue with logarithms (for a discussion on the use of constants to calculate logarithms see Pampel 2000). The numbers are essentially unchanged and the distribution remains intact. Equation 3 below illustrates the proposed calculation of the dyadic trade density variable:

$$\text{Dyadic Trade Density} = t_{a,b} \div \left(T_a + T_b\right) \tag{3}$$

where,

$t_{a,b}$ = bilateral trade flows between state a and b

T_a = total monadic trade flows of state a

T_b = total monadic trade flows of state b

[5] Bilateral flows are comprised of bilateral imports and exports.

Joint Membership in Economically-Focused IGOs

According to neo-liberal institutionalism, states can work towards peace by improving information about other states through international institutions (Keohane and Nye 1989, 2012; Nye 2002). The joint membership in economically-focused IGOs variable is designed to capture the cooperation activity among states from the increased chances for communication between dyadic partners. Since the variable measures the presence of joint membership in these institutions, the idea is that if both states in a dyad are members of at least one economically-focused IGO, then they have more opportunities to communicate and cooperate with one another. In addition, members of such IGOs are likely to be more committed to international economic cooperation than non-members, and those members understand the benefits of international economic integration. Joint membership in an IGO between two states, therefore, should increase information about each member state and reduce the likelihood of conflict. The possibility of improving information about other states plays a vital role in neo-liberal institutionalism. As opposed to the realist paradigm, which considers information about other states untrustworthy, neo-liberal institutionalism contends that states can improve the information about other states to a point where the intentions of other states can be trusted to some extent. If this is the case, then international institutions are the mechanism through which information can be improved. In the interest of this study, I argue that economically-focused IGOs play an important role in both improving information about partner states' intentions, and in coordinating a deeper economic relationship.

Data on IGO membership is available from the COW project (Pevehouse 2004). The data contains information about a given state's IGO membership for each year from 1965 to 2005, with data prior to 1965 available in five-year increments. The extensive codebook associated

with this dataset was used to make a list of all IGOs I considered to be economically focused.[6] Dyads were formed based on year and the presence of joint IGO membership or not. The data was coded as a dichotomous variable as 1 to represent the presence of joint membership in an economically-focused IGO for a given dyad-year, and coded as 0 to represent no joint membership. Table 3 lists the coding decisions and contents of the three independent variables.

Table 3: Independent Variables

	Operationalizations		
	Acronym	Type	Coding*
Independent Variables:			
Free Trade Agreements	FTA	Dichotomous	Presence of an FTA = 1, no FTA = 0
Joint IGO Membership	JIGO	Dichotomous	Presence of JIGO = 1, no JIGO = 0
Dyadic Trade Density	DTD	Continuous	Ratio of bilateral trade to total trade
Factor Score Variable			
Dense Economic Integration	DEI	Continuous	Factor score based on FTA, JIGO, and DTD

* Note all variables are measured at the dyadic level.

Control Variables

There are eleven variables used in this study to control for potential confounding effects and spurious relationships that are based on previous research in the literature on conflict. The control variables represent the culmination of important work performed by a number of scholars which have all shown that these phenomena affect the likelihood of conflict in some manner. Controlling for these effects, therefore, improves the quality of the results in this study by

[6] The full list of IGOs included in the analysis is provided in the appendix.

ensuring that there are not extraneous phenomena affecting the relationship between DEI and conflict. The theoretical relationships and the coding decisions for each control variable are below.

Contiguity

Research has shown that war between dyads that share a land border, or a narrow water border are more likely to engage in conflict (Geller and Singer 1998). Literature on contiguous states is consistent about the effects on conflict. Some studies provide evidence about the increased likelihood of escalation to the level of war between contiguous dyads (see Mihalka 1976; Moul 1988). Other research indicates that contiguous dyads are significantly more war prone than non-contiguous dyads (see Bremer 1992; Weede 1975). This study will control for the effects of contiguity within dyads, especially since common borders may be related to economic integration.

Data is available on contiguity from the COW project (Stinnett 2002). The data was coded as a dichotomous variable where noncontiguous dyads were coded as 0, and dyads that share a common land border, or have a water border less than 150 miles were coded as 1. Similar variable construction can be found in previous literature (see Gochman 1990).

Distance

The evidence on the distance, or the proximity, between states has consistently illustrated the effects it has on the likelihood of conflict. Specifically, the distance between a dyad is inversely related to conflict (see Geller and Singer 1998; Gleditsch 1995). Furthermore, dyads which engaged in conflict were "geographically more proximate" than non-warring dyads (Garnham 1976). In another study, the authors found that the "average distance between capitals of warring dyads was significantly less than the average capital distance between non-warring

dyads" (Gleditsch 1975). For this study, a distance variable will be used to control for the effects of proximity at the dyadic level on the likelihood of conflict.

Data on the distance between capital cities was used and is available at the dyadic level (Bennett 2000; Gleditsch and Ward 2001). Since the distance between capital cities can vary so widely, the natural logarithm function of the distance is used.

Military balance

The balance of military capabilities between two states has been examined in the literature, and the evidence is clear and convincing. The distribution of, and shifts in, capabilities within a dyad are a "principal factor associated with interstate conflict" (Geller and Singer 1998). There are two competing theoretical frameworks related to military balance which revolve around the issues of static and dynamic capability distribution. The static, or stable capability, distribution theoretical framework focuses on the competing realities of dyadic parity versus preponderance. Theories following this framework study relationships at the dyadic level. For example, theories of balance of power and power preponderance illustrate the effects military capabilities have on the likelihood of conflict (Blainey 1973; Waltz 1979; Wright 1964). On the other hand, the dynamic or unstable capability distribution theoretical framework focuses on large shifts or transitions in the structure of great powers, rather than on dyadic relationships. For example, dynamic studies include power transition theorists (Organski 1958; Organski 1980), hegemonic decline theory (Gilpin 1981), and long cycle theories (Modelski 1983; Thompson 1988). The static theoretical framework will be used for this study to control for effects of military balance on interstate conflict.

The data for this control variable is available from the COW project. Data on the dyadic distribution of capabilities to represent a military balance (parity) or an imbalance

(preponderance) using the Composite Index of National Capability (CINC) score calculation was used (Bennett 2000; Singer 1972, 1987; Small 1969). Thus, a dichotomous variable was created where dyadic parity was coded as 1, and dyadic preponderance was coded as 0. Dyadic parity is coded as 1 because a dyad in parity is associated with a higher likelihood of conflict (Geller and Singer 1998). The dyadic CINC scores were calculated by summing the data for each of the six capability components for each state within a dyad in a given year, averaging across the six components, and finally calculating each state's share of the pooled capabilities in the dyad.[7] For example, if state A had 60 percent of the shared capabilities, then state B must have 40 percent. The threshold used to determine if a dyad was in parity or not was adopted from previous research. A threshold of 20 percent was used, by coding dyads that differed in capabilities by 20 percent or more as being in a state of preponderance for a given year (for a discussion of dyadic CINC scores and this threshold see Organski 1980, 47-49).

Nuclear weapons

The evidence in the literature on the relationship between nuclear weapons and conflict behavior is clear. Two findings illustrate the different effects of nuclear and non-nuclear status. For instance, non-nuclear states are not impeded by nuclear weapons in escalating behavior (Geller 1990). On the other hand, dual nuclear dyads are less likely to escalate to the intervention level (Bueno de Mesquita and Riker 1982). Conflicts between nuclear states had "different escalatory patterns" than conflicts between dyads where at least one state did not possess nuclear weapons (Geller 2012). Evidence indicates that states with nuclear weapons are more willing to escalate conflict. Interestingly, state behavior follows the stability-instability paradox which states that nations will avoid full nuclear war in dual nuclear dyads, but are more likely to

[7] The six components consist of military personnel, military expenditure, energy consumption, total population, urban population, and iron and steel production.

escalate conflict at lower levels. In fact, dual nuclear dyads "had approximately a seven times greater probability of escalating" conflict than did dyads where neither state possessed nuclear weapons (Geller 1990, 2012). The theoretical framework that relates to this study falls under the risk manipulation, escalating, and limited war theories in the nuclear weapons literature.

Data is available on the nuclear status of states from their initial acquisition of the weapons (Jo and Gartzke 2007). The data was coded as two dichotomous variables representing a dual nuclear dyad and the other a dyad where at least one state possesses nuclear weapons. The first control variable was coded as 1 for a dyad where both states possess nuclear weapons, and was coded as 0 for dyads where neither state possessed nuclear weapons. The second control variable was coded as 1 for dyads where one state possessed nuclear weapons, and was coded as 0 where neither state possessed nuclear weapons. Information about the possession of nuclear weapons was used to code the data accordingly based on the year of acquisition. Any state that obtained nuclear weapons would possess those nuclear weapons for each subsequent year. For example, the United States developed nuclear weapons in 1945 and would be coded as a nuclear state beginning in 1945 until the present. Or, as some have said, "once you got, you always got" (Jo and Gartzke 2007). The status of nuclear weapon possession, therefore, was filled in for all subsequent years after the year of acquisition.

Alliances

There is an interesting literature on the relationship between alliance membership and the likelihood of conflict. Research has revolved around two schools of thought which have examined alliances within dyads and alliances external to dyads. In the literature on alliances within dyads conventional wisdom suggests that alliance membership should reduce the likelihood of conflict. Some argue, however, that alliance membership can actually increase the

likelihood of war, which seems counterintuitive, but is supported in bivariate results (Bremer 1992; Bueno de Mesquita 1981; Ray 1990). On the other hand, the proposition that alliance membership increases the war-proness of a dyad is refuted in multivariate results (Bremer 1992; Weede 1975). Specifically, Bremer finds that there is an interaction effect with the level of militarization in a given dyad and the relationship of alliance membership and war. In the literature on alliances external to dyads the evidence is clear and consistent. Dyads with only one state having membership in an external alliance are more war-prone, while dyads with both states having membership in an external alliance are less war-prone (see Kim 1991; Mihalka 1976; Siverson 1984; Weede 1975, 1989).

Data on alliances was obtained from the Alliance Treaty Obligations and Provisions (ATOP) project (Leeds 2002). The ATOP dataset included information about alliances through the year 2001, as opposed to the COW project's alliance data that stopped at the year 2000. The data for within dyad alliances was coded as a dichotomous variable where dyads engaged in a bilateral alliance were coded as 1, while dyads without bilateral alliances were coded as 0. The data for alliances external to dyads was coded as a dichotomous variable where dyads with both states having membership in an external alliance were coded as 1, and dyads with neither state having membership in an external alliance were coded as 0.

Absence of territorial conflict

The relationship of territory and conflict has been examined in the literature from the perspective of territorial change. Specifically, territorial changes are viewed as the outcomes from territorial disputes between states. The territorial change, however, may either further escalate hostilities or may resolve the territorial dispute. Some argue that territory is a principal issue of war, at least until World War II (Holsti 1991; Weede 1973). Empirical research has

focused on the effects of territorial disputes and the likelihood of generating conflict (see Diehl and Goertz 1991, 1991; Goertz 1990, 1992; Kacowicz 1994). For example, one study finds that a third of territorial changes involved conflict prior to World War II, while that number is smaller since 1945 (Goertz 1992). Furthermore, Goertz and Diehl found that almost 40 percent of the members involved in a territorial change engage in a MID within 30 years (1992). Territorial conflict will be controlled in this study to ensure that lasting disputes between states will not affect the economic integration relationship under examination.

Data on territorial conflict is available from the COW project, territorial change dataset (Tir et al. 1998). The data was coded as a dichotomous variable where dyads that involve a territorial conflict were coded as 1, while dyads that are absent of territorial conflict were coded as 0.

Regime Type

The literature on the democratic peace has shown that regime types matter, and certain regime types are more likely to engage in conflict. Specifically, the democratic peace literature has found that regime types within a given dyad are strongly related with the probability of conflict. For instance, the democratic peace tells us that a dyad of two non-democratic states is 40 times more likely to engage in war than democratic dyads (Bremer 1993). Thus, the regime types within the dyads under study will be controlled for to avoid any confounding effects on the probability of conflict.

Data on regime types is available from the Polity IV dataset which provides information on the categorical regime types for all states within this study. Data was coded according to the regime categories suggested by the authors of the Polity IV dataset (Marshall and Jaggers 2011). The polity scores were converted into three categories where scores from -10 to -6 are

autocracies, scores from -5 to +5 are anocracies, and scores from +6 to +10 are democracies. This information was converted into two separate dichotomous variables at the dyadic level. The first variable is coded for dual democracies, where 1 is used for a dual democracy dyad and 0 is used for a dyad where at least one state is not a democracy. The second variable is coded for dual autocracies, where 1 is used for a dual autocracy dyad and 0 is used for a dyad where at least on state is not an autocracy. The variables were coded in this manner to be consistent with the prevailing research about regime type and conflict, where dual democratic dyads tend to be more peaceful than dual autocratic dyads.

Cultural Distance

A variety of studies have used cultural distance measures to understand the relationship it may have with conflict and other aspects of political unrest. Cultural distance measures include variables that operationalize the realities of cultural and ethnic divisions and similarities. For instance, there are studies on the relationship between ethnic or cultural divisions and the likelihood of conflict (Collier 2001; J. Fearon, and D. Laitin 2003; Hibbs 1973; Horowitz 1985; Powell 1982; VanHanen 1999). One notable study in international relations focused on the relationship of cultural differences and war (Huntington 1996). Huntington argued that the future of conflict would occur between different civilizations, or major cultural groups. According to Huntington, interstate rivalries would be less important than divisions between global ethnic groups. Other studies have considered ethnic divisions as a predictive variable in regime changes (Przeworski 2001). While some examine the roles of ethnic groups and political upheavals (Dudley 1998; Fearon 1999; Gurr 1993, 1997; Lindstrom 1995). In addition, Ken Waltz argues, "the fiercest civil wars and the bloodiest international [conflicts] have been fought within arenas populated by highly similar people whose affairs had become quite closely knit together" (Waltz

1970, 205) quoted in (McMillan 1997, 41). Based on this literature, there is evidence that ethnic differences may have an effect on conflict. Cultural distance, therefore, will be used as a control variable to ensure that ethnic differences will not have a confounding effect on the likelihood of conflict. Since the unit of analysis of this study is at the dyadic level, the cultural distance between countries in a given dyad may have an effect on the likelihood of conflict.

Data is available for the cultural composition of each country from a variety of sources (Ellingsen 2000; J. D. Fearon 2003; State.gov 2012). The data categorizes each country's cultural majority based on the largest ethnic group present. The dataset provided by Ellingsen was used as the main source of information. This data was already temporally structured for a majority of the years used in this study. Where information was lacking, the dataset provided by Fearon was used to fill in the gaps. A majority of the missing information was found in Fearon's dataset. The primary logic for not using Fearon's data alone was that his data provided only static snapshots of the cultural identity of states. Since Ellingsen's data listed the cultural identity of each state by year, it was used as the primary data source. Where information was lacking altogether, the U.S. State Department website was used to fill in a handful of missing cultural identities. The data was converted into a dyadic dataset and was used to construct a dichotomous variable. The dummy variable was coded as 1 for countries that share an ethnic similarity, and was coded as 0 if the countries do not share an ethnic similarity. Table 4 lists the coding decisions and contents of the eleven control variables.

Table 4: Control Variables

	Operationalizations	
	Type	Coding*
Control Variables:		
Contiguity	Dichotomous	Contiguous dyad = 1, noncontiguous = 0
Distance	Continuous	Natural log of distance between capitals
Military Balance	Dichotomous	Parity = 1, Preponderance = 0
Dual Nuclear Dyad	Dichotomous	Dual nuclear dyad = 1, no nuclear weapons = 0
Asymmetrical Nuclear Dyad	Dichotomous	Single nuclear state = 1, no nuclear weapons = 0
Dyadic Alliance	Dichotomous	Bilateral alliance = 1, no bilateral alliance = 0
External Alliances	Dichotomous	Dual external alliance dyad = 1, no external alliances = 0
Territorial Conflict	Dichotomous	Territorial conflict = 1, absence of territorial conflict = 0
Democratic Regime Type	Dichotomous	Dual democracies = 1, at least one state non-democratic = 0
Autocratic Regime Type	Dichotomous	Dual autocracies = 1, at least one state non-autocratic = 0
Cultural Distance	Dichotomous	Ethnically similar dyad = 1, no ethnic similarity = 0

* Note all variables are measured at the dyadic level.

In conclusion, the focus of this chapter was to lay out the research design of my dissertation by highlighting the design of the study, the methodology used to test the theorized relationships, and to discuss the variables used in constructing the dataset. In the following chapter, the results from these designed tests are illustrated and discussed.

CHAPTER 5 RESULTS

The results of my dissertation are discussed and interpreted in this chapter. First, the modeled statistical findings about the relationships between DEI and conflict are illustrated and explained in detail. Each model is examined to highlight the important findings and how they should be interpreted. In addition, a section is dedicated to the discussion of the findings and the formal hypothesis testing results. The results are also subjected to predictive modeling to understand how a wide range of DEI levels may affect the likelihood of dyadic conflict. The results are also placed in the larger context of the debate over the relationship between economics and conflict. Finally, the models are treated to a series of robustness checks, to assess whether the findings will remain consistent under different scenarios. Overall, the results indicated below are highly supportive of the hypothesized propositions, and are surprisingly robust. In fact, the findings show that high levels of DEI do have a pacifying effect on dyadic conflict, specifically the onset and escalation of MIDs. The inverse relationship between DEI and conflict is not only strong and statistically significant, but it is also robust against a battery of robustness tests. The results of my dissertation follow below.

The results from the full models in the study are presented below in tables 5, 6, and 7. Each of the three tables presents two separate models used to test the indicated dependent variable. In other words, the multivariate model results and the factor score model results are combined in each of the three tables, based on the dependent variable. So, there are three tables with the full results for this study, with one table for each of the three dependent variables. In each of the three results tables, the multivariate model appears first on the left, while the factor score model appears on the right of the table. The multivariate model measures the effects of the three independent variables on the examined dependent variable indicated in that table. The factor

score model measures the effects of the factor score variable of DEI on the examined dependent variable indicated in that table. Note that the factor score model results were used to test the three hypotheses on each of the dependent variables. The multivariate model results were used to better understand the relationships between the independent variables and the dependent variables. The onset of war dependent variable results for both the multivariate and factor score model are listed in table 5, where the factor score model was used to test the first hypothesis. The onset of MIDs dependent variable results for both the multivariate and factor score model are listed in table 6, where the factor score model was used to test the second hypothesis. The escalation of MIDs dependent variables results for both the multivariate and factor score model are listed in table 7, where the factor score model was used to test the third hypothesis.

The layout of the results tables is consistent for the three multivariate and three factor score models. The dependent variable examined is indicated in the title of the table. The independent variables are listed first under the predictors heading. The control variables are then listed next. At the bottom of the control variables section, however, there are three variables generated from the time cubed approach. The time cubed technique was discussed in the research design chapter, and was used to control for the effects of temporal dependence. The three variables, therefore, are generated using the procedure as discussed. The columns of each table are separated by the model type, with three columns for the multivariate model and three for the factor score model. The first column for each model lists the coefficients in the standard log-odds units generated from logistic regression. Once again, logistic regression was employed since the dependent variables are dichotomous for the onset of war and the onset of MIDs. Ordered logistic regression was used for the escalation of MIDs dependent variable, but the coefficients have the same interpretation. The coefficients indicate the level of increase in the predicted log-odds in

the dependent variable equaling 1 that would be predicted by a 1 unit increase in the independent variable, holding all other variables constant. The direction and strength of the coefficients, however, are indicated similarly to the results from OLS regression. First, the direction of the relationship is indicated by the sign of the coefficient, where negative coefficients indicate an inverse relationship. For instance, when an independent variable with a negative coefficient increases by one unit, the dependent variable decreases by the amount of the indicated coefficient. Second, the strength of the relationship is indicated by the value of the coefficient, and whether it is statistically significant or not is illustrated with star symbols that represent the different p-value levels, which will be discussed later. The second column for each model lists the robust standard error values, which were clustered on the dyad identity, for each coefficient. The third column for each model includes a calculated statistic to aid in the interpretation of the coefficients. Since the interpretation of log-odds units is difficult to make the differences meaningful in one's mind, the percentage change in the odds is also included in each table. This statistic is calculated using the odds ratio produced in logistic regression in Stata. The odds ratio is interpreted as the predicted change in odds for a one unit increase in the independent variable. To calculate the percentage change in odds you first subtract 1 from the odds ratio, and then multiply that value by 100. The percentage change in odds statistic, therefore, is interpreted as every unit increase in a given independent variable is associated with a certain percentage change in the odds of the dependent variable occurring. The percentage change in the odds statistic is useful to aid in the interpretation of the relationships indicated by the coefficients. A percentage change in odds, therefore, is more intuitive than a coefficient defined in terms of the changes in the log-odds units.

Located at the bottom of table 5, 6, and 7 are statistics used to measure the strength and predictive quality of the models. First, each table indicates the number of observations included in the model. Note that all six models, three multivariate and three factor score models, include all 479,179 observations contained in the dataset. The second statistic is the degrees of freedom which is a count of the number of variables included in the model. The third statistic is the chi-square value, which taken with the associated probability value is important. The p-value for the chi-square statistic is indicated by the number of stars, in similar fashion to each of the coefficients. Each model has a different chi-square statistic and associated p-value, which examined together provides a test if the model is statistically significant or not. The p-value of the chi-square statistic is interpreted as the probability of obtaining the given chi-square value if the null hypothesis were true, or simply if there was no effect of the independent variables on the dependent variable. The fourth statistic included with each results table is the proportional reduction in error measure, which I will discuss later. The log likelihood statistic has no intrinsic interpretation for the model, but can be used in calculations to compare nested models. The final statistic included at the bottom of each results table is the pseudo R-squared (pseudo R2) measure. The pseudo R2 should not be mistaken with the more common R-square calculated with standard OLS regression, which calculates the proportion of variance explained by the predictor variables, since the pseudo R2 has no agreed upon interpretation. The pseudo R2 statistic, however, may be useful in comparing models from the same dataset on the same dependent variable, and it is generally accepted that larger pseudo R2 numbers indicate that more variance is explained. As mentioned, the fourth statistic is the proportional reduction in error measure that deserves a separate explanation.

A proportional reduction in error (PRE) statistic is included at the bottom of each results table for the models. PRE provides a method for calculating the improved or worsened level of prediction of the proposed model compared to the natural expectation. In other words, what the expected chance of the phenomenon occurring is without studying it formally. A positive PRE statistic is desirable for a proposed model since it indicates that the model is an improvement in prediction over the natural expectation of the phenomenon. A negative PRE statistic, on the other hand, indicates that the proposed model is actually worse at predicting the studied phenomenon then would otherwise be expected naturally. All six of the models in this study have a positive PRE statistic, indicating that each model is an improvement over the natural expectation. This is an interesting statistic since it calculates the relative value of a model by indicating the change in predictive capabilities.

The various levels of significance are indicated as a footnote for each of the three results tables. To ensure conservative results in terms of conclusions about the relationship between DEI and conflict, the alpha level used for hypothesis testing was .05 in this study. Each p-value is illustrated using the convention of stars, where .05 is one star (*), .01 is two stars (**), and .001 is three stars (***). Although the .05 significance level was used in hypothesis testing, the p-value of .10 is also indicated in the results using the carrot (^) symbol to illustrate the variables that are more important in the model. In addition, the p-values in this study are one-tailed since the research question and hypotheses examine an inverse relationship where the likelihood of conflict decreases as the level of DEI increases.

The actual results tables for this study follow below. Each of the results from the models will be presented and key points of interest will be highlighted, however, the full discussion and hypothesis testing will follow in the subsequent section. First, table 5 will be examined which

includes the results for the multivariate and factor score models on the onset of war dependent variable. The factor score model in this first table was used to test the first hypothesis on whether there is an inverse relationship between DEI and the onset of war. The multivariate model will be considered first. The multivariate model itself is statistically significant with the probability of the chi-square value occurring if the null hypothesis were true being less than .001, which means that the independent variables do have an effect on the dependent variable. The PRE value for the multivariate model is 1.78 percent, indicating that the model improves the level of prediction compared to the natural prediction of the onset of war. As theorized, the FTA and dyadic trade density variables are inversely related to the onset of war, but the joint economic IGO membership variable is shown to have a positive effect. Out of the main theoretical variables, however, only dyadic trade density has a statistically significant relationship with the onset of war. With a p-value less than .05, dyadic trade density reduces the odds of the onset of war by approximately 64 percent. In other words, dyadic trade density is shown to have an inverse relationship, or pacifying effect on the onset of war, holding the other variables constant.

The factor score model in table 5 is statistically significant with the probability of the chi-square value occurring if the null hypothesis were true being less than .001, which means that the factor score variable DEI does have an effect on the onset of war. The PRE value for the factor score model is 1.72 percent, indicating that the model improves the level of prediction compared to the natural prediction of the onset of war. As theorized, the DEI variable is inversely related to the onset of war. The DEI variable, however, does not meet the alpha level threshold of this study of having a p-value of less than .05. Instead, the DEI variable has a p-value less than .1, but greater than .05. As a result, the variable is shown to have a mild pacifying effect on the onset of

war of roughly 22 percent while holding the other variables constant; however, the DEI variable cannot be labeled as being statistically significant by the requirements in this study.

Table 5: Logistic Regression Models for the Onset of War

	Multivariate Model			Factor Score Model		
Predictors:	Coefficients	Robust SE	% Change in Odds	Coefficients	Robust SE	% Change in Odds
Presence of an FTA	-0.932	0.944	-60.61			
Dyadic Trade Density	-1.022*	0.621	-64.01			
Joint Economic IGO Membership	0.166	0.397	18.10			
Dense Economic Integration				-0.242^	0.171	-21.51
Controls:						
Dyadic Contiguity	2.041***	0.529	669.55	1.975***	0.520	620.32
Distance	-0.756***	0.141	-53.04	-0.783***	0.138	-54.28
Relative Military Balance	1.161**	0.400	219.42	1.175**	0.402	223.72
Presence of Territorial Conflict	4.640***	1.353	10,255.02	4.756***	1.300	11,528.01
Dual Democracy Dyad	-1.116^	0.724	-67.23	-1.150^	0.738	-68.33
Dual Autocracy Dyad	0.340	0.372	40.52	0.270	0.381	30.98
Dyadic Alliance	-0.135	0.735	-12.67	-0.195	0.747	-17.75
Dual External Alliances	-1.391**	0.521	-75.13	-1.579**	0.537	-79.38
Dual Nuclear State Dyad	2.752***	0.761	1,466.84	2.717***	0.792	1,413.55
Single Nuclear State Dyad	1.778***	0.372	491.83	1.834***	0.354	526.00
Ethnically Similar Dyad	1.080*	0.466	194.41	1.090*	0.475	197.29
t – Time Since Last Dispute†	0.088	0.138	9.21	0.099	0.133	10.39
t2 – Time Squared†	-0.010	0.009	-1.04	-0.011	0.009	-1.06
t3 – Time Cubed†	0.000	0.000	0.03	0.000^	0.000	0.03
Observations	479,197			479,197		
Degrees of freedom	17			15		
Chi2	546.1***			538.7***		
Proportional reduction in error	1.78%			1.72%		
Log likelihood	-401.42			-402.41		
Pseudo R^2	0.238			0.236		

^p<0.1, *p<0.05, **p<0.01, ***p<0.001 (one-tailed p-values), Robust standard errors are clustered on dyad_ID.

† For a discussion on the time cubed approach to control for temporal dependence see Carter and Signorino (2008).

Table 6 includes the results for the multivariate and factor score models on the onset of MIDs dependent variable. The factor score model in this second table was used to test the second hypothesis on whether there is an inverse relationship between DEI and the onset of MIDs. The

multivariate model will be considered first. The multivariate model itself is statistically significant with the probability of the chi-square value occurring if the null hypothesis were true being less than .001, which means that the independent variables do have an effect on the dependent variable. The PRE value for the multivariate model is 4.07 percent, indicating that the model improves the level of prediction compared to the natural prediction of the onset of war. As theorized, the FTA, dyadic trade density, and joint economic IGO membership variables are inversely related to the onset of MIDs. In addition, the FTA and joint economic IGO membership variables have statistically significant relationships with the onset of MIDs. FTAs have a strong inverse relationship with the onset of MIDs with a p-value less than .001, and reduce the odds of the onset of MIDs by approximately 68 percent. Joint economic IGO membership also has an inverse relationship with the onset of MIDs with a p-value less than .01, and reduces the odds of the onset of MIDs by roughly 27 percent. FTAs and dyads having joint membership in economically-focused IGOs are shown to have an inverse relationship, or pacifying effect on the onset of MIDS, holding other variables constant. Dyadic trade density, on the other hand, is not statistically significant even though the indicated direction of the coefficient is inversely related to the onset of MIDs.

The factor score model in table 6 is statistically significant with the probability of the chi-square value occurring if the null hypothesis were true being less than .001, which means that the factor score variable DEI does have an effect on the onset of MIDs. The PRE value for the factor score model is 4.03 percent, indicating that the model improves the level of prediction compared to the natural prediction of the onset of MIDs. As theorized, the DEI variable is inversely related to the onset of MIDs. Also, the DEI variable is shown to have a strong inverse relationship with the onset of MIDs. In fact, the DEI variable has a p-value less than .001, and reduces the odds of

the onset of MIDs by approximately 17 percent. The strength of the inverse relationship between DEI and the onset of MIDs is remarkably strong, and indicates that DEI has a strong pacifying effect on the onset of MIDs, while holding the other variables constant.

Table 6: Logistic Regression Models for the Onset of MIDs

	Multivariate Model			Factor Score Model		
Predictors:	Coefficients	Robust SE	% Change in Odds	Coefficients	Robust SE	% Change in Odds
Presence of an FTA	-1.147***	0.220	-68.25			
Dyadic Trade Density	-0.116	0.164	-10.94			
Joint Economic IGO Membership	-0.315**	0.118	-26.99			
Dense Economic Integration				-0.182***	0.053	-16.66
Controls:						
Dyadic Contiguity	3.094***	0.223	2,107.13	3.170***	0.222	2,279.92
Distance	-0.561***	0.077	-42.95	-0.529***	0.077	-41.09
Relative Military Balance	0.665***	0.145	94.45	0.687***	0.148	98.71
Presence of Territorial Conflict	1.846*	0.941	533.33	1.757*	0.934	479.76
Dual Democracy Dyad	-0.398*	0.176	-32.81	-0.432*	0.186	-35.06
Dual Autocracy Dyad	-0.110	0.126	-10.38	-0.053	0.123	-5.17
Dyadic Alliance	-0.010	0.219	-0.95	0.107	0.214	11.33
Dual External Alliances	-0.200^	0.149	-18.11	-0.249^	0.156	-22.03
Dual Nuclear State Dyad	2.851***	0.516	1,631.21	2.862***	0.541	1,650.15
Single Nuclear State Dyad	1.561***	0.150	376.37	1.563***	0.153	377.12
Ethnically Similar Dyad	0.586***	0.177	79.65	0.563**	0.176	75.61
t – Time Since Last Dispute†	0.065**	0.027	6.71	0.058*	0.027	5.95
t2 – Time Squared†	-0.005***	0.002	-0.53	-0.005**	0.002	-0.48
t3 – Time Cubed†	0.000***	0.000	0.01	0.000***	0.000	0.01
Observations	479,197			479,197		
Degrees of freedom	17			15		
Chi2	2,484.0***			2,418.8***		
Proportional reduction in error	4.07%			4.03%		
Log likelihood	-6,287.44			-6,316.53		
Pseudo R^2	0.291			0.287		

^p<0.1, *p<0.05, **p<0.01, ***p<0.001 (one-tailed p-values), Robust standard errors are clustered on dyad_ID.

† For a discussion on the time cubed approach to control for temporal dependence see Carter and Signorino (2008).

Table 7 includes the results for the multivariate and factor score models on the escalation of MIDs dependent variable. The factor score model in this second table was used to test the

third hypothesis on whether there is an inverse relationship between DEI and the escalation of MIDs. The multivariate model will be considered first. The multivariate model itself is statistically significant with the probability of the chi-square value occurring if the null hypothesis were true being less than .001, which means that the independent variables do have an effect on the dependent variable. The PRE value for the multivariate model is 1.62 percent, indicating that the model improves the level of prediction compared to the natural prediction of the onset of war. As theorized, the FTA, dyadic trade density, and joint economic IGO membership variables are inversely related to the escalation of MIDs. Additionally, all three independent variables are shown to have a statistically significant relationship with the escalation of MIDs. The FTA variable has the strongest inverse relationship with the escalation of MIDs compared to the other two independent variables. Specifically, FTAs have a p-value less than .001, and reduce the odds of the escalation of MIDS by approximately 68 percent. Dyadic trade density has a p-value less than .05, and reduces the odds of the escalation of MIDs by roughly 36 percent. Joint economic IGO membership has a p-value less than .01, and reduces the odds of the escalation of MIDs by roughly 31 percent. All three independent variables, therefore, are shown to have an inverse, or pacifying effect on the escalation of MIDs, holding the other variables constant.

The factor score model in table 7 is statistically significant with the probability of the chi-square value occurring if the null hypothesis were true being less than .001, which means that the factor score variable DEI does have an effect on the escalation of MIDs. The PRE value for the factor score model is 1.62 percent, indicating that the model improves the level of prediction compared to the natural prediction of the escalation of MIDs. As theorized, the DEI variable is inversely related to the escalation of MIDs. Also, the DEI variable is shown to have a strong

inverse relationship with the escalation of MIDs. In fact, the DEI variable has a p-value less than .001, and reduces the odds of the escalation of MIDs by approximately 24 percent. The strength of the inverse relationship between DEI and the onset of MIDs is remarkably strong, and indicates that DEI has a strong pacifying effect on the escalation of MIDs, while holding the other variables constant.

Table 7: Ordered Logistic Regression Models for the Escalation of MIDs

	Multivariate Model			Factor Score Model		
Predictors:	Coefficients	Robust SE	% Change in Odds	Coefficients	Robust SE	% Change in Odds
Presence of an FTA	-1.135***	0.240	-67.85			
Dyadic Trade Density	-0.440*	0.190	-35.63			
Joint Economic IGO Membership	-0.363**	0.139	-30.46			
Dense Economic Integration				-0.280***	0.059	-24.44
Controls:						
Dyadic Contiguity	2.967***	0.228	1,843.40	3.023***	0.226	1,956.20
Distance	-0.676***	0.092	-49.14	-0.654***	0.091	-48.03
Relative Military Balance	0.747***	0.156	110.99	0.767***	0.157	115.42
Presence of Territorial Conflict	4.067***	1.019	5,737.50	3.941***	0.965	5,047.09
Dual Democracy Dyad	-0.503**	0.206	-39.51	-0.513**	0.213	-40.11
Dual Autocracy Dyad	-0.252*	0.137	-22.29	-0.217^	0.135	-19.47
Dyadic Alliance	-0.061	0.255	-5.95	0.023	0.250	2.35
Dual External Alliances	-0.342*	0.164	-28.96	-0.389*	0.168	-32.25
Dual Nuclear State Dyad	3.176***	0.498	2,294.98	3.193***	0.515	2,335.90
Single Nuclear State Dyad	1.772***	0.159	488.18	1.770***	0.160	487.23
Ethnically Similar Dyad	0.552**	0.200	73.74	0.530**	0.200	69.93
t – Time Since Last Dispute†	-0.036^	0.025	-3.49	-0.040*	0.024	-3.97
t2 – Time Squared†	0.000	0.002	0.03	0.001	0.002	0.06
t3 – Time Cubed†	0.000	0.000	0.00	0.000	0.000	0.00
Observations	479,197			479,197		
Degrees of freedom	17			15		
Chi2	1,860.9***			1,805.3***		
Proportional reduction in error	1.62%			1.62%		
Log likelihood	-10,304.15			-10,327.07		
Pseudo R^2	0.265			0.263		

^p<0.1, *p<0.05, **p<0.01, ***p<0.001 (one-tailed p-values), Robust standard errors are clustered on dyad_ID.

† For a discussion on the time cubed approach to control for temporal dependence see Carter and Signorino (2008).

Note that in some of the tables and figures that follow, the DEI variable was recoded to illustrate the effects of DEI on conflict. Specifically in table 8 and figure 2 below, DEI was divided into three groups ranging from low to high levels of dyadic DEI. In addition, in figure 3 DEI was categorized into its various levels to simplify the graphic. The factor score variable of DEI has values that range from -0.71 to 9.47, indicating varying levels of dyadic economic interaction. It was necessary to recode DEI to generate a meaningful variable to further interpret the interactions between DEI and conflict. Essentially, the DEI variable was recoded into categories ranging from 0 to 10 for the ease of graphing and illustrating the differences. The dyadic DEI levels where then grouped as either being low, medium, or high within a given dyad. DEI groups were coded as low if the level of dyadic DEI was below 2, as medium if the level of dyadic DEI was below 5 but greater than or equal to 2, and as high if the level of dyadic DEI was greater than or equal to 5.

In table 8 below, the relationship between DEI and conflict escalation is further detailed. Table 8 illustrates an interesting relationship between dyadic DEI levels and the stages of conflict escalation. The numbers in table four represent the actual occurrences of disputes in the dataset from 1965 to 2001. This two-way table illustrates that the inverse relationship between DEI and escalation is clear and consistent in favor of the theorized relationship. In addition, the table shows the strength of the inverse relationship with a gamma of -.269, indicating that when the level of DEI increases the likelihood for conflict and escalation is reduced. The gamma statistic measures the strength of the association in a cross tabulated table when the variables are on the ordinal scale. The value of gamma ranges from -1 to +1, where -1 indicates perfect inverse association and +1 is a perfect positive association. Dyads with low levels of DEI were far more likely to engage in escalatory behavior than dyads with high, or even medium, levels of

DEI. In fact, 89 percent of the dyads engaged in hostile relations had low levels of DEI, where 1,646 disputes occurred between low DEI dyads compared to the total of 1,853 disputes during the temporal period of this study. Dyads with high levels of DEI, on the other hand, were nearly absent of hostilities with only 27 disputes. Note that there are 1,853 observations because the escalation dependent variable, highest hostility level, includes both new and ongoing conflicts. In comparison, the MID and war dependent variables include only new conflicts. For each of the five hostility levels, the dyads with high levels of DEI were less likely to engage in disputes. For the disputes at the threat level, zero dyads with high levels of DEI engaged in this behavior. For disputes at the display of force level, two percent of the dyads engaged in this behavior had high levels of DEI. For disputes at the use of force level, less than two percent of the dyads engaged in this behavior had high levels of DEI. For disputes at the war level, less than one percent of the dyads engaged in this behavior had high levels of DEI. Finally, the probability of the chi-square value occurring if there were no association between the two variables is less than .001.

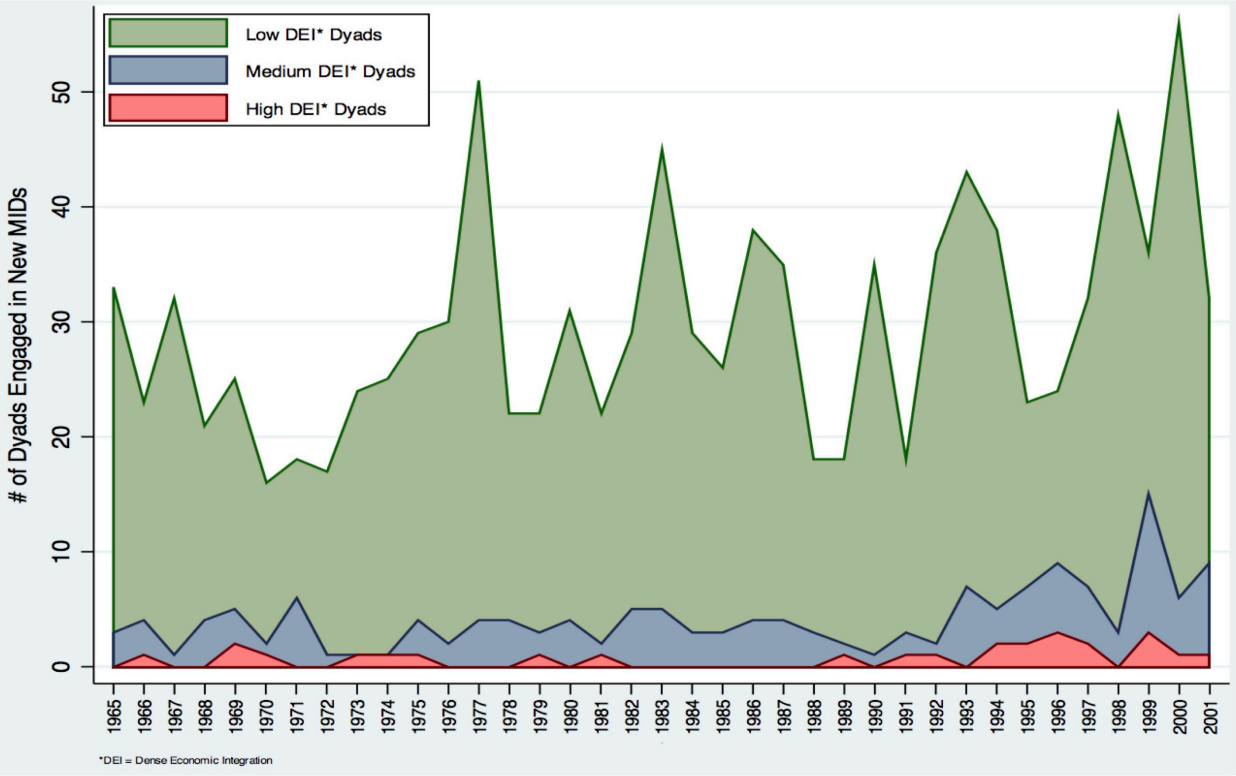
Table 8: Levels of DEI and Highest Dyadic Hostility Levels

	Dyadic Hostility Levels				
Dyadic DEI Levels	Threat	Display of Force	Use of Force	War	Total
Low	.927	.837	.889	.989	1,646
Medium	.073	.143	.096	.006	180
High	.000	.021	.015	.006	27
N	96	435	1,148	174	**1,853**
Gamma =	-.269	ASE =	.055		
Chi2 =	31.669	P-value =	.000		

In the following three figures, the relationships between varying levels of dyadic DEI and stages of conflict are presented graphically. Figure 2 illustrates how dyads with lower levels of DEI engage in more new MIDs than dyads with medium or high levels of DEI. Figure 3 shows the number of disputes between dyads at different levels of DEI. Figure 4 is an illustrated version of the simulated predicted probabilities for the three dependent variables.

In figure 2 below, the relationship between the onset of new MIDs and the various levels of dyadic DEI are illustrated. Note, that the three levels of DEI are coded in the same manner as those found in table 8, where dyads can exhibit low, medium, or high levels of DEI. Also, note that the number of new MIDs is shown on the y-axis where each of the three DEI levels is illustrated according to the key. Lastly, the x-axis represents the years in this study from 1965 to 2001. Figure 2 is interesting because it shows the number of new MIDs dyads engaged in according to their different levels of DEI. Additionally, figure 2 makes it clear that dyads with low levels of DEI have engaged in far more new MIDs than dyads with higher levels of DEI. For instance, out of the 1,280 new MIDs that occurred from 1965 to 2001, 86 percent occurred between dyads with low levels of DEI, while only 26 new MIDs occurred between dyads with high levels of DEI. It is clear in this figure that low DEI dyads are more likely to engage in new MIDs. Figure 2 does not, however, plot new wars since the number of wars were so few it was not necessary to graph them, but the distribution is interesting. For instance, out of the 52 new wars that occurred from 1965 to 2001, 96 percent occurred between dyads with low levels of DEI. In fact, only one war occurred between dyads with high levels of DEI.

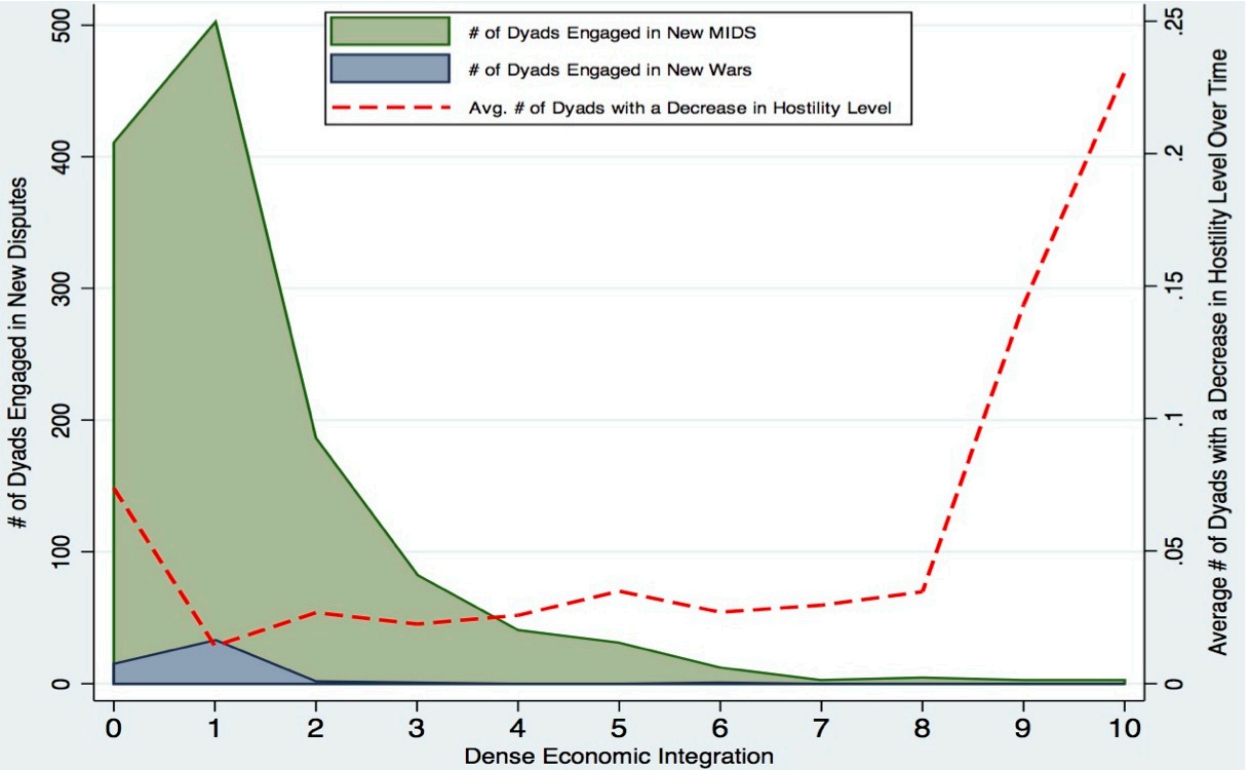
Figure 2: New Militarized Interstate Disputes (MIDs) by Year



In figure 3 below, the relationship between the various categories of dyadic DEI and conflict are illustrated. Note that the categories of DEI on the x-axis were recoded from the DEI factor score variable. As noted earlier, the DEI variable was recoded for some of the figures and tables to simplify the relationship. Essentially, the original range of the DEI variable from -0.71 to 9.47 was recoded and is depicted as the range from 0 to 10 in figure 3. Also, note that figure 3 has three separate plots, each one indicating a different relationship with DEI. The first plot is the number of new MIDs based on the level of DEI. For example, at the lowest level of DEI of zero, there were 411 new MIDs from 1965 - 2001. On the other hand, at the highest level of DEI of ten, there were three new MIDs that occurred from 1965 to 2001. Thus, figure 3 shows that as the level of DEI increases, the number of new MIDs decreases. The second plot is the number of

new wars based on the level of DEI, which is interpreted similarly to the new MIDs plot. For example, at the lowest level of DEI of zero, there were 15 new wars from 1965 - 2001. On the other hand, at the highest level of DEI of ten, there were zero new wars that occurred from 1965 to 2001. Thus, figure 3 shows that as the level of DEI increases, the number of new wars decreases. Both of the first two plots of new MIDs and wars are measured on the first, left y-axis. Unlike the first two plots, the third plot is depicted on a different scale on the second, right y-axis. The third plot is the average number of dyads which saw a decrease in hostilities over time. This plot was calculated by averaging the number of dyads that engaged in lower levels of hostility compared to the previous year, grouped by the level of DEI. It is an interesting plot because it shows that dyads are more likely to engage in lower levels of hostility with one another if that dyad is engaged in higher levels of DEI. In other words, as the level of DEI increases, the average number of dyads with decreasing hostility levels actually increases. So, dyads with high levels of DEI are more likely to see reduced hostility levels from one year to the next. For example, at the lowest level of DEI of zero, an average of .07 dyads had a decrease in hostilities from one year to the next. On the other hand, at the highest level of DEI of ten, an average of .23 dyads had a decrease in hostilities from one year to the next.

Figure 3: New Disputes and Average Hostility Level Decreases by Levels of DEI



In figure 4 below, the predicted probabilities of the dependent variables are examined over a range of DEI values. Specifically, figure 4 illustrates the predicted probability results for each of the three dependent variables from 1,000 simulations using the Clarify software package for Stata (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003). Clarify is a powerful tool that can be used to run a large number of simulated predictions to generate the predicted probability at different levels of an inputted variable. Essentially, the researcher can either hold variables in their model constant or allow only certain variables to vary. In this study, I held all of the control variables in the models described earlier at their mean values, and only allowed the DEI variable to vary. As a result, the predicted probabilities illustrated in this figure are indicative of the effect of DEI on these dependent variables. Note that all predicted probabilities are at the 95 percent confidence level. The y-axis consists of the various predicted

probability levels. Note that the occurrence of dyadic conflict has a low probability compared to the number of peaceful dyads; however, the changes illustrated in this figure are substantial. The DEI values on the x-axis are expanded beyond the actual range from -0.71 to 9.47 since the Clarify software predicts what the effects on the dependent variable would be if the predictor variables were to reach the indicated levels. As a result, the x-axis ranges from a low DEI level of 0 to a high DEI level of 50. The three lines depicting the dependent variables, therefore, are interpreted as the predicted probabilities of occurrence at the potential levels of DEI. Predicted probabilities are useful for purposes of interpretation compared to standard coefficients produced in results tables because the effects are easily comprehended. In addition, since this study uses logistic regression, and the interpretation of log-odds units is difficult as mentioned, the predicted probabilities generated in Clarify are much easier to understand. For instance, in Figure 4 the predicted probabilities of the dependent variables decrease as the level of DEI increases, which is in the theorized direction of this study. Dyads that engage in higher levels of DEI, levels high enough that they are beyond the current 9.47 maximum value, see a very small predicted probability of conflict. The onset of war had a decline in predicted probability from 3.9 percent at the lowest level of DEI to 1.4 percent at the highest level of DEI, with an average percentage change of 61 percent. The onset of MIDs had a decline in predicted probability from 5.7 percent at the lowest level of DEI to 1.1 percent at the highest level of DEI, with an average percentage change of 80 percent. Out of the three dependent variables, conflict escalation had the steepest decline in predicted probability from 7.6 percent at the lowest level of DEI to .6 percent at the highest level of DEI, with an average percentage change in predicted probabilities of 92 percent. The predicted probability statistics shown in figure 4 are further examined and listed in table 9 below.

Figure 4: Predicted Probabilities by Levels of Dense Economic Integration

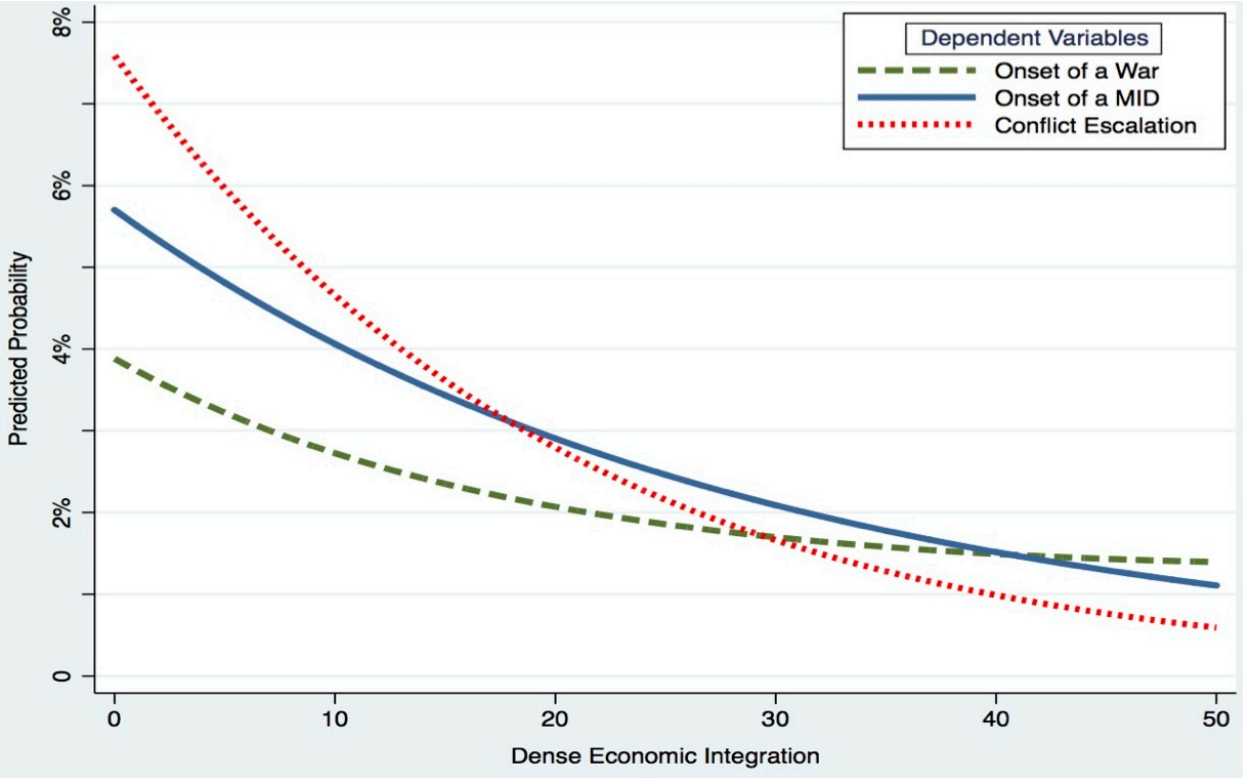


Table 9 lists the change in predicted probabilities for each of the dependent variables ranging from low to high levels of DEI. The first column lists the dependent variables examined using Clarify to estimate predicted probabilities. The second column lists the predicted probability values for dyads with the lowest level of DEI. The 95 percent confidence intervals for the predicted probability value are indicated in brackets. Column three is similar to the previous column, but lists the predicted probability values for dyads with the highest level of DEI. The last column lists the average percentage change in predicted probabilities based on the sample of 1,000 simulations. Note that the average predicted probability numbers are based on 1,000 simulations and the percentage changes are averaged over those simulations. Overall, the average percentage changes in predicted probabilities for all three dependent variables are negative as

theorized, meaning that as DEI increases from low to high the predicted probability of conflict is decreased. For the onset of war dependent variable, other things being equal, a dyad with high levels of DEI is on average 61 percent less likely to engage in a new war than a dyad with low levels of DEI. For the onset of MIDs dependent variable, other things being equal, a dyad with high levels of DEI is on average 80 percent less likely to engage in a new MID than a dyad with low levels of DEI. For the escalation of MIDs dependent variable, other things being equal, a dyad with high levels of DEI is on average 92 percent less likely to engage in escalatory behavior than a dyad with low levels of DEI.

Table 9 also breaks down conflict escalation into the five hostility levels the dependent variable is based on. All of the average percentage changes in predicted probabilities for the individual conflict escalation levels are negative, as theorized. The one caveat is the category of "No Dispute" having a positive change, but that also is in line with the theorized relationship. For instance, dyads with high levels of DEI are more likely to not be engaged in a dispute than dyads with low levels of DEI. At each level of escalation, therefore, high levels of DEI reduce the likelihood of conflict. For the level of no dispute, other things being equal, a dyad with high levels of DEI is on average 35 percent more likely to not engage in a dispute, or in other words have peaceful relations, than a dyad with low levels of DEI. For threat, other things being equal, a dyad with high levels of DEI is on average 86 percent less likely to engage in a threatening behavior than a dyad with low levels of DEI. For the display of force, other things being equal, a dyad with high levels of DEI is on average 87 percent less likely to engage in a display of force than a dyad with low levels of DEI. For the use of force, other things being equal, a dyad with high levels of DEI is on average 91 percent less likely to engage in a use of force than a dyad with low levels of DEI. For war, other things being equal, a dyad with high levels of DEI is on

average 93 percent less likely to engage in a war than a dyad with low levels of DEI. Note that the escalation level of war is different from the results on the onset of war, which measure two different things. The escalation level of war measures both new and ongoing wars in a given year. The onset of war, on the other hand, only measures new wars since there is a distinct theoretical difference between new and ongoing wars.[8] Overall, table 9 illustrates the strength of the relationship between DEI and conflict, and shows how increases in levels of DEI can reduce the predicted probability of conflict at different stages.

Table 9: Changes in Predicted Probabilities from Low to High DEI

	Predicted Probabilities of Dyads with Low DEI		*Predicted Probabilities of Dyads with High DEI*		*Average % Change in Predicted Probabilities†*
Dependent Variables:					
Onset of a War	.039	[.001 , .185]	.014	[.000 , .104]	-61.20
Onset of a MID	.057	[.015 , .151]	.011	[.002 , .036]	-80.31
Conflict Escalation	.076	[.075 , .078]	.006	[.006 , .006]	-92.37
Escalation Level Breakdown:					
No Dispute	.720	[.407 , .928]	.973	[.908 , .995]	35.13
Threat	.011	[.004 , .018]	.002	[.000 , .005]	-85.92
Display of Force	.052	[.017 , .081]	.007	[.001 , .022]	-87.29
Use of Force	.182	[.044 , .395]	.017	[.003 , .056]	-90.83
War	.035	[.006 , .109]	.002	[.000 , .009]	-93.32

†Average percentage change based on 1,000 simulations. Average percentage changes are interpreted as "other things equal, a dyad with high DEI is X percent less/more likely to engage in Y than a dyad with low DEI."

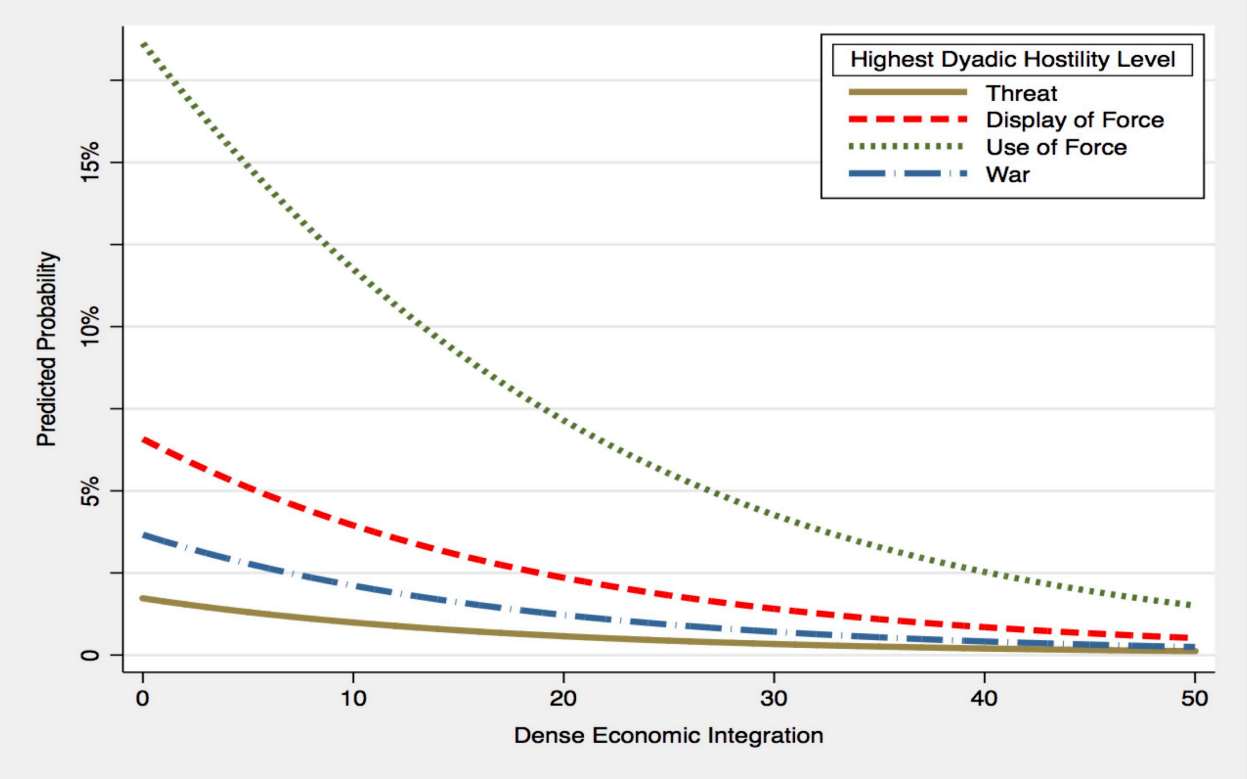
Notes: 95% confidence intervals in brackets. Predicted probabilities simulated using the Clarify software packaged from Tomz, Wittenberg, and King (2003).

The predicted probabilities for each of the hostility levels are illustrated in figure 5 below. As shown, and described in table 9, the predicted probability of escalatory behavior is reduced at

[8] See chapter 4 on research design for a full discussion on the differences between new and ongoing conflicts from a theoretical perspective.

each stage of escalation as the level of dyadic DEI increases. The graphical interpretation of these predicted probabilities shows the level of dyadic escalatory behavior that can be predicted based on the various levels of DEI. Note that as DEI reaches the highest predicted value of 50, the predicted probability of conflict escalation is nearly zero.

Figure 5: Predicted Probabilities by Levels of Hostility



Discussion

Based on the results above, we can begin to draw some conclusions about the hypothesized relationship between DEI and conflict. The results are clear and consistent in support of a statistically significant relationship between the proposed variable DEI in this study and the various examined stages of conflict at the dyadic level. The plan of this discussion section is to

clearly assess the three hypotheses in this study, and to examine the implications of the results. Hypotheses 1 and 2 will be considered together since the relationships between DEI and the onset of war and MIDs are only measuring new dyadic conflicts. Hypothesis 3 examines the escalation of conflict, however, and will be discussed separately because it includes both new and ongoing conflicts. As discussed in chapter four, there is a distinct theoretical difference between examining relationships that reduce the likelihood of new conflicts as opposed to relationships examining stages of ongoing conflicts. Next, the interesting results from the multivariate models will be explored to better understand the implications of the findings. For example, free trade agreements are shown to have strong inverse relationships with conflict with impressive statistical significance. In addition, for the sake of thoroughness and curiosity I will construct different scenarios holding various control variables constant to explore the influence of DEI absent of some controls. Specifically, the predicted probabilities of conflict will be predicted based on the different scenarios. For example, one scenario may look at dyads that have high levels of DEI and both states are democracies, but neither state possesses nuclear weapons. These scenarios, however, are not intended to replace traditional robustness testing. Instead, the final section of this chapter is dedicated to performing robustness tests. The scenarios, therefore, are used as a discussion tool to explore the relationship between DEI and war.

Overall, the results indicate that when dyads engage in high levels of DEI the likelihood of engaging in conflict is reduced. In addition, the results are remarkably strong and consistent across the various models explored in the last section. The relationship is both important and interesting because it provides a clear argument for the pacification of conflict through economic relations. First, DEI has been shown to have an effect on reducing the likelihood of dyads

engaging in new conflicts. Specifically, dyads are less likely to engage in new wars and in new MIDs with each other when the given dyad has high levels of DEI. In other words, dyadic DEI has the effect of reducing the likelihood of new conflicts emerging between the dyads exhibiting that type of economic behavior. Second, DEI has an effect on reducing the likelihood of dyads engaging in escalatory behavior with each other. The results related to the escalation of conflict are particularly important because, as Mansfield and Pollins point out, there is a general lack of evidence in the literature about how economic relations may affect escalatory behavior (Mansfield and Pollins 2003).

Each of the three hypotheses is considered below and decisions are made about the null hypotheses. All of the following hypothesis testing results are measured at a threshold of a .05 alpha level using one-tailed p-values, as discussed earlier. The results, therefore, are at the 95 confidence level. One-tailed p-values are used since the hypotheses and research question of this study examine the potential inverse relationship between DEI and conflict. Additionally, this study is concerned with the possibility that DEI can pacify conflict. With an alpha level of .05, I find statistical support for two out of the three hypotheses in this study. Specifically, hypotheses two on the onset of MIDs and three on the escalation of MIDs are supported, while I fail to find support for hypothesis one on the onset of war. The results of the hypothesis testing are remarkably strong even using such a conservative alpha level.

The first two hypotheses are considered first, and highlight promising results for the pacification of new conflicts when dyads engage in high levels of DEI. Specifically, the onset of new dyadic wars and the onset of new dyadic MIDs are examined. DEI, from a theoretical perspective, influences the political decision to avoid war by increasing the amount of exit costs for either state. In other words, states in a given dyad are less likely to engage in conflict because

the exit costs to breaking economic ties with each other are too costly. The exit costs of breaking the economic ties to engage in new conflicts were erected or bolstered between the states as the level of DEI increased. States in a dyad, therefore, are more likely to work through their trusted economic channels to pacify political hostilities to avoid incurring high exit costs.

Hypothesis 1 Results

Based on the conservative alpha level of .05, I fail to find statistically significant support for hypothesis one on the onset of war. The relationship between DEI and the onset of war is negative as theorized, however the p-value falls between .05 and .1 therefore failing to meet the .05 alpha level. As a result, we fail to reject the null hypothesis. The relationship between DEI and the onset of war, however, is important and since the p-value for DEI is roughly .07 we can conclude that DEI does have at least some influence on the likelihood of reducing new dyadic wars. The onset of war, in other words, is less likely to occur when a dyad has engaged in high levels of DEI, but we can only make this claim at the .1 alpha level. Among the results for the three hypotheses, DEI has the least amount of influence on new wars compared to either new MIDs or escalatory behavior. The weakness of the relationship may stem from the fact that during the entire temporal period of this study, only 52 new wars occurred. The rarity of new wars in the dataset is matched by the rarity that dyads with high levels of DEI engaged in war. In fact, out of the 52 new wars only one occurred between a dyad engaged in high levels of DEI. Note that this finding says nothing about stopping ongoing wars, but instead only relates to the creation of new wars.

Hypothesis 2 Results

The onset of MIDs does not suffer from the problem of rarity as does the onset of war, and the relationship between DEI and the onset of MIDs is much stronger. At an alpha level of .05, I

find statistically significant support for hypothesis two on the onset of MIDs. The relationship between DEI and the onset of MIDs is negative as theorized, and is statistically significant at the .001 level. As a result, we can reject the null hypothesis that the onset of MIDs does not vary with the level of dyadic DEI. The strength of the statistical relationship stands out because the chance that the results occurred by chance is less than .1 percent or we can say that we are 99.9 percent confident that the results did not occur by chance. The strength of the relationship indicates that dyads with high levels of DEI benefit from the barrier of exit costs, which leads to peaceful relations. In fact, dyads with high levels of DEI see a 17 percent reduction in the odds of a new MID occurring. The statistical significance of the relationship between DEI and the onset of MIDs is further tested in the robustness section where the results remain true over a series of different tests.

The third hypothesis varies from the first two hypotheses because it focuses on new and ongoing conflicts. In hypothesis 3 the escalation of MIDs is examined by measuring the relationship between DEI at each of the stages of conflict escalation. The escalation of MIDs is measured as both new and ongoing disputes because it simply measures the highest level of hostility within a dyad in a given year, as discussed in chapter four. The relationship between DEI and escalation is more complex than the relationships between the onset of war and MIDs because it is an ordinal measure rather than a dichotomous one. So, hypothesis 3 measures the effect DEI has on the likelihood escalation is avoided, or more accurately reduced. For instance, as DEI increases states in a given dyad may be more likely to reduce their hostilities with one another compared to a dyad without DEI. A dyad with high levels of DEI, therefore, would be more likely to reduce hostilities from a level three, the display of force, to a level two or one, threat or no dispute respectively.

Hypothesis 3 Results

At an alpha level of .05, I find statistically significant support for hypothesis three on the escalation of MIDs. The relationship between DEI and the escalation of MIDs is negative as theorized, and is statistically significant at the .001 level. As a result, we can reject the null hypothesis that the escalation of MIDs does not vary with the level of dyadic DEI. The fact that high levels of DEI reduces the likelihood that dyads will engage in escalatory behavior is an extremely important finding that sheds light on a subject that has remained allusive in the literature. In fact, high levels of DEI are shown to reduce the likelihood of escalatory behavior at each of the stages of conflict escalation. The results are clear and consistent in favor of the pacification of escalation between dyads that engage in high levels of DEI with one another. The relationship between DEI and conflict escalation is remarkably strong and the results indicate that dyads with high levels of DEI tend to avoid escalatory behavior. Thus, states that engage in high levels of DEI are more likely to avoid escalatory behavior. Similar to the argument for the onset of conflict, states within a dyad that have high levels of DEI benefit from high exit costs and aim to maintain those relations. In other words, dyads with high levels of DEI are less likely to escalate conflict from one level of hostility to the next.

Multivariate Model Results

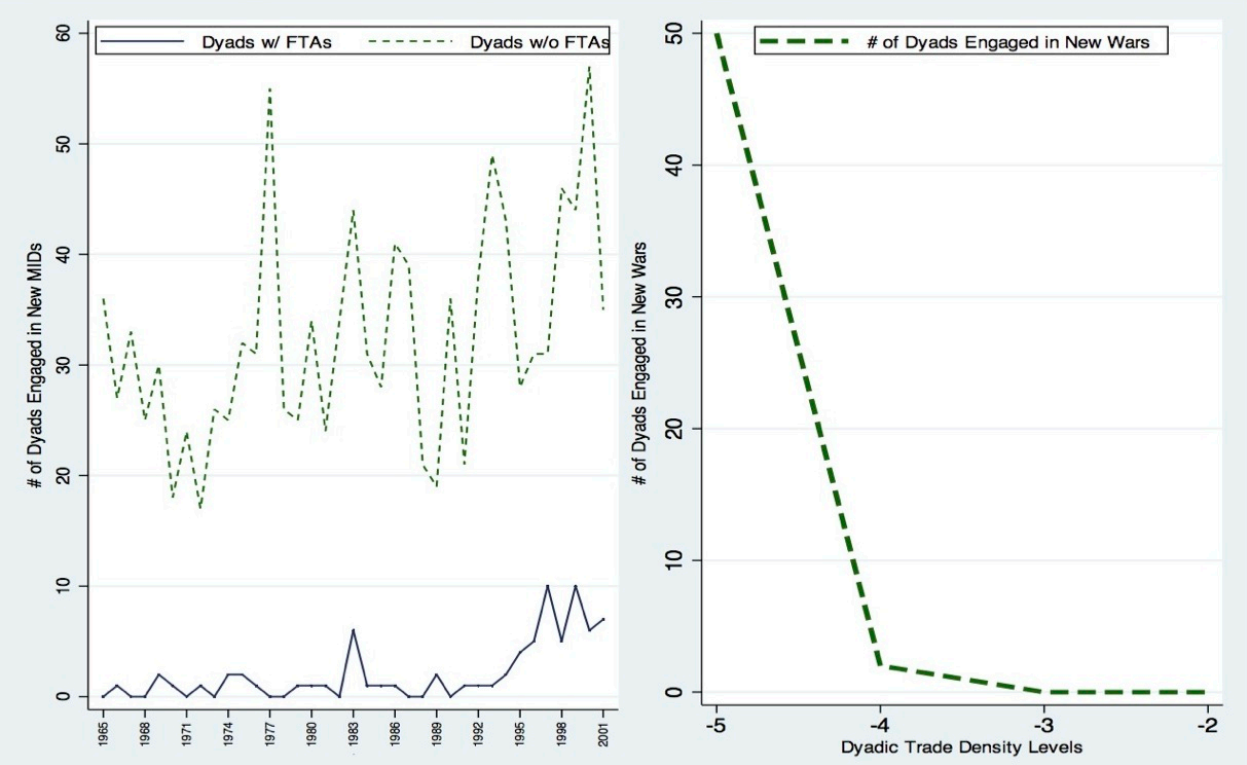
Although the proposed factor score variable of DEI is the only measure used in hypothesis testing, the results from the multivariate models are interesting, and in some cases exhibit considerably strong relationships. The independent variables with strong relationships with the dependent variables included in the multivariate models will be discussed. The three independent variables in the study are free trade agreements, dyadic trade density, and joint membership in economically-focused IGOs. Three points stand out as the most promising and interesting

relationships. First, free trade agreements are shown to have consistently strong relationships with each of the three dependent variables. In fact, the percentage changes in odds for each of the dependent variables range from a 60 to 70 percent reduction in the odds of conflict. Specifically, free trade agreements have statistically significant relationships with the onset and escalation of MIDs at the dyadic level with p-values below the .001 level. As theorized, free trade agreements have an influential impact on reducing the likelihood of conflict between states. These findings support my proposition that free trade agreements are special relationships that build trust and can bring peaceful relations to a given dyad, since they impose high exit costs to each state.

Second, dyadic trade density is the only variable in any model to have a statistically significant relationship with the onset of war below the .05 alpha level. As illustrated in table 1 above, dyadic trade density is inversely related to the onset of war and reduces the odds of war by 64 percent. This is an important finding because dyads that exhibit high levels of dyadic trade density are less likely to engage in new wars with one another. The increase in economic ties within the dyad as a ratio to the total trade of each state in the dyad influences the likelihood of war. Dyads with high levels of dyadic trade density may avoid war, therefore, to possibly avoid economic disruptions and avoid exit costs since war has the ability to severely cripple states, including their economic infrastructure. The relationships between free trade agreements and MIDs, and dyadic trade density and war, are illustrated in figure 6 below. The first graph on the left separates dyads with and without free trade agreements, and shows the number of new MIDs over time. As shown, dyads with free trade agreements are significantly less likely to engage in new MIDs. The second graph on the right illustrates the number of dyads engaged in new wars based on the level of dyadic trade density. As shown, as the level of dyadic trade density increases, the likelihood of war decreases dramatically. Note that the dyadic trade density

variable is measured as a natural logarithm, so values are all negative and those closer to zero are higher. In the case of dyadic trade density in figure 6 below, -5 represents the lowest level of dyadic trade density while -2 represents the highest level of dyadic trade density.

Figure 6: Relationships between FTAs, Dyadic Trade Density, and Conflict



Third, all three independent variables have strong negative and statistically significant relationships with the escalation of conflict. Dyads that engage in any of the independent variables in this study are less likely to engage in escalatory behavior. The strength of the statistical relationships are clear and consistent in that free trade agreements, dyadic trade density, and joint membership in economically-focused IGOs are all inversely related to the escalation of dyadic conflict.

As mentioned earlier, the following analyses on different predicted scenarios was conducted to understand the effects of DEI under different conditions, and for the sake of

curiosity. The results below are not indicative of the entire model already discussed, rather they highlight specific relationships between DEI and the onset of MIDs under various scenarios. Table 10 below includes these analyses.

Table 10: Predicted Scenarios Affecting the Likelihood of the Onset of MIDs

	Onset of MIDs				
	Predicted Probabilities of Dyads with Low DEI		Predicted Probabilities of Dyads with High DEI		Average % Change in Predicted Probabilities*
Dual Democracy Dyad	.036	[.009 , .092]	.007	[.001 , .022]	-80.63
Dual Autocracy Dyad	.054	[.014 , .142]	.010	[.002 , .035]	-80.35
Dual Democracy Dyad w/ Nuclear Weapons	.696	[.302 , .940]	.330	[.060 , .767]	-55.12
Dual Democracy Dyad w/o Nuclear Weapons	.039	[.009 , .109]	.007	[.001 , .020]	-81.42
Dyads with Power Parity	.805	[.431 , .970]	.468	[.101 , .874]	-43.98
Ethnically Similar Dyad	.870	[.544 , .983]	.582	[.154 , .925]	-34.70
Contiguous Dyads	.994	[.974 , .999]	.961	[.850 , .995]	-3.29

**Average percentage change based on 1,000 simulations. Average percentage changes are interpreted as "other things equal, a dyad with high DEI is X percent less/more likely to engage in Y than a dyad with low DEI."*

Notes: 95% confidence intervals in brackets. Predicted probabilities simulated using the Clarify software packaged from Tomz, Wittenberg, and King (2003).

Table 10 lists the results from analyses where different aspects of interstate relations were controlled. First, I examined the different dyadic regime types controlling for dual democratic dyads and dual autocratic dyads. In dual democratic dyads and dual autocratic dyads, the effects of DEI on the onset of MIDs is similar to earlier findings. Dual democratic and dual autocratic dyads with high levels of DEI, ceteris paribus, are 81 percent less likely to engage in MIDs than

dyads with low DEI. In addition, dual democratic dyads without nuclear weapons have a similar 81 percent reduction in the likelihood of the onset of MIDs. Dual democratic dyads with nuclear weapons, however, see a smaller reduction in the likelihood of the onset of MIDs with 55 percent. In fact, dual democratic dyads with nuclear weapons have a comparatively high predicted probability of conflict near 70 percent in dyads with low DEI, but that probability is reduced to 33 percent in dyads with high DEI. Similar to dual democratic dyads with nuclear weapons, dyads with a military balance and dyads that are ethnically similar both have a high predicted probability of conflict, however, those dyads with high levels of DEI are 44 and 35 percent less likely to engage in MIDs, respectively. Finally, contiguous dyads have a high predicted probability of conflict, and see a modest three percent reduction in the likelihood of the onset of MIDs in contiguous dyads with high levels of DEI. For each scenario, therefore, dyads with high levels of DEI are less likely to engage in MIDs than dyads with low levels of DEI.

In conclusion, although this study only covers the years from 1965 to 2001, the findings are strong and robust against a variety of alternatives. In this time period dyads refrained, almost entirely, from engaging in conflict when a given dyad reached high levels of DEI. Why is this the case? Without making normative predictions about the intentions of leaders, I can offer some theoretical foundations. First, dyads that make the commitment to develop long lasting economic relationships have a mutual benefit in preserving those relationships. Surely, no advanced economy can prosper in isolation, and thus states must engage in economic relationships with other states. If a political disagreement or potential conflictual issue arises, it may be the economic leaders, and politicians, that realize there is too much to lose economically if the states were to engage in conflict. Leaders must ask themselves if the costs of cutting the economic ties with a given state to engage in conflict outweigh the benefits, or the political goals. This causal

mechanism to reduce the chance of conflict is known as exit costs. A second reason may be that states which interact intensively with each other for economic means may develop high levels of trust and strong cooperative ties. When a conflictual issue arises, the leaders may work through the trusted channels developed through economic ties to pacify conflict. This line of reasoning fits well within the neo-liberal institutionalism paradigm where states can improve information about other states through international cooperation.

Robustness

Robustness testing is performed to ensure that the results are strong against a variety of changes to the standard models in a study. The idea for conducting robustness checks, therefore, is to ensure that the relationships are still meaningful if the model is changed. There is no agreed upon set of robustness checks that can be used in every study because much of the choice depends on the structure and type of data. Choosing robustness tests, after all, is a theoretical endeavor to imagine ways to modify the model under study to increase reliability and confidence in the results. One common way to conduct a robustness check is to remove some of the variables in a model. Another method is to drop certain observations or groups of observations based on theoretical considerations. For instance, a researcher can question whether certain types of observations are more influential than others. User-written programs for use with statistical software packages are the most complex, and sometimes the most thorough method to conduct robustness checks, especially with large datasets.

The findings presented above are robust against a variety of robustness tests. Specifically, the results are robust against attempts to drop certain dyads from the analysis, robust against the temporal change during the cold war eras, and robust against alternative model specifications. First, the findings are robust against dropping two high profile dyads, and one highly influential

state from the analysis completely. The USA-Russia dyad was dropped in one iteration of analysis because of the heightened hostilities between the two states during the cold war. The USA-Canada dyad was dropped in one iteration of analysis because of high levels of free trade after NAFTA was enacted between the two states. The USA was dropped entirely from one iteration because the USA tends to be the most interdependent and influential state. The core findings of the study illustrated in tables 5, 6, and 7, however, are robust against all three iterations of analysis where a dyad or state was dropped from the models. In other words, the findings remain the same even when these high profile observations are dropped from the analysis. This is important because these dyads, or states in the case of the USA, may skew the results since they have the potential to be highly influential for the reasons stated. Although it could be argued that other states or dyads may have a highly proportionate level of influence, I believe that the observations dropped from the different iterations best capture the relationship under study.

Second, the results were tested against the world state system change from a bipolar to a unipolar world after the cold war ended. It could be argued that the pattern of international conflict during the bipolar world order of the cold war was different from the current unipolar order. For instance, maybe the bipolarity of the world system had a pacifying effect on the interactions of dyads that considered themselves aligned with the USA or Soviet Union. On the other hand, the tension in the world may have increased the likelihood of conflict escalation. To test against these possibilities, I created two dummy variables to account for the separate temporal periods. Then, I conducted analysis which restricted the data based on one of the cold war temporal periods specified. In the end, I found that the results were robust during the cold war era from 1965 to 1990, and during the post-cold war era from 1991 to 2001. In other words,

the variables that were statistically significant in the original analysis were also significant for each of the cold war periods. Even more, the variables were in the same direction meaning that negative relationships in the original analysis were also negative during both cold war periods. Since the results remain the same during and after the cold war, it is safe to assume that DEI has an effect during the entire temporal period of the study from 1965 to 2001.

Third, the results were tested using a user-written software package to test a large variety of changes by systematically removing variables in the model in alternating iterations. The software "Checkrob" for Stata was used to automatically test 2,048 alternative model specifications where each iteration of the test dropped a different variable from the model (Barslund 2007). Interestingly, the findings are robust against a majority of the alternative model specifications. In fact, the full models performed better than 87 percent of the other model constructions generated by the software package. Furthermore, 71 percent of the alternative models had the same negative coefficients for the key independent variables as in the original models. In other words, this robustness check illustrates that the same inverse relationship between DEI and conflict that exists in the full models explained earlier in the chapter, also exists in 71 percent of the alternative models produced by the software package. Equally important, in 75 percent of the alternative models the same key independent variables were statistically significant as in the full models. So, the statistical significance of the relationships between DEI and conflict are robust against a large variety of different model specifications.

In conclusion, the results from this study are remarkably strong and provide clear indications that the level of DEI is inversely related to conflict. I found support for hypotheses 2 and 3 on the onset of MIDs and escalation of MIDs, while I failed to find support for hypothesis 3 on the onset of war. There were a number of interesting and strong relationships between the

independent variables and the dependent variables in the multivariate models as well. Finally, all of the results were treated to a variety of robustness checks to improve the confidence in the findings. In the next chapter, three dyads are considered as case studies in an attempt to apply these findings.

CHAPTER 6 CASE STUDIES

The study of DEI in my dissertation has focused on developing the theoretical aspects about the relationship between DEI and conflict. As discussed in chapter five, I have found evidence in support of my research question about the pacification of conflict through high levels of DEI. Specifically, I found statistically significant support for two out of the three hypotheses, showing that DEI reduces the likelihood of MIDs and conflict escalation. To explore these theoretical ideas and empirical findings, an application of the principles discussed throughout this study will be useful. As a result, the relationship between DEI and the likelihood of conflict within three relevant dyads will be examined. The following dyads will be used in this analysis: India-Pakistan, China-Taiwan, and Greece-Turkey. These three dyads were selected because over the years they have received international attention for their conflicts in the past, and all three have the potential for future and broader conflicts with each other.

Each of the three dyads under examination have a unique area of land where territorial control is contested. First, the India and Pakistan dyad has had numerous clashes over the Kashmir region, and which country ultimately possesses the land. Second, conflict in the China and Taiwan dyad is over the unification of Taiwan into the mainland of China. Third, the Greece and Turkey dyad has had a long history of conflict over the island of Cyprus, and which country controls it. The plan of this chapter is to understand the potential economic forces at work in the prevention of escalating conflict in each of these three cases. For each dyad an abbreviated history will be provided, which will aim to build a background for the areas under contention. The goal is to understand the nature of the contentious dyadic relationships, and set up a foundation for the application of my theoretical arguments. In addition, recent conflicts that

occurred during the temporal period of this study from 1965 to 2001 will be examined, and the role played by economic forces will be explored.

Based on the theory explained throughout this study, I argue that economic relationships within the dyads, specifically the levels of DEI, played a role in the likelihood of conflict, including the escalation to full interstate war. Interestingly, these three dyads have rarely engaged in full interstate war during the time period from 1965 to 2001, even though the conditions were ripe for war and open hostilities existed as various times. In fact, the Greece-Turkey and China-Taiwan dyads reached the use of force hostility level, while the India-Pakistan dyad reached the war hostility level. India and Pakistan engaged in three wars, the Second Kashmir War in 1965, the Indo-Pakistani War of 1971, and the Kargil War in 1999. In addition, India and Pakistan nearly engaged in interstate war in 2001 when both states moved troops to their respective borders of Kashmir. Greece and Turkey did engage in war through the country of Cyrpus in 1974 during the Turco-Cypriot War, but Greece and Turkey did not fight directly. One of the factors in preventing interstate war, therefore, may have been the levels of DEI that existed within these dyads. On the other hand, the timing of the dyads that exhibited low levels of DEI may have coincided with conflict during the time period when economic relationships were weak. This chapter seeks to explore these propositions about the role low or high levels of DEI may have had on the likelihood of conflict. Since the statistical analysis of these propositions are covered in the previous chapters, I will focus on the trends of economic integration and conflict within the dyads.

An interesting analysis is included below for each dyad where the status of the dyads is indicated at the annual level. Examining the dyads on an annual basis is possible because the dataset used in this study includes the necessary data. As a result, for each of the three dyads the

level of conflict and economic relationship status will be listed for every year from 1965 to 2001. With this data, trends may emerge over the time period where a dyad may have changing levels of economic integration, which may coincide with changing levels of conflict. There may be a dyad where economic integration increased over a period of time, and that dyad saw a decrease in the amount of conflict. For each dyad, the type of conflict will be separated into the annual hostility level and whether or not the conflict was new or ongoing. Note that the theoretical contention of this study argues that DEI reduces the likelihood of new MIDs, new wars, and the escalation of MIDs.

There were also major incidents in each dyad between 1965 and 2001 that I will include in this analysis. Each of the incidents had the potential to escalate into full interstate war. There are bound to be numerous political, economic, and societal factors that led to the decisions about conflict; however, my case analysis is designed to determine if the proposed theoretical model had an effect on the likelihood of war, or the escalation to war based on the level of dyadic DEI. The first dyad examined includes a discussion of the Kargil War of 1999 between India and Pakistan, which had the potential to escalate into a dangerous war. A full scale war between India and Pakistan would be extremely dangerous because both states are nuclear powers. Interestingly, private enterprise executives in India played a unique, but important part in persuading elected officials to end the conflict. The second dyad examined includes an analysis of the Taiwan Strait Crises of 1996 between China and Taiwan, which was related to the presidential elections in Taiwan, but provides an interesting case about economics and conflict. The China-Taiwan dyad is complex because Taiwan has become a strong player in the global economy, and receives political support from powerful western democracies like the United States. Taiwan, however, has an intricate economic relationship with mainland China as well,

which may have played a role in preventing open conflict in 1996. The third and final dyad examined includes a discussion about the relationship between Greece and Turkey, which has been strained over issues in the Aegean Sea and the island of Cyprus for some time. For instance, the border clash between Greece and Turkey in 1986, and the Sismik incident in 1987 highlighted the potential for a larger conflict during that time period. Greece and Turkey maintained economic ties during this time, and the two countries continued to settle disputes without engaging in full interstate war. Interestingly, in all three cases economic ties were evident, and although there were some casualties the states avoided further conflict. These cases will be explored in-depth to understand the role dense economic integration may have played in avoiding conflict.

India-Pakistan

The India and Pakistan dyad has had numerous conflicts over the land area known as Kashmir, with each side laying claim and attempting to push their own borders further into the region. It is over this contested region that the conflicts during the temporal period of this study (1965-2001) took place. China is the third party involved in the control over Kashmir, but China has not been as involved over the region as India and Pakistan have. The primary conflict over territorial control of Kashmir is between India and Pakistan. The history over Kashmir begins with the creation of the modern states of India and Pakistan. The area of land known as Kashmir is a remnant of British partitions that occurred when Great Britain released colonial control over the entire region in 1947 (Wolpert 2011). There are native residents of Kashmir, but India and Pakistan each contend that the territory should become part of their state. The relationship between India and Pakistan has centered around the control of Kashmir, where the issue has been a lightning rod which has sparked numerous conflicts and division. Not all conflict between the

states involve Kashmir, but instead are the result of competing religious views between Muslims and Hindus. More often, however, the primary dividing issue turns back to Kashmir. The conflicts between India and Pakistan have garnered global attention more recently since both states have obtained nuclear weapons. For instance, Stanley Wolpert argued that:

> "With their capitals and major cities less than ten ballistic missile-minutes from each other the two countries have become the world's most dangerous match for the potential ignition of a nuclear war that could decimate South Asia and poison every region on earth. So unthinkable a global tragedy almost occurred in the summer of 1999 in Kargil ... " (Wolpert 2011, 2).

In addition, a similar conflict between the two nuclear powers almost ignited in 2001 over an attempted terrorist attack on Indian political leaders. Pakistan, which is a country where dangerous terrorist organizations exist, is in a unique geographical position. The United States views Pakistan as a barrier to the countries it views as being more dangerous, namely Afghanistan and Iran (Wolpert 2011). For this reason, Pakistan has received military aid from the United States at various times. For instance, after the attacks on September 11 in 2001, the United States restored military aid to Pakistan in an effort to combat terrorism. The trouble is that, depending on the source, Pakistan may actually be financially sponsoring certain terrorist groups or acts. Although this argument is vehemently denied by Pakistani officials, the truth remains that terrorist groups like Al-Qaeda retain a strong and well-known presence in Pakistan. All of these issues complicate the relationship between India, Pakistan, and international players like the United Nations and United States. Truly, the India and Pakistan relationship is one that will be watched closely by the international community.

In terms of conflicts, there were a total of three wars that occurred within the temporal period of this study from 1965 to 2001, but the two wars over the region of Kashmir stand out as

the most troubling. This is especially true because the conflict over territorial control of Kashmir is still to this day far from resolved. One war that occurred that did not involve Kashmir was the Indo-Pakistani War of 1971. The war in 1971 between India and Pakistan eventually led to the creation of the country of Bangladesh, an area that some Pakistanis believed to be inhabited by people that were not Pakistani enough (Wolpert 2011). During this conflict Pakistan requested aid from China and the United States, but did not receive the support they required to stop the breakup of eastern Pakistan into the new state of Bangladesh. Instead, India, with military aid from the Soviet Union, was able to support the creation of Bangladesh.

There were two wars between India and Pakistan over Kashmir from 1965 to 2001. What is known as the Second Kashmir War occurred in 1965, where India attempted to move their border farther within Kashmir (Wolpert 2011). The war ended with international pressure for a ceasefire, which ultimately lasted until the war in 1971. A more recent conflict over Kashmir, one that occurred when it was feared India and Pakistan may result to the use of nuclear weapons, is the Kargil War. The incident during the conflict over Kashmir stands out because it was the first conflict between the states with the potential to escalate to the use of nuclear weapons. The Kargil War in 1999 between India and Pakistan began over the contested area of Kashmir; which by 1999 the two countries had been engaged in open conflict with each other over the past six years. As mentioned, Kashmir is a long disputed territory between India and Pakistan, but aggressive "nibbling" in 1999 by Pakistan is cited as the spark that escalated the conflict into a dangerous clash with India (Chari 2007). The conflict was escalated in October of 1998 when General Pervez Musharraf moved troops into Kashmir by infiltrating "Indian-built bunkers on the Line of Control in Kargil" (Wolpert 2011, 73). The bunkers were unoccupied by Indian forces during the cold months in this mountainous region. These Pakistani troops,

however, were moved in to Kashmir without informing Nawaz Sharif, who was the prime minister in Pakistan at the time. General Musharraf appeared to act opportunistically, but whether or not the prime minister was aware of the infiltration is unclear. In retaliation to Pakistan's attempt to push into Kashmir, India commenced attacks against the Pakistani-backed troops who moved past the established line of control (BBC 2002). In fact, India responded with "heavy artillery, troops, and planes, … and Pakistan had lost more than a thousand men" (Wolpert 2011, 73). The conflict appeared to be spiraling out of control and garnered attention from the international community. For instance, President Clinton told Pakistan to pull out of Kashmir, or the "United States would not be able to stop India from 'escalating' the war," implying the potential for a full scale invasion or the use of nuclear weapons (Wolpert 2011, 74). Soon after that meeting there was a ceasefire declared in July 1999 between India and Pakistan. The ceasefire, unfortunately, only lasted a short time when the states nearly engaged in yet another conflict in 2001.

The standoff in 2001 between India and Pakistan did not begin over Kashmir, rather it began with an attempted terrorist attack on Indian government leaders. The terrorists, who originated from Pakistan, were stopped before killing any elected officials, but some Indian guards died in the assault. In response to this attack, India moved its massive army to the border of Kashmir (Wolpert 2011). Pakistan responded and moved troops to the Kashmir border as well where war, and the threat of a nuclear exchange was a real possibility. Two things happened that forced India to pull back from the brink of war. First, in June 2002 the US State Department labeled India as being too dangerous for United States citizens, and encouraged US citizens to leave the country immediately (Wolpert 2011). Second, large multinational corporations operating in India, like General Electric, pulled their staff and threatened to pull their invested

capital out of India over fears of war (Wolpert 2011). For instance, it has been stated that business executives in the information technology sector pressured the Indian government to avoid further escalating the conflict between the two states (Friedman 2002a). Friedman explains how an Indian executive received an email from an American company about concerns for military hostilities, and was concerned with how it may affect their back room technology facility in India. Furthermore, N. Krishnakumar, the president of the Indian-based company MindTree, stated that "conflict can cause chaos if there is a disruption," referring to the potential economic issues from conflict between India and Pakistan (Friedman 2002b). In other words, conflict between the countries can disrupt normal business activities, or threaten the existence of those corporations altogether. Avoiding such conflicts provides corporations with the required political-economic stability needed to operate. Business leaders in India lobbied the government to avoid the disruptions of conflict through the Confederation of India Industry (CII) interest group. The stated goal of the CII is that it "works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes" (CII 2013). Although the CII states that its purpose is not to interfere with foreign policy, the interest groups does have considerable leverage in terms of making political officials aware of the economic costs of conflict. Such costs to the country would include the loss of FDI, which is essential to the Indian economy that is so intricately tied to the global economy. Economic leaders, therefore, may have felt there was too much to lose financially if India escalated the conflict with Pakistan. India buckled under this pressure because although it has a vibrant and growing economy, the Indian economy is still highly dependent on foreign direct investment and providing back room support for multinational corporations. In the end, Pakistan and India bowed to strong American and international pressure to avoid escalating

the conflict any further. It appears, therefore, that economic ties may have played a role in the pacification of conflict escalation where international political and economic forces converged to avoid the potential for war.

The role of international economic pressure is examined below within the context of this study on the role of DEI. As illustrated in table 11, the level of DEI and the conflict status for the India-Pakistan dyad is indicated from 1965 to 2001. The table also shows whether the dyad had an FTA, had joint membership in an economically-focused IGO, what the level of dyadic trade density was, and the highest dyadic hostility level recorded during a given year. The new dispute column indicates whether the conflict between the states was a new dispute or was ongoing from a previous year. The total number of years an FTA or IGO membership was present in the dyad is indicated at the bottom of the table. Also, the average level of dyadic trade density and the average hostility level is listed at the bottom of the table.

Table 11: India-Pakistan Dyad Statistics

			India-Pakistan			
Year	DEI Level	Free Trade Agreement	Dyadic Trade Density	Joint IGO Membership	Highest Hostility Level	New Dispute
1965	Low DEI	No	-4.021	Yes	War	Yes
1966	Low DEI	No	-4.563	Yes	Use of force	No
1967	Low DEI	No	-4.556	Yes	Use of force	Yes
1968	Low DEI	No	-4.600	Yes	Not a dispute dyad	No
1969	Low DEI	No	-4.605	Yes	Use of force	Yes
1970	Low DEI	No	-4.601	Yes	Use of force	No
1971	Low DEI	No	-4.600	Yes	War	Yes
1972	Low DEI	No	-4.604	Yes	Use of force	Yes
1973	Low DEI	No	-4.605	Yes	Not a dispute dyad	No
1974	Low DEI	No	-4.605	Yes	Not a dispute dyad	No
1975	Low DEI	No	-4.458	Yes	Not a dispute dyad	No
1976	Low DEI	No	-4.531	Yes	Not a dispute dyad	No
1977	Low DEI	No	-4.244	Yes	Not a dispute dyad	No
1978	Low DEI	No	-4.339	Yes	Not a dispute dyad	No
1979	Low DEI	No	-4.391	Yes	Not a dispute dyad	No
1980	Low DEI	No	-4.376	Yes	Not a dispute dyad	No
1981	Low DEI	No	-4.369	Yes	Use of force	Yes
1982	Low DEI	No	-4.448	Yes	Display of force	Yes
1983	Low DEI	No	-4.537	Yes	Use of force	Yes
1984	Low DEI	No	-4.506	Yes	Use of force	Yes
1985	Low DEI	No	-4.482	Yes	Use of force	Yes
1986	Low DEI	No	-4.525	Yes	Use of force	Yes
1987	Low DEI	No	-4.516	Yes	Not a dispute dyad	No
1988	Low DEI	No	-4.462	Yes	Not a dispute dyad	No
1989	Low DEI	No	-4.476	Yes	Not a dispute dyad	No
1990	Low DEI	No	-4.452	Yes	Use of force	Yes
1991	Low DEI	No	-4.427	Yes	Use of force	Yes
1992	Low DEI	No	-4.316	Yes	Not a dispute dyad	No
1993	Low DEI	No	-4.427	Yes	War	Yes
1994	Low DEI	No	-4.439	Yes	War	No
1995	Low DEI	No	-4.474	Yes	War	No
1996	Low DEI	No	-4.360	Yes	War	No
1997	Low DEI	No	-4.429	Yes	War	No
1998	Low DEI	No	-4.306	Yes	War	No
1999	Low DEI	No	-4.396	Yes	War	No
2000	Low DEI	No	-4.410	Yes	Use of force	No
2001	Low DEI	No	-4.379	Yes	Use of force	Yes

Statistics	Average Level of DEI	Total # of Years with an FTA	Average Dyadic Trade Density	Total # of Years with Joint IGO	Average Hostility (5 point scale)	Total # of New Disputes
	Low	0	-4.455	37	2.162	15

The data in table 11 illustrates how contentious the relationship between India and Pakistan has been over the years. In all of the years from 1965 to 2001, the dyad has exhibited low levels of DEI and has been involved in conflict a majority of the time. In fact, India and Pakistan have been involved in MIDs with each other in 65 percent of the years from 1965 to 2001. In addition, 96 percent of those MIDs between India and Pakistan have included the use of force. Although I have highlighted three wars within the dyad, the states have been living under the threat of conflict in most years.

The potential for peace between India and Pakistan is unlikely until the issues over Kashmir are fully resolved. At any given time, either country may provoke the other over this territorial dispute and reignite old conflicts. As Stanley Wolpert argues, "bilateral Indo-Pakistani agreements specifying greater cooperation economically, educationally, and culturally between New Delhi and Islamabad would ... be required as part of ... [a] permanent peace process" (Wolpert 2011, 99). Without such integration between the states, Wolpert believes that the states will not be able to resolve the issues they have over Kashmir.

China-Taiwan

The China and Taiwan dyad is unique because China does not even recognize Taiwan as a sovereign state, but rather a rogue attempt to remain separate from the mainland of China. Taiwan, however, desires to be recognized internationally as a sovereign state, whereas today the country only receives unofficial support. Thus, the contention over the land is complicated and looks to remain unresolved for some time. The China-Taiwan dyad is different from the India-Pakistan and Greece-Turkey dyads, which focus on periphery territories, because in the China-Taiwan dyad, Taiwan itself is the territory under dispute. China calls for the unification of Taiwan with the mainland. Taiwan, wanting to retain pseudo independence, must balance

between resisting unification with China on one hand, while simultaneously maintaining peaceful relations with China on the other. In other words, the goal is to resist China's ambitions for unification without provoking China into an aggressive stance. The current state of the relationship requires that Taiwanese officials pay at least lip service for the potential for unification (see Gong 2000; Rigger 2011; Tian 2006). For instance, Shelly Rigger states that:

> balancing Taiwan citizens' desire to maintain, even enrich, the benefits they enjoy as a self-governing democracy with the need to pacify, or at least keep at bay, the PRC's demand for unification. Differences of opinion about precisely what Taiwan should be striving for and how to achieve it are at the heart of the island's political life (Rigger 2011, 6).

Taiwan maintains a highly political active population where there are a variety of long-held views about how Taiwan can achieve its goals. The unique relationship between China and Taiwan is a result of troubled history for the island of Taiwan, which has been the pawn in wars and claimed by competing colonial powers throughout history. The population of the island, therefore, is a mix of different cultures and people supplanted over time. A short history about the island will bring clarity to why the relationship is so contentious between China and Taiwan.

Taiwan originally was an unsettled island which was occupied four thousand years ago by Austronesians (Rigger 2011). The natives still live on the island today, but in a diminished, sometimes nonexistent role. In more recent history, Taiwan was settled by the Dutch East India Company in 1623 that used the island as a trading post. Later in 1626, the Spanish arrived on the island. Together the European powers expanded their settlements on the island and promoted in-fighting among the natives to safeguard their presence. It was not until 1683 when China first incorporated Taiwan under the Qing Empire. China maintained control of Taiwan for over two hundred years before ceding the island to Japan in 1895 following a war between the countries.

Japan worked to modernize the island of Taiwan, and used the island as a showplace to the world that Japan was a major colonial power. For this reason, Taiwan benefitted from large infrastructure and education investments from Japan (Rigger 2011). Japan was still very much a colonial power and the people of Taiwan had little control over their own land. Taiwan remained under Japanese control until the end of World War II, when Japan, as part of their surrender, ceded control of Taiwan to China in 1945. Specifically, Japan ceded control of the island to the Republic of China (Rigger 2011, 24).

The government in China at the time was the Republic of China (ROC), which was worried over the growing communist faction within the state. The ROC government was ultimately ousted from the mainland by the People's Republic of China (PRC) in 1949, and the remaining members of the ROC fled to Taiwan. The PRC is a communist government that won supporters during a time when China was suffering economically, and its military was exhausted from conflicts (Rigger 2011). The ROC operating in Taiwan viewed the PRC as a force that had to be overturned to reclaim China. As Shelly Rigger explains, the ROC members that fled to Taiwan:

> believed the Chinese mainland was trapped under the boot heel of un-Chinese, tyrannical outlaws, and it was the sacred responsibility of all Chinese, including the Chinese on Taiwan, to rescue their motherland from Communism. Their vision for Taiwan was clear: it must be built into a bastion of Chinese nationalism from which the campaign to recover the mainland could be mounted. To accomplish that vision they believed it was necessary to enforce political conformity, inculcate nationalist zeal, rebuild economic prosperity, and acquire military might. Those four tasks were the pillars on which the Republic of China on Taiwan was built. (Rigger 2011, 28).

Today the PRC controls China, while the ROC is the recognized government of Taiwan. The relationship is complicated, and Taiwan cannot declare its true independence because of the threat imposed by China. As Shelly Rigger explains:

> to survive as an autonomous political entity, Taiwan has accepted a compromise. It cannot call itself the Republic of Taiwan, but it can and does assert the statehood of the Republic of China [ROC], a state once universally recognized, now reduced in territory but still robust within its own jurisdiction. That compromise satisfies everyone, and it satisfies no one. (Rigger 2011, 9).

Taiwan is therefore internationally known as the ROC, but that practice only maintains the lingering call for unification from China alive. Taiwan's government, in other words, has China in its name. As the ROC, Taiwan sounds very much like it is an island governed by China, even though the citizens of Taiwan do not see themselves as being part of China. China, on the other hand, is content with Taiwan calling itself the ROC, but it fails to meet the long sought after end goal of unification. As Rigger argued, the current state of political affairs appeases China's desire for unification, and keeps Taiwan from asserting too much freedom as an autonomous state. Taiwan, however, has been able to resist he communist regime in China and pursue a democratic form of government. The line Taiwan is balancing on is difficult to maintain, and the fear of provoking China is a real threat. One path Taiwan has pursued is integrating into the Chinese economy, which may help maintain current peaceful relations. For instance, as United States Senator James Leach has said, "Taiwan can have democracy or independence, but not both. Increasingly, too, Taiwan's economic prosperity rests on maintaining cooperative relations with China, which is its top target for trade and investment" (Rigger 2011, 6).

Although Taiwan resists political unification with China, the country realizes the benefits for economic integration with the mainland. China also realizes these economic benefits and has

begun opening trade relations with Taiwan. In fact, as I will show in table 12, China and Taiwan have steadily increased their level of DEI with each other, reaching the highest levels in the 2000s. The inherent danger for Taiwan with increasing cooperation with China is that China may choose to use its position as leverage against Taiwan, especially if Taiwan's economy becomes too dependent on China. As Shelly Rigger argues, the strategy of increased cooperation with China benefits:

> Taiwan in the short run. It minimizes the chances of conflict with the PRC, it maximizes mutually beneficial cooperation between the two sides, and it does not rule out any possibility in the long term. But there is risk in this approach. Interdependence constrains the PRC, but it constrains Taiwan, too, and many Taiwanese worry that being the small player in this game puts Taiwan at particular risk. Today's cooperative engagement can become tomorrow's coercive leverage, and China is vastly larger and insists it will sacrifice its people's short-term interests to achieve its strategic goals. (Rigger 2011, 9).

For Taiwan, however, the strategy of increasing cooperation with China seems to be the best for the country right now. Taiwan's economy has become a global power and part of that growth began with integrating with the Chinese economy. Even more, abandoning economic relations with China may provoke China to seek unification more aggressively to bring Taiwan's economy under their control.

The most recent conflict between China and Taiwan had the potential to escalate into war, and involved countries like the United States who participated in support of Taiwan. This conflict highlights the political tension between the states that remains despite their increased economic cooperation. The Taiwan Strait Crises of 1996 originated with Chinese opposition to the leading candidate in the presidential elections in Taiwan (Ross 2000; Rubinstein 2007; Tucker 2005). In the conflict, China conducted a show of force by firing missiles in the water near a busy port in Taiwan. The move by China was aimed at compelling Taiwan to not vote for

Lee Teng-Hui, who was running for president on a platform against the Chinese policy of unification. In other words, Lee Teng-Hui was working towards establishing permanent Taiwanese independence, directly in opposition to the status quo agreement of a non-permanent independent Taiwan. Lee Teng-Hui wanted to shut the door on the possibility of unification, and focus on building a politically and economically strong Taiwan that was not associated with China. Before hostilities escalated out of control, China backed down from their aggressive stance primarily from pressure the United States was applying to support independence in Taiwan. In fact, President Clinton moved a naval battle group as a show of force that the United States was willing to intervene.

Another aspect of the conflict involved the growing level of China-Taiwan economic interdependence. At the time of the crisis, for instance, China and Taiwan had only recently started to increase their economic integration, and this economic cooperation may have played a part in pacifying further conflict. China and Taiwan were beginning to benefit from the increased economic integration, and these financial benefits would have erected exit costs within the dyad. In other words, breaking the burgeoning economic ties may have proved to be too costly for China and Taiwan. For instance, business association groups like the Overseas Chinese Affairs Council in Taiwan, and the China Enterprise Confederation (CEC) in China serve as a link between enterprises and government. These associations, therefore, function to make government aware of the impacts various policies may have on their economic initiatives and function. As one commenter wrote, "people in Taiwan understand their economic dependence on the mainland and they have no intention to provoke the Chinese leadership. Even President Chen Shui-bian ... in 2000 had to pledge not to violate Beijing's Baseline" (Cheng 2012). Similarly, the chairman of the Taiwan Mergers & Acquisitions and Private Equity Council stated that,

"economic convergence will gradually lead to political convergence" (Enav 2010). This view is shared by other members of the business community in similar statements about the future of economic and political ties between China and Taiwan. As the head of research at Taiwan's Yuanta Investment Consulting argues, "the two economies have now converged ... my estimate is that 40-60 percent of the market capitalization of the Taiwan Stock Exchange is oriented toward China" (Enav 2010). These optimistic views of economic ties bringing China and Taiwan together politically may be short-lived. For example, more recently economic tensions have developed between Taiwan and China when Taiwan was excluded from some new FTAs in the region mainly as a result of Chinese pressure (Economist 2010). The China and Taiwan relationship is complex and China is able to leverage its position as a global economic power. The role played in the conflict by economic groups like the business associations in China and Taiwan is not clear, but the potential for influencing the governments was possible. In the end, therefore, the two forces of international political economy, political pressure from the United States and dyadic economic cooperation, may have worked in tandem to pacify this conflict.

As illustrated in table 12, the level of DEI and the conflict status for the China-Taiwan dyad is indicated from 1965 to 2001. The table also shows whether the dyad had an FTA, had joint membership in an economically-focused IGO, what the level of dyadic trade density was, and the highest dyadic hostility level recorded during a given year. The new dispute column indicates whether the conflict between the states was a new dispute or was ongoing from a previous year. The total number of years an FTA or IGO membership was present in the dyad is indicated at the bottom of the table. Also, the average level of dyadic trade density and the average hostility level is listed at the bottom of the table.

Table 12: China-Taiwan Dyad Statistics

			China-Taiwan			
Year	DEI Level	Free Trade Agreement	Dyadic Trade Density	Joint IGO Membership	Highest Hostility Level	New Dispute
1965	Low DEI	No	-4.605	No	Use of force	No
1966	Low DEI	No	-4.605	No	Use of force	No
1967	Low DEI	No	-4.605	No	Use of force	Yes
1968	Low DEI	No	-4.605	No	Not a dispute dyad	No
1969	Low DEI	No	-4.605	No	Not a dispute dyad	No
1970	Low DEI	No	-4.605	No	Not a dispute dyad	No
1971	Low DEI	No	-4.605	No	Not a dispute dyad	No
1972	Low DEI	No	-4.605	No	Not a dispute dyad	No
1973	Low DEI	No	-4.605	No	Not a dispute dyad	No
1974	Low DEI	No	-4.605	No	Not a dispute dyad	No
1975	Low DEI	No	-4.605	No	Not a dispute dyad	No
1976	Low DEI	No	-4.605	No	Not a dispute dyad	No
1977	Low DEI	No	-4.605	No	Not a dispute dyad	No
1978	Low DEI	No	-4.605	No	Not a dispute dyad	No
1979	Low DEI	No	-4.605	No	Not a dispute dyad	No
1980	Low DEI	No	-4.605	No	Not a dispute dyad	No
1981	Low DEI	No	-4.605	No	Not a dispute dyad	No
1982	Low DEI	No	-4.605	No	Not a dispute dyad	No
1983	Low DEI	No	-4.605	No	Not a dispute dyad	No
1984	Low DEI	No	-4.605	No	Not a dispute dyad	No
1985	Low DEI	No	-4.605	No	Not a dispute dyad	No
1986	Low DEI	No	-4.605	No	Not a dispute dyad	No
1987	Low DEI	No	-4.605	No	Use of force	Yes
1988	Low DEI	No	-4.605	No	Use of force	Yes
1989	Low DEI	No	-4.605	No	Not a dispute dyad	No
1990	Low DEI	No	-4.471	No	Not a dispute dyad	No
1991	Low DEI	No	-4.408	Yes	Display of force	Yes
1992	Low DEI	No	-4.396	Yes	Not a dispute dyad	No
1993	Low DEI	No	-4.352	Yes	Display of force	Yes
1994	Low DEI	No	-4.213	Yes	Display of force	Yes
1995	Low DEI	No	-4.075	Yes	Use of force	Yes
1996	Low DEI	No	-4.060	Yes	Display of force	No
1997	Low DEI	No	-4.013	Yes	Not a dispute dyad	No
1998	Medium DEI	No	-3.955	Yes	Not a dispute dyad	No
1999	Medium DEI	No	-3.825	Yes	Display of force	Yes
2000	Medium DEI	No	-3.746	Yes	Display of force	No
2001	Medium DEI	No	-3.718	Yes	Display of force	Yes

Statistics	Average Level of DEI	Total # of Years with an FTA	Average Dyadic Trade Density	Total # of Years with Joint IGO	Average Hostility (5 point scale)	Total # of New Disputes
	Low	0	-4.442	11	0.865	9

The data in table 12 illustrates the tense relationship between China and Taiwan, but compared to India and Pakistan, the China-Taiwan dyad is less conflictual. In fact, China and Taiwan were engaged in conflict during 35 percent of the years from 1965 to 2001. The years of conflict, however, were not all violent with 46 percent of those MIDs between China and Taiwan including the use of force. For the majority of the temporal period, from 1965 to 1990, China and Taiwan maintained their lowest levels of DEI. The dyad, however, began to integrate their economies in 1991 and continued on through 2001. During the last four years of the temporal period from 1998 to 2001, the dyad reached medium levels of DEI. Furthermore, from the start of the economic integration period in 1991 through 2001 the dyad only once resorted to the use of force. In addition, there was no use of force between the states when the dyad reached the medium DEI levels. This implies that DEI may have pacified the relations between the states, a similar argument about the role of economic interdependence was made in previous research about the China-Taiwan dyad (see Kastner 2009). Increases in the level of economic integration within the dyad is important because the China and Taiwan relationship is far from resolved, but this data points to economic cooperation that may lead to political cooperation.

The future of the China-Taiwan dyad is complicated and unclear. It seems likely that China will continue to call for the unification of Taiwan and the mainland to form one China. On the other side, the goals of Taiwan seem resolute in the fact that the state remains committed to democracy and increasing their economic presence in the world. One group within Taiwan, however, may see things differently. It is possible that the original goals of the ROC to reclaim China from communist rule may resurface in Taiwan, but the chance of gaining a majority of Taiwanese to support this initiative seems unlikely. This is especially true because China has the economic and military might to dominate Taiwan if it chose to. As seen with the Taiwan Strait

Crisis in 1996, however, other states are keeping a close eye and will come to the aid of Taiwan in the face of an aggressive China. As Richard Bush, a former Taiwan policy maker serving under Presidents Clinton and George W. Bush, stated in an interview with Shelley Rigger:

> On the importance of Taiwan, there are a variety of answers that I might give. It's a touchstone of American credibility for both our allies and others. It's a debt we owe to the people of Taiwan for having ignored their interests as we cut strategic bargains [with Beijing]. But my current answer to the question is that how the Taiwan Strait issue is resolved is an important test— perhaps the most important test— of what kind of great power China will be and of how the U.S. will play its role as the guardian of the international system (Rigger 2011, 193).

Greece-Turkey

The Greece and Turkey dyad has had a long history of contention, primarily over the island of Cyprus. In fact, the conflicts that occurred between Greece and Turkey during the temporal period of this study (1965-2001) originated over issues involving Cyprus and territorial control in the Aegean Sea. From a historical perspective, Cyprus, originally used as a trading post, has been viewed as little more than a pawn in larger political conflicts. The island played a role in the Crimean War, serving as a conquest interest of the Ottoman Empire although in reality it was Britain who obtained Cyprus. Later, during World Wars I and II, Cyprus remained under British control until 1960 when the island was granted independence. Britain, however, remained as a guarantor power of Cyprus. The overall issue with Cyprus has been the territorial control over the island, which Greece and Turkey continue to conflict over. The population on the island is comprised of people from Greece and Turkey, with Greek Cypriots making up the majority with roughly 70 percent (CIA.gov 2012). Turkish Cypriots make up less than the remaining 30 percent of the population. Complicating matters is that each side operates independently, where Greece Cyprus has become a European Union member, while Turkey

Cyprus was declined membership. The officially recognized government by the United Nations is the Republic of Cyprus, which represents the southern Greek Cypriot nation. Only Turkey recognizes the separate northern portion of Cyprus called the Turkish Republic of Northern Cyprus. The island was considered a British colony until the constitution was ratified in 1960, where Britain began serving as an administrative power. Under the 1960 constitution, a Greek Cypriot serves as the president, while a Turkish Cypriot serves as the vice president. Complicating matters further is that the economic opportunities are different for the Greek and Turkish sides of the island. The Greek side is integrated into the European Union, therefore benefiting from the free trade of capital and labor. The Turkish side of the island, however, is essentially economically isolated from the outside world.

The incidents that occurred in the 1970s and 1980s between Greece and Turkey were instigated over territorial disputes. The conflict between Greece and Turkey on the island of Cyprus, known as the Turco-Cypriot War of 1974, is the most recent and bloody conflict between the states (Oberling 1982). The conflict began when Eoka and junta generals in Greece decided to stage a coup d'état to overthrow the Greek president Makarios serving on the island of Cyprus. Turkey initially responded to this attack by reaching out to Britain, who was still serving as an administrative power. Britain did not provide assistance, and Turkey moved troops to the northern part of the Cyprus since that is the area populated mostly by Turkish Cypriots. Within 24 hours a ceasefire was agreed upon through the United Nations, and the ousted Greek president was reinstated. The result of the conflict was the institution of a peace line, known as the Attila Line, which was facilitated by United Nations Peacekeepers. This peace line had the result of dividing the island with the northern portion being held by the Turkish Cypriots, and the southern portion being held by the Greek Cypriots. This dividing line remains today, and

essentially separates the island into the internationally recognized state of southern Cyprus known as the Republic of Cyprus, and the northern Cyprus state of the Turkish Republic of Northern Cyprus recognized only by Turkey.

The border clash in 1986 and the Sismik incident in 1987, highlight the contentious relationship between Greece and Turkey over territorial control in the Aegean (Gianaris 1988; Polyviou 1980; L. A. Times 1986; N. Y. Times 1986). Although the two states have reconciled their relationship in recent years, disputes over territory in the Aegean Sea from 1986 to 1987 had the potential to escalate into a broader conflict. The border clash in 1986, involved Greek and Turkish troops firing at one another resulting in three casualties. Both sides claim competing accounts of the incident about whether Turkish or Greek troops crossed the border and which side fired first. It was reported by the Greek Defense Ministry that both sides met and agreed that the clash was only a "local incident" (L. A. Times 1986; N. Y. Times 1986). No further military actions were taken by either side following this short border clash. In another incident in 1987, Turkey announced plans to send a survey ship named the Sismik-1, accompanied by warships, to search for oil in waters claimed by Greece in the Aegean Sea (Cowell 1987). Greece responded by announcing that the survey vessel would be sunk if found in territorial waters. In response, Turkey stated they "will act in the same way against" Greece vessels (Cowell 1987). Both Greek and Turkish militaries were set on alert and war seemed a definite possibility. Turkey, however, made a decision to keep the survey ship in Turkish waters following pressure from NATO and the United States. This reconsideration by Turkey ended the conflict with Greece over the Sismik-1 vessel. Interestingly, Greece and Turkey had low levels of economic integration during this time period, but that changed in the years following this incident. In fact, Greece and Turkey began to increase their economic relationship in 1989, and it could be argued that these

interactions may have helped to pacify the escalation of further conflicts. For instance, a joint business community between the states supported peaceful relations. The Turkish-Greek Business Council, founded in 1988, strives "to contribute to the development of the relations between the two countries" (Turkey-Now.org 2013). In addition, (Balkir 2010, 1) argues that, "the Turkish Cypriot business community is an increasingly leading political actor striving for the solution of the conflict." Even more, (Balkir 2010, 4) states that, "the objective of achieving integration between the two countries in the economic and financial fields as well as achieving partial integration in matters of security, defense and foreign affairs has always been the first and foremost item on the agenda." The business community between the states, therefore, may have a played an important role in creating an economic bridge between Turkey and Greece which has spilled over into the political realm.

As illustrated in table 13, the level of DEI and the conflict status for the Greece-Turkey dyad is indicated from 1965 to 2001. The table also shows whether the dyad had an FTA, had joint membership in an economically-focused IGO, what the level of dyadic trade density was, and the highest dyadic hostility level recorded during a given year. The new dispute column indicates whether the conflict between the states was a new dispute or was ongoing from a previous year. The total number of years an FTA or IGO membership was present in the dyad is indicated at the bottom of the table. Also, the average level of dyadic trade density and the average hostility level is listed at the bottom of the table.

Table 13: Greece-Turkey Dyad Statistics

Greece-Turkey						
Year	DEI Level	Free Trade Agreement	Dyadic Trade Density	Joint IGO Membership	Highest Hostility Level	New Dispute
1965	Low DEI	No	-4.324	Yes	Not a dispute dyad	No
1966	Low DEI	No	-4.405	Yes	Not a dispute dyad	No
1967	Low DEI	No	-4.467	Yes	Display of force	Yes
1968	Low DEI	No	-4.478	Yes	Not a dispute dyad	No
1969	Low DEI	No	-4.363	Yes	Not a dispute dyad	No
1970	Low DEI	No	-4.463	Yes	Not a dispute dyad	No
1971	Low DEI	No	-4.479	Yes	Not a dispute dyad	No
1972	Low DEI	No	-4.343	Yes	Not a dispute dyad	No
1973	Low DEI	No	-4.321	Yes	Not a dispute dyad	No
1974	Low DEI	No	-4.305	Yes	Display of force	Yes
1975	Low DEI	No	-4.597	Yes	Threat	Yes
1976	Low DEI	No	-4.561	Yes	Display of force	Yes
1977	Low DEI	No	-4.500	Yes	Not a dispute dyad	No
1978	Low DEI	No	-4.554	Yes	Use of force	Yes
1979	Low DEI	No	-4.404	Yes	Not a dispute dyad	No
1980	Low DEI	No	-4.350	Yes	Not a dispute dyad	No
1981	Low DEI	No	-4.456	Yes	Display of force	Yes
1982	Low DEI	No	-4.498	Yes	Use of force	Yes
1983	Low DEI	No	-4.214	Yes	Use of force	No
1984	Low DEI	No	-4.387	Yes	Use of force	No
1985	Low DEI	No	-4.412	Yes	Threat	No
1986	Low DEI	No	-4.342	Yes	Use of force	Yes
1987	Low DEI	No	-4.281	Yes	Use of force	No
1988	Low DEI	No	-4.341	Yes	Not a dispute dyad	No
1989	Low DEI	No	-4.239	Yes	Display of force	Yes
1990	Low DEI	No	-4.251	Yes	Not a dispute dyad	No
1991	Low DEI	No	-4.285	Yes	Not a dispute dyad	No
1992	Low DEI	No	-4.324	Yes	Not a dispute dyad	No
1993	Low DEI	No	-4.306	Yes	Not a dispute dyad	No
1994	Low DEI	No	-4.275	Yes	Use of force	Yes
1995	Low DEI	No	-4.243	Yes	Use of force	No
1996	Medium DEI	Yes	-4.215	Yes	Use of force	No
1997	Medium DEI	Yes	-4.109	Yes	Use of force	Yes
1998	Medium DEI	Yes	-4.132	Yes	Use of force	No
1999	Medium DEI	Yes	-4.125	Yes	Display of force	Yes
2000	Medium DEI	Yes	-4.089	Yes	Display of force	Yes
2001	Medium DEI	Yes	-4.083	Yes	Display of force	Yes

Statistics	Average Level of DEI	Total # of Years with an FTA	Average Dyadic Trade Density	Total # of Years with Joint IGO	Average Hostility (5 point scale)	Total # of New Disputes
	Low	6	-4.338	37	1.378	14

The data in table 13 illustrates that relationship between Greece and Turkey is somewhat mixed in terms of peace and conflict, but the dyad tends to be conflictual more often. In fact, the dyad was engaged in conflict during 57 percent of the years from 1965 to 2001. During those conflict years, 52 percent of the MIDs between Greece and Turkey included the use of force. So, more than half of the MIDs within the dyad became violent. Greece and Turkey had their lowest levels of DEI from 1965 to 1988, but began integrating minimally from 1989 to 1995. During the last six years of the temporal period in 1996 to 2001, the dyad reached medium levels of DEI. In addition, Greece and Turkey increased their level of DEI even more from 1997 to 2001. During this time, however, the dyad still remained conflictual. Although over the final three years, when the levels of DEI were the highest, the dyad did not engage in the use of force with each other.

The future of Greece and Turkey relations is difficult to speculate about because they have such a long and ingrained history of conflict. Even more, both sides seem to hold a level of contempt for one another even though the states are willing to cooperate economically. The most recent incident that bolstered this contempt occurred in 1997 with the controversial aid of Abdullah Ocalan by Greece. Ocalan was wanted by Turkish officials for organizing and conducting violence and killings of Turkish civilians, where "to the majority of the Turkish people, Abdullah Ocalan is a child murderer and terrorist whose violent campaign for Kurdish autonomy threatens the very foundation of modern-day multi-ethnic Turkey" (Witschi 2005). Ocalan, originally operating in Syria, fled in Russia, then to Italy and Greece seeking asylum from Turkey. Ocalan was eventually captured by Turkish forces in a sting operation where Ocalan was hiding in the Greek embassy of Kenya in 1999 (Weiner 1999). The fact that Greece was hiding Ocalan in their Kenyan embassy stoked the flames of anger in Turkish citizens, who felt betrayed by Greece who knew about the actions Ocalan had committed against Turkey. In

terms of where this leaves Turkey and Greece, the relationship is complex and old habits of conflict may linger. It is possible, however, that increased levels of economic integration will improve overall cooperation between the states and lead to more peaceful relations. The fact that Greece is a member of the European Union, while Turkey has been denied membership since its original application to be a member of the European Union since 1963 has also been a source of anger and confusion (EurActiv.com [2005] 2012). In the end, the resolution of contempt in the relationship between Greece and Turkey is not likely to occur for some time.

Summary

The relationships between the dyads explored in the three cases were complex, and each dyad had a complicated history that preceded the temporal period of this study from 1965 to 2001. What I have shown in the preceding analysis is that DEI may play a role in reducing the likelihood of conflict at the dyadic level, but in the case of these three dyads, the benefits of higher levels of DEI have yet to be felt. One reason is that in each of the dyads the level of DEI has only recently increased. It is possible that future relations between the states will be more peaceful when, and if, the dyads reach high levels of DEI. Although the future political and economic relationship between states is pure speculation, the evidence in this study shows that if a dyad increases their level of DEI to a high level they will see a reduction in the likelihood of conflict. For instance, based on predicted probabilities for 1,000 samples shown in the previous chapter, dyads that had increases in the level of DEI were predicted to have an 80 percent reduction in the likelihood of engaging in a new MID. In other words, by strengthening economic ties with each other, the dyads may increase the level of exit costs, therefore, reducing the likelihood each state would choose to engage in conflict with each other.

Since this is a case study analysis, the selection of cases is important and was not arbitrary. As stated, these dyads have been the focus of international attention and each has had a long standing history of conflict. These dyads are unique, however, in that each has an ongoing conflict over a territory or region. For the sake of comparison, some descriptive statistics about the level of conflict in the dyads under analysis, and where they fit in with other dyads, are provided below in table 14.

Table 14: Descriptive Statistics Comparison

	All Dyads			
DEI Level	New MIDs	New Wars	Threats & Displays of Force	Use of Force & War
Low	.859	.962	.853	.902
Medium	.120	.019	.130	.084
High	.020	.019	.017	.014
	*3 Case Study Dyads Only**			
DEI Level	New MIDs	New Wars	Threats & Displays of Force	Use of Force & War
Low	.842	1.000	.667	.925
Medium	.158	.000	.333	.075
High	.000	.000	.000	.000

* Includes the India-Pakistan, China-Taiwan, and Greece-Turkey dyads only.

In table 14, it is apparent that although the dyads have seen more conflict from 1965 to 2001 than most dyads, the distribution of conflicts by the level of DEI is similar. As shown, the majority of new MIDs and wars occurred at the lowest levels of DEI. Note that new MIDs and

wars only count the first year of the conflict since that is technically the only year the conflict is considered new. This is important because many of the conflicts within the three case study dyads tended to span a number of years. For example, India and Pakistan engaged in war from 1993 to 1999, however, only the year 1993 is counted as a new war since that is the year the conflict began. Since new MIDs and wars are still a rare occurrence even within these three contentious dyads, the distribution is similar to all the dyads in this study. For instance, roughly 86 percent of new MIDs occurred when dyads had low DEI for all of the dyads, while 84 percent of new MIDs occurred when the three case study dyads had low DEI. New wars also occurred at similar rates between all of the dyads in the study and the case study dyads with low DEI, with 96 percent and 100 percent respectively. In addition, the level of hostility is separated in two columns representing low levels of hostility of threats and displays of force, and a second column representing the use of force and war. Once again, the case study dyads resemble all of the dyads in the study with similar rates of occurrence based on the level of DEI.

In a similar analysis performed in chapter five, the measure of association between DEI and the levels of hostility is examined. As illustrated in contingency table 15 below, the rate each of the case study dyads exhibited hostilities is listed and separated by the level of DEI. Note that table 15 is a replica of table 8 from chapter five, however, table 15 only includes data from the three case studies whereas table 8 included all the data in the entire study. With a similar analysis, therefore, I can compare the behavior of these three dyads to see if they differ from the data on all dyads.

Table 15: Levels of DEI and Highest Dyadic Hostility Levels (Case Study Dyads Only*)

	Dyadic Hostility Levels				
Dyadic DEI Levels	Threat	Display of Force	Use of Force	War	Total
Low	1.000	.625	.903	1.000	49
Medium	.000	.375	.097	.000	9
High	.000	.000	.000	.000	0
N	2	16	31	9	**58**
Gamma =	-.677	ASE =	.033		
Chi2 =	8.725	P-value =	.159		

* Includes the India-Pakistan, China-Taiwan, and Greece-Turkey dyads only.

The behaviors of the case study dyads mimics that of the entire dataset, where a majority of the conflicts occurred at low levels of DEI. In fact, 49 out of the 58 conflicts between the case study dyads occurred when the dyads exhibited low levels of DEI. At the medium level of DEI, only 9 conflicts occurred between the case study dyads. Since none of the case study dyads reached the highest level of DEI during the temporal period of this study, there were no conflicts at that level. The measure of association indicates that the level of DEI and the level of hostility are inversely related with a gamma of -.677, however, based on the case study dyads only this finding is not statistically significant. The data on all of the dyads, however, did provide statistically significant results where the level of DEI and the level of hostility were inversely related with a gamma of -.269. Based on the small sample of only three cases, it is difficult to make any conclusions about the behavior of these dyads, but it does appear that the dyads behave in a similar fashion to what I have found throughout this study. Dyads with higher levels of DEI see a reduction in the likelihood of conflict. Although not statistically significant for only these three cases, table 15 implies that the case study dyads did benefit from increasing their level of

DEI with each other. As a result, it is safe to assume that the selection and analysis of these three case study dyads is valid, even though they are viewed as being more conflictual than most other dyads, the rates of the various conflict levels are similar when compared according to the level of DEI. In short, when dyads maintain low levels of DEI, they are more likely to engage in conflictual behavior. The analyses in tables 14 and 15, therefore, support the hypotheses of this study that DEI does have an inverse relationship with conflict.

In terms of future relations, the China-Taiwan and Greece-Turkey dyads appear to be on paths to reach high levels of DEI, therefore, potentially reducing the likelihood of conflict. India and Pakistan, however, have not started on a similar path. India by itself, on the other hand has had remarkable progress towards becoming a dominant global economic power. As discussed earlier, business executives influenced political decisions makers about the need to avoid war at the risk of losing foreign direct investment. Unfortunately, Pakistan has not had similar progress, and the lack of DEI between India and Pakistan reflects this reality. In addition, the key issue of contention remains between India and Pakistan over the region of Kashmir. The India-Pakistan dyad, therefore, does not appear to be on a path to high levels of DEI, and with the unresolved status of Kashmir hanging in the balance, it is more likely that a future conflict between the states will occur. Such a conflict brings with it the fear of a nuclear exchange. The overarching issue in the China-Taiwan dyad is the battle over the unification of Taiwan with China. It is an interesting situation because China is resisting to recognize Taiwan as a state, but understands the value in trading with Taiwan nonetheless. Taiwan's prominent place in the global economy, and friendly relationships with pro-democracy nations, creates a buffer zone to China's call for unification. Greece and Turkey appear to be advancing beyond their historical conflict with each other. Although only speculative, the trend in increased levels of DEI leading up to 2001, the end

of the temporal period in this study, is a promising sign. Remaining issues involve the division of Cyprus where the Greek Cypriot side of the island has membership in the European Union, while the Turkey Cypriot side, along with Turkey itself, still have not received membership.

CHAPTER 7 CONCLUSIONS

The goal of my dissertation was to explore the relationship between economics and conflict, and to bring a new perspective to a lasting debate. Specifically, my dissertation was designed to test for the potential pacification of dyadic conflict through high levels of DEI. The results are strongly in favor of the pacifying effect of DEI on the onset of MIDs and the escalation of MIDs. These are important findings which improve our understanding about the complex role economic ties can play in international relations. As we have seen, dyads that engage in high levels of DEI see a reduced likelihood of conflict. That is, dyads that share free trade agreements, high levels of trade density, and have joint membership in economically-focused IGOs are less likely to engage in conflict. Even more, my dissertation has provided a viable causal mechanism to explain why dyads tend to avoid conflict when they engage in DEI.

Chapter one began with an introduction to the enduring debate over the role economics may play in regard to state behavior and conflict. Can economic ties between states lead to peaceful dyadic relations? This is a question that has been investigated in many studies over time, and by researchers in both the realist and liberal camps. Part of the problem with understanding the relationship between economics and conflict is the lack of consensus about the appropriate measurements. In addition, it is difficult to develop a test of the relationship because economic ties and interstate conflict are equally complex state interactions. Complicating matters more, a theory developed to answer the question requires a link between the public and private actors. I argued that this missing link between the two sets of actors is best understood as exit costs, which are erected when a dyad engages in DEI, and serves as the casual mechanism to avert conflict.

In chapter two we discovered that the answer to the question about the pacification of conflict through economic ties is both yes and no, but more accurately it depends on the level of analysis. Originally, classical liberals argued that peace in the world can be achieved through increased levels of economic cooperation. This classical liberal idea, however, makes a proposition about the behavior of states at the monadic level, which is not supported by evidence. My dissertation proposed DEI as a measure of economic interdependence, and it is measured at the dyadic level, where evidence supports the proposition that dyadic economic ties do have a pacifying effect on dyadic conflict. Furthermore, the literatures on economic interdependence and the capitalist peace were examined to understand what theoretical connections have been made between economic ties and conflict. Even more, the relevant evidence generated by those lines of inquiry were highlighted. Based on the current state of the literature, my dissertation can be included as an interdisciplinary work in the literatures on international political economy, international conflict, and economic interdependence. The contribution of this study, therefore, has been to provide clarity to a contentious issue over the role of economic integration and conflict.

In chapter three the theoretical foundations of my dissertation were informed by the literature review, and provided a stepping stone from which the hypotheses were generated. Next, the theoretical connections alluded to in the literature review were brought together to build the basis of the theory. In addition, the theory behind the development of the DEI factor score variable was discussed in terms of what it represents, and in what ways it related to previous research. The component variables of the DEI variable were also discussed, and how the selection of the independent variables were informed by theory. The proposed casual mechanism of exit costs, which are generated through the engagement of DEI at the dyadic level,

are explained in terms of how they work to pacify conflict between states. Exit costs serve as the link between political officials and private actors like multinational corporations. Both sets of actors, wanting to avoid incurring the exit costs from abandoning or disrupting an economic relationship, will work to avoid conflict. In the final section, the research question and hypotheses of the study were discussed. In addition, the theory behind the hypotheses, and how they will be tested, was detailed. This analysis of the hypotheses leads directly into the subsequent chapter on research design.

The focus of chapter four was to develop the research design of this study, and to provide the basis for the statistical models used in testing. In addition, the logic behind the choice of each statistical technique was elaborated, along with the weaknesses and interpretations of those techniques. The operationalization for each of the variables used in the study were explained at length, along with all coding decisions. There were two types of models used in the analysis, which were the multivariate model and the factor score model. The multivariate model was designed to test the individual relationships between the independent variables and each dependent variable. The second type of model, the type used for hypothesis testing, was designed to test the relationship between the factor score variable of DEI and each dependent variable. The background and use of factor scores was also provided. This chapter set the spatial and temporal boundaries of the study as well, to include all dyads from 1965 to 2001. Furthermore, the unit of analysis was defined as interstate dyads, aggregated annually. Other important methodological issues considered were the potential problems with temporal dependence and serial autocorrelation. Each issue is fully explained in the chapter, but in short both issues were addressed using statistical methods to improve the specification of the models. The results from the statistical tests are the focus of the next chapter.

In chapter five the statistical results from the models under study were illustrated and interpreted. The findings are remarkably strong and consistent in favor of the proposed relationship between DEI and conflict. Evidence supports two of the three hypotheses in this study. For hypothesis one, which proposes that dyadic DEI is postulated to vary inversely with the onset of war, we fail to reject the null at the .05 level; however, DEI is shown to vary inversely with the onset of war at less than the .1 level. For hypothesis two, which proposes that dyadic DEI is postulated to vary inversely with the onset of MIDs, we can reject the null at the .001 level. For hypothesis three, which proposes that dyadic DEI is postulated to vary inversely with the escalation of MIDs, we can reject the null at the .001 level. The results of the hypothesis testing in terms of the onset and escalation of MIDs, therefore, present an extremely strong pacifying relationship with DEI. In fact, DEI is shown to reduce the odds of the onset of MIDs by 17 percent, and the escalation of MIDs by 24 percent. In addition, there were a total of 52 new wars that occurred from 1965 to 2001, and 96 percent of those new wars occurred in dyads with low levels of DEI. Furthermore, there were 1,280 new MIDs that occurred from 1965 to 2001, and 86 percent of those new MIDs occurred between dyads with low levels of DEI. Interestingly, only one new war, and only 26 new MIDs occurred between dyads with high levels of DEI. In terms of escalatory behavior, 89 percent of the dyads engaged in hostile relations had low levels of DEI. In the final analysis of the relationship between DEI and conflict, I conducted predictive modeling of the potential pacifying effect of DEI at all possible levels. The predicted probabilities from this analysis were startling, and further improve the confidence in the pacifying effects of DEI. For instance, based on 1,000 samples and a 95 percent confidence level, dyads with high levels of DEI are on average 61 percent less likely to engage in a new war, 80 percent less likely to engage in a new MID, and 92 percent less likely to engaged in

escalatory behavior than dyads with low levels of DEI. Together these statistics and results point to the impressive relationship, and consistent pacification of conflict through DEI. In the next chapter, the results from the relationship between DEI and conflict were applied to three case studies in an effort to better understand the forces at play.

In chapter six three dyads were included in a series of case studies in an attempt to apply the theory about DEI and conflict. The cases selected were the India-Pakistan, China-Taiwan, and Greece-Turkey dyads. Each dyad was unique in that the interactions between the states tended to be conflictual, and the conflict originated over the territorial control of land. India and Pakistan conflicted over Kashmir, China and Taiwan conflicted over the unification of Taiwan back into China, and Greece and Turkey conflicted over the island of Cyprus and borders within the Aegean Sea. The China-Taiwan and Greece-Turkey dyads appear to be on a progressive track towards more peaceful relations, and in the most recent years during the temporal period in this study the dyads have increased their levels of DEI. In fact, the China-Taiwan and Greece-Turkey dyads have increased their level of DEI from low to medium. If those trends continue, and the dyads reach high levels of DEI, then the findings suggest that the likelihood of conflict may be reduced dramatically. India and Pakistan, however, have not improved their level of DEI and based on the findings in this study, may be more likely to engage in conflict with one another. With the status of Kashmir hanging in the balance, and a growing economic and social disparity growing between India and Pakistan, future conflict seems an unfortunate possibility.

In conclusion, my dissertation has provided evidence in support of the proposition that DEI does reduce the likelihood of conflict. Specifically, the evidence shows that DEI is inversely related with the onset and escalation of MIDs at the dyadic level. The importance of these findings are indicated in the remarkable strength and consistency between DEI and conflict. The

results showed a strong inverse relationship, with statistically significant relationships, that upheld even under scrutinizing robustness tests. Moreover, most of the findings had a probability value less than .01, and is many cases less than .001. The strength of the findings imply that DEI has a meaningful impact on the likelihood of dyadic conflict.

In terms of future research, I believe that there remains a fertile ground for continued investigation into the pacifying effects of economic integration on dyadic conflict, where important findings and new theoretical relationships are ripe for the harvest. DEI, shown to have a strong and robust relationship with reducing conflict, can also be used in future research. First, future studies of conflict in international relations can include DEI in their analysis to control for the pacifying effect on the onset and escalation of MIDs. In other words, DEI can be used as a control variable to account for the economic relationships between states. In addition, DEI can be used in studies of international political economy, and other related disciplines, as a measure of deep economic ties between states. Second, the measure of DEI can be tested against a larger temporal period once the data is available. In addition, the DEI measure itself can be improved by more refined calculations of the elements that comprise the factor score. Future studies could also be developed which incorporate more aspects of dyadic economic relationships into the DEI variable. For now the calculation of DEI values is limited by data availability, however, once the data is available the coverage can be expanded. The data from this study, including the calculated DEI values for every dyad from 1965 to 2001, based on the theoretical foundations described in this study, is included in the dataset provided for use in future research.[9] The evidence has shown, and I argue, that DEI represents a meaningful economic relationship between states and has the effect of averting conflict.

[9] The dataset for dyadic DEI values is available from www.MjLanglois.com/Research.

APPENDIX

IGO	Long Name IGO
AATPO	Association of African Trade Promotion Organizations (AATPO)
AITIC	Agency for International Trade Information and Cooperation (AITIC)
Andean	Andean Common Market (ANCOM)
APEC	Asia-Pacific Economic Cooperation (APEC)
BENELUX	Benelux Economic Union
BESCC	Benelux Economic and Social Consultative Committee
BSEC	Organization of Black Sea Economic Cooperation (BSEC)
CAECC	Central Asian Economic Community (CAEC)
CARIFTA	Caribbean Free Trade Association (CARIFTA)
CEAO	West African Economic Community (CEAO)
CEC	Commonwealth Economic Committee
CEFTA	Central European Free Trade Association (CEFTA)
CEPGL	Economic Community of the Great Lakes Countries
CMAEC	Council of Ministers for Asian Economic Cooperation
COMESA	Common Market for Eastern and Southern Africa (COMESA)
EACM	East African Common Market (EACM)
ECCM	East Caribbean Common Market (ECCM)
ECO	Economic Cooperation Organization (ECO)
ECOWAS	Economic Community of West African States (ECOWAS)
EEC	European Economic Community/European Community
EFTA	European Free Trade Association
GATT	General Agreement on Tariffs and Trade (GATT)
IICom	International Institute of Commerce
LAFTA	Latin American Free Trade Association
Mercosur	Southern Common Market/MERCOSUR
NAFTA	North American Free Trade Agreement (NAFTA)
OECD	Organization for Economic Cooperation and Development (OECD)
OEEC	Organization for European Economic Cooperation
PTASEA	Preferential Trade Agreement for Southern & Eastern Africa
SACU	Southern African Customs Union (SACU)
SELA	Latin American Economic System/SELA
SIECA	General Treaty on Central American Economic Integration
TIC	Trade and Investment Council
UDEAC	Central African Customs and Economic Union (UDEAC)
WCDC	Working Community of the Danube Countries
WCO	European Customs Union Study Group
WTO	World Trade Organization (WTO)

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ABSTRACT

AVERTING DYADIC CONFLICT: THE ROLE OF INTERNATIONAL POLITICAL ECONOMY

by

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May 2013

Advisor: Dr. Daniel S. Geller

Major: Political Science

Degree: Doctor of Philosophy

My dissertation explores the potential pacifying effect of dyadic economic interactions on international conflict. Research literature on the role of economic ties and conflict is complex and there are opposing findings. This study dives into this problem and brings new evidence to bear on this lasting debate. I argue that dyadic economic ties, introduced as dense economic integration (DEI) in this study, have a pacifying effect on the onset of militarized interstate disputes (MIDs) and the escalation of those disputes up to interstate war. To evaluate this argument, I examine the presence of conflict and the level of DEI from 1965 to 2001 in all countries. The results support the hypotheses that DEI reduces the likelihood of the onset of MIDs and the escalation of those disputes. Furthermore, these results have important implications for the role of economic ties and conflict, and provide strong evidence in support of the pacification of international conflict through DEI.

AUTOBIOGRAPHICAL STATEMENT

Michael Langlois, 31, is a Ph.D. Candidate at Wayne State University working towards the completion of a doctoral degree in World Politics. His major area of study is in International Relations, with minors in Comparative Politics and Public Policy. His research interests include international political economy, globalization, interdependence, and conflict. He is currently working on his dissertation studying the relationship between economic integration and conflict. In 2007, he obtained an MBA concentrating in International Finance and Business at Wayne State University. Prior to a career in academia, he served in the U.S. Navy as a Cryptologist. He is currently an Adjunct Lecturer at Eastern Michigan University teaching courses in International Relations and Globalization. Michael lives with his wife Jennifer, and their children Nathan and Alyssa.