

**Economic Interdependence and
International Conflict:
The Implications of Membership in
International Economic, Financial, and
Monetary Organizations and Multilateral
Preferential Trade Agreements**

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I. Introduction

Does increased economic interdependence lead to peace or conflict among states?¹ This question has caused disagreement among scholars of International Relations for decades. Liberal scholars have asserted that economic interdependence reduces the likelihood of militarized conflict escalation. Realists have emphasized different aspects of interdependence, focusing on the causes of war as a starting point for their arguments that economic interdependence increases the probability of militarized interstate disputes (MIDs). Both sides have made arguments based on the increase in number and expansion of preferential trade agreements (PTAs) in the second half of the 20th century. PTAs provide new trade frameworks, regulations and mechanisms for facilitating trade relations among states. They have guided the process of economic integration both regionally and globally. In terms of this debate, PTAs, along with economic-focused intergovernmental organizations (IGOs), have defined a new setting for the way economic interdependence functions and impacts interstate relations.

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¹ My primary inspiration to write a senior honors thesis on this exact topic stems from my internships at the United Nations Headquarters and the United Nations Economic Commission for Europe (UNECE). I was working on international security topics on the UN Security Council in New York and on economic integration projects in Geneva which motivated me to further examine the intersection of the two fields.

Considering the rapid expansion of economic organizations and PTAs since the end of the Cold War, it is surprising that no study has specifically analyzed this period. A key change in the international system in the post-Cold War world is the emergence of highly economically integrated regional organizations. These include regional and free trade agreements, custom unions, economic and monetary unions, in addition to the development and increased leverage of global trade and financial institutions. It is easy to forget the fact that just two decades ago neither NAFTA (North American Free Trade Area) nor Mercosur (Common Southern Market) existed. The European Union, another regional example, only truly integrated and expanded in the 1990s and 2000s. Even more importantly, emblematic global organizations, like the World Trade Organization, were only possible to be reformed and institutionalized, gaining true international leverage after 1990.

In this paper, I argue that economic IGOs and PTAs now provide not only the fundamental framework for establishing international economic interdependence, but also affect the consequences of such interdependence. Therefore, I maintain that joint membership in economic IGOs and PTAs reduces the probability of conflict between states. The contributions of this honors thesis to the existing debate are threefold. First, I provide a structured review of some of the major arguments made over the last 15 years. Second, I focus the discussion on economic, financial and monetary IGOs and institutionalized PTAs. Third, there are good reasons to expect joint memberships in economic IOs to have become more important as a determinant of interstate conflict behavior in the post-Cold War period than previously thought. Thus, I analyze the post-Cold War period alone in order to examine the impact of joint economic IGO and PTA memberships on reducing the conflict probability among states.

I begin by examining key arguments in the literature on the topic. Next, I present the underlying logic of my argument and hypothesis. I then offer empirical assessment for my claims and present my findings. I do find support for the argument that joint membership in economic IGOs and PTAs decreases the likelihood of militarized disputes among states, in addition to having larger impact than previously suggested. I conclude by discussing the implications of this study and potential directions for future research.

II. Background: Literature and Theories

The relationship between economic interdependence and conflict has been a topic of immense interest in both international political economy and security studies. A large number of empirical studies since the late 1970s have addressed different aspects of the broad debate.

Mark Crescenzi opens his discussion on the topic by saying that economic interdependence can generate both “benign consequences [and] political vulnerabilities” (2005: 4). Indeed, strong arguments have been made both in favor of trade promoting peace and trade being associated with conflict between states (Barbieri and Peters, 2003: 713).

Liberal Arguments. Liberal scholars have long emphasized that economic interdependence “creates vested interests opposed to conflict” (Davis and Meunier, 2011: 630). Empirical evidence has generally supported the view that trade pacifies conflict and diminishes the prospects of militarized escalation (Mansfield and Pevehouse, 2000; Russett and Oneal, 1997, 2001). The basic idea is that countries benefit from their close mutual economic ties and abstain from fighting their trade partners. Two broad types of mechanisms are generally

distinguished within the liberal group: economic interest models and information-signals models (Maoz 2009; Davis 2011). More recently, a third view, encompassing parts of the previous two, has gained momentum – the preferential trade agreements (PTA) joint membership argument, according to which “parties of the same PTA are less prone to disputes than others states and that hostilities between PTA members are less likely to occur as trade flows rise between them” (Mansfield and Pevehouse, 2000: 775).

1. Economic interest and trade interdependence models. Russett and Oneal (2001), Mansfield and Pollins (2003), and Crescenzi (2005), among others, present the fundamental economic interest arguments. Russett and Oneal claim that “countries that are interdependent bilaterally or economically open to the global economy [...] have an important basis for pacific relations and conflict resolution” (2001: 155). The basis in these models refers primarily to the classic liberal explanation that the more interdependent the two states are, the less likely they are to engage each other in militarized dispute. This understanding of interdependence is largely based on Keohane and Nye’s ‘mutual dependence’, “a condition in which countries are both highly sensitive and vulnerable to each other” (in McMillan, 1997: 34). Sensitivity interdependence refers to the extent to which the actions of one country affect the other one, and vulnerability interdependence is associated with the costs of breaking up one country’s economic ties with the other country. While most of the arguments rely on sensitivity-related measurements of economic interdependence, Crescenzi, for example, explores vulnerability interdependence by creating and using an exit costs model to prove that breaking economic ties is often times too costly for countries (2005). Finally, some arguments are based on the so-called ‘commercial peace theory’ in which trade measures are used to infer economic interdependence

between states: the larger the trade volume, the less likely the states are to get in conflict with each other (Bearce, 2003; Bearce and Omori, 2005).

The fundamental problem with the economic interest and trade models (further referred to as type-1 models) is that they only capture one side of what is broadly agreed to be a very complex concept of economic interdependence (Mansfield, in Mansfield and Pollins 2003). Therefore, while most scholars agree that economic interest and trade matter, it is not surprising that there is so much disagreement on *how* they do. Type-1 models have not provided a convincing causal mechanism based solely on trade interdependence or economic interest.

2. In information-signals, symmetry, and expected utility models, states' interaction through trade, capital markets, and other economic and financial tools allows them to signal clearly their dissatisfaction with one another ahead of time and thus prevents conflicts from occurring (Gartzke et al., 2001). Similarly, Hegre, among others, has developed an expected utility model demonstrating that trade is more effective in reducing the conflict probability when economic interdependence is symmetric and when states have symmetric information about each other's intentions (2004, 2005). The underlying logic of these 'type-2' arguments is that since state B is state A's partner and they share both capital and information, they can use their pre-established friendly relations to avoid communication failure and bargain before getting into a militarized dispute.

These models take a step further to include all trade interdependence, symmetry, and information in accounting for militarized disputes. Although they have also caused serious disagreements among scholars, they contribute to the understanding of the relationship by theorizing in more detail *how* interdependence actually *causes* peace or conflict. To complete what appears to be a serious gap in the causal mechanisms of type-1 and type -2 arguments, a

third type of liberal arguments has gained momentum in the past decade, namely those involving international economic organizations and agreements.

3. IGOs, PTAs, and economic integration models encompass most of the previous two types of arguments combined. I refer to them as type-3 models. Scholars have argued that *economic integration agreements*, largely agreed to include PTAs and regional trade agreements (RTAs) or trade blocs, foster interdependence between states, encourage peace through a diversity of mechanisms, and decrease the probability of conflict among their members (Mansfield and Pevehouse, 2000, 2010; Bearce and Omori, 2005; Shaffer 2011).

This is not to claim that all scholars make the same argument or reach the same conclusions. Often times, even the distinction among IGOs, PTAs, RTAs, and commercial institutions is unclear and the terms are used interchangeably. Mansfield and Pevehouse have laid the basis of renewed interest in PTAs, shifting the focus from trade flows to “the institutions designed to shape commerce” (2000: 801). They conclude that ‘preferential groupings’ reduce tensions among their members by creating expectations about future gains, establishing a negotiation and bargaining forum, increasing the amount and importance of trade flows, and sustaining extensive commercial ties among participants in the same PTAs. The result, they maintain, is clear – reduced likelihood of military conflict (803). Unfortunately, their analysis only extends from 1950 until 1985 and their PTA dataset inclusion criteria are unspecified.

The commercial institutional peace argument developed by Bearce and Omori claims that peace seems to stem more from organizational structures and not necessarily from international trade (2005). Trade interdependence alone in their model is associated with more conflict, which can be explained by the inclusion of economic opportunity cost. Their analysis, however, draws some important conclusions about the mechanisms of *how* commercial institutions influence the

probability of militarized conflict. Even though they do not find support for the explanation that commercial institutions raise the economic opportunity costs of war, they argue that commercial institutions increase contact, trust, and communication between states and their leaders.

Most recently, Mansfield and Pevehouse (2010) and Shaffer (2011) have examined the implications of PTAs and economic integration on PTA expansion and interstate conflict, respectively. Mansfield and Pevehouse define PTAs as “institutions that grant each member preferential access to the other participants markets and that are designed to foster economic integration among member-states” (2). They note the “the tremendous proliferation of PTAs over the past 6 decades” (20) and argue that multilateral PTAs often expand, while bilateral and spoken agreements almost never do.

Shaffer notes himself that he uses interchangeably ‘economic integration agreements’, PTAs, trade blocs, and RTAs. He reaches the conclusion that while these agreements reduce the probability of conflict among members of the same bloc, they may be causing increased external conflict. Therefore, the contribution of PTAs to *international peace* is ambiguous at best.

Problems with the type-3 arguments. These recent empirical studies have certainly contributed to our understanding of the relationship between membership in trade agreements/blocs and international conflict. They provide the most comprehensive explanations yet. However, there are several issues that deserve attention. First, none of the studies presents explicitly justified criteria for inclusion or exclusion of organizations or agreements. While most agree that there has been a proliferation of agreements and institutions that facilitate trade and commercial relations among countries since the end of the Second World War, it is not clear how scholars choose the set of PTAs, trade blocs, or commercial institutions that they choose to include in their analyses. Even vaguer are the selection criteria of agreements and organizations

from a methodological perspective. For example, Shaffer analyzes ‘economic integration agreements’, Bearce and Omori discuss ‘commercial institutions’, and Mansfield and Pevehouse - ‘FTAs, customs unions, common markets, and economic unions.’ It seems highly unlikely that all these represent the same economic integration and interdependence networks.

Second, almost all of the ‘current’ analyses extend from 1950 until 1985 or 1992 at best. Even though some of these studies have been expanded up until 2000², no study focuses specifically on the post-Cold War period, which is arguably the most relevant time to examine when it comes to economic IOs and PTAs memberships. The post-1990 period is, in itself, the time frame in which these organizations and agreements could have the greatest impact on international peace worldwide, and not just in separate regions. As mentioned earlier, the true economic integration of countries across the world only developed into the shape seen today in the early 1990s. Therefore, by attempting to analyze the relationship between joint membership in economic integration agreements or organizations and conflict over the period between the end of the World War Two and the end of the Cold War, combining it with the post-1990 period, scholars have made prejudiced assumptions in at least two ways. First, while the underlying assumptions about economic interdependence may be similar, these two periods reflect two very different frameworks for the functioning of economic organizations. Second, this approach raises issues with the ways the economic interdependence concepts are measured in these two different worlds. Comparing the conclusions of studies encompassing both the Cold War and post-1990 periods, therefore, seems quite problematic.

Finally, many of the issues with the previous two models are related to the failure in literature to address the ‘how’ of the relationship between economic interdependence and peace,

² These empirical studies come as extensions or slight modifications of Russett and Oneal’s (ending in 1985) or Barbieri’s analysis (ending in 1992).

even though some important advancements have been made (ex. Bearce and Omori 2003, 2005). In the context of the agreements-organizations argument, it is important to outline how we expect the causal mechanism to work in theory, relative to a specific period of economic integration, before analyzing over 100 years of economic agreements.

My argument and analysis is built on a type-3 model mechanism which I elaborate in section III.

Realist Arguments. In contrast to the liberal arguments, realists have argued that in an anarchic world in which states are solely concerned with preserving their existence, the more interactions among states there are, the higher the likelihood of conflict (Mearsheimer, 1995). That is, economic interdependence provides yet another potential interstate asymmetry and is thus a reason for conflict initiation. Most notably in the economic interdependence – conflict debate, Katherine Barbieri’s empirical tests have shown that bilateral trade increases the probability of MIDs (1996, 2001, 2002). Her central claim is that, “rather than inhibiting conflict, extensive economic interdependence increases the likelihood that dyads will engage in militarized interstate disputes” (1996: 29). Barbieri recognizes that low to moderate degrees of interdependence may reduce the likelihood of conflict, but she argues that, the more extensive the linkages become, the more likely interdependence will have the opposite effect.

As Maoz points out, another powerful realist theory is that states’ strategic interests matter more than economic interdependence does – countries can be economically interdependent and still fight over non-economic interests (2009). Realists have focused on the causes of war and “have emphasized the conflictual aspects of international transactions whereas liberals clearly emphasize the beneficial aspects. From this different starting point, realists come

to the conclusion that [economic] interdependence either increases the likelihood of war or is not related to war initiation” (McMillan, 1997: 40). Moreover, it should be noted that realists are above all concerned with war (in terms of armed conflict with at least 25 battle-related deaths or other much higher death thresholds), while liberals have considered a diversity of conflict types, primarily focusing on MIDs.³

None of these realist arguments have avoided criticism by scholars on the liberal side and scholars advocating alternative views.

Alternative Explanations.

Causality. The causal link between economic interdependence and international conflict has been revisited by almost any scholar in search of more insight into this relationship. Some have noted that economic interdependence is just one aspect of a complex, multifaceted relationship and cannot account for state behavior when it comes to initiation of international conflicts (Mearsheimer, 1995; McMillan, 1997). Every mechanism that has been proposed as an explanation for the relationship has come under severe criticism by scholars who point out its limitations.

As two key liberal scholars, Mansfield and Pevehouse have acknowledged, “one possible answer to the question posed here – how do commercial institutions promote peace? – is that they have no such effect at all” (2000: 660). Indeed, scholars have advocated such arguments. A prominent advocate of the idea that trade *cannot* cause conflict or peace is James Morrow who has argued that the two concepts are simply correlated (1999). He still acknowledges the fact that “trade flows could reduce the risk of escalation” but claims that there is “a range of costly signals

³ As noted further, MIDs also include threats to use and displays of force, in addition to full-scale military conflicts and wars.

of resolve” which have a greater effect. Ironically, as I have demonstrated, this is an argument close to the type-2 models outlined above.

Politics first. Alternative explanations also question the assumption that political conflict harms economic interaction – it could be the case that countries trade with each other regardless of political tensions. Such arguments shift the relationship around to ask which comes first: economics or politics. Finding the answer to this question has become increasingly complicated with the development of large multinational corporations (MNC) and international private partnerships which may sustain their trade activities even when normal interstate trade relations are disrupted (Li and Vashchilko, 2010). Additionally, “a related argument is that ‘trade follows the flag’ because private actors closely observe political relations and update their expectations about future conflict” (Davis and Meunier, 2011: 630). Such arguments imply interactive effect between trade and politics, accounting for the fact that international actors may adjust their trade activities in accordance with the political situation.

III. Argument and Hypothesis

Given the proliferation of PTAs and international economic organizations, and their increased global influence, especially in the post-Cold War period, it has become clear that no analysis on the relationship between economic interdependence and peace can omit assessing their impacts. The outdated models incorporating only economic or trade interests, or signaling and asymmetries have proven inefficient on their own in accounting for peace or conflict among states. PTAs and economic integration models have gained momentum in the study of *how* these

economic, financial, monetary, and trade agreements and organizations inhibit international conflict.

There has been an incredible increase in the number of economic IOs and PTAs since the end of the Cold War in 1989. This quantitative change is accompanied by fundamental changes in the structure and functions of these organizations. Moreover, the World Trade Organization (WTO) reports 505 regional trade agreements (RTAs) as of November 15, 2011⁴, which are also classified as preferential trade agreements. According to Edward Mansfield, PTAs encompass all “free trade areas (FTAs), customs unions, and common markets, as well as other economic groupings” which seems aligned with the WTO understanding of the more narrow RTA term (2003: 223). Every country in the world, except for Somalia and Mauritania, participates in at least one Goods and Services RTA. The WTO claims that FTAs account for 90% of the RTAs and customs unions for the other 10%.⁵ Moreover, the increased economic integration among countries has brought about the institutionalization of many of these PTAs.

Therefore, I analyze **both international economic, financial or monetary organizations, further referred to as economic IOs or simply EIOs, and multilateral institutionalized PTAs, further referred to as simply PTAs**. This combination gives us a more complete picture of the organizations contributing to increased economic interdependence in the post-1990 period.⁶

Yet, it is not only the number of organizations that have changed in the last two decades. Economic interdependence is now being fostered and guided by all of the international bodies

⁴ Counting goods and services separately. These WTO figures correspond to 390 physical RTAs (counting goods and services together), of which 211 are currently in force.

⁵ According to the World Trade Organization Regional trade agreements database as of November 15, 2011.

⁶ Only multilateral, and not bilateral, PTAs are included in the empirical analysis. Since these multilateral PTAs are institutionalized with headquarters and permanent staff, we can think of them simply as EIOs. Therefore, when I further refer to EIOs, I mean both EIOs and PTAs, unless otherwise noted.

associated with these organizations and agreements. Trade volumes between two states still matter but since these two states are now likely joint members of several economic IOs and PTAs, we cannot overlook the impacts of the latter on the economic integration and interdependence between the two. Subsequently, we can expect a greater combined impact on reducing the likelihood of interstate conflict.

Causal Mechanism. Before I proceed with my analysis, it is important that I review the expected causal mechanism of how membership in economic IOs and PTAs contribute to reducing the likelihood of conflict. First, EIOs and PTAs facilitate trade relations, reduce trade volatility, and regulate trade activities among members. They remove trade barriers and broaden the markets for member states. Member states develop strong economic and commercial ties. This in turn leads to greater trade interdependence which, as I demonstrated in the previous section and claimed by liberal scholars, is favorable for reducing the likelihood of conflict.

Second, as Mansfield has emphasized, PTAs generate expectations for future economic gains and returns (2003). This is important because it expands the analysis of economic interdependence beyond current trade relations to encompass future considerations. The act of accession to an economic IO or PTA is a signal of specific policy intentions to cooperate with the other members (Shaffer, 2011). As scholars have largely agreed, knowing other countries' intentions and policy commitments prevents communication failure, decreases information asymmetries and inhibits conflict.

Third, economic IOs and agreements have regular meetings for leaders and increase the trust and communication between them and their countries. They inhibit antagonism by establishing a forum for bargaining and negotiation among members (Mansfield and Pevehouse, 2000; Bearce and Omori, 2005). While many have acknowledged that economic or trade

tensions can arise among members of the same organization or agreement, Mansfield and others have argued that PTAs also help address the economic concerns countries may have, so that any potential conflict does not escalate to a MID.

Fourth, economic IOs and institutionalized PTAs provide either regulations or entire frameworks for dispute resolution among states. One can think of these as the guiding rules for economic relations, integration and interdependence. Additionally, many of the economic IOs and PTAs have monitoring or regulation enforcement bodies to ensure compliance with clearly spelled out policies in their statutes or organization charters. The WTO, for example, has a Dispute Settlement Mechanism and monitoring body which both prevent international conflicts from escalating to militarized disputes.

To summarize, in addition to accomplishing everything from the economic-trade interest and information-signals models combined, this conceptual framework proves more effective in inhibiting international conflict in a number of structural ways inherent in the institutionalization of organizations and agreements.

By focusing my analysis on a more complete set of organizations and agreements and on the post-Cold War period specifically, I expect greater impact on decreasing the probability of international conflict among states. Therefore, I hypothesize that:

Hypothesis 1: The more memberships in economic international organizations two countries share, the less likely they are to get involved in a militarized conflict with each other.

IV. Research Design

I seek to explain the effects of membership in international economic organizations and trade interdependence on countries' involvement in militarized interstate disputes (MIDs). I use the Correlates of War (COW) trade and international governmental organizations (IGOs) dyadic datasets as a starting point (Barbieri 2008, 2009; Pevehouse, 2004). For the dependent variable, DISPUTE, I use Zeev Maoz's version of the COW dyadic MIDs dataset (2005).

My unit of analysis is the **dyad-year**. This means that for every year under consideration, each country is matched with all the other countries in the world, so that the observations consist of pairs of two countries (i.e., dyads). This can result in extremely large datasets with about 19,000 observations per year of analysis, if the dyads are non-directed and even larger ones if the dyads are directed. I used non-directed dyads dataset which means that there is only one observation per pair of two countries. Such a choice implies that this study is not concerned with any variables that require direction of the dyad, including, for example, initiator vs. target of the MID. Intuitively, this approach measures the presence or lack of conflict between the two countries in a dyad for every year of analysis and is preferable to using directed dyads which would double-count conflicts.

My dataset consists of non-directed dyads for the period between 1990 and 2001⁷. The full set of non-directed dyads for these 12 years would have resulted in 230,750 observations. Scholars have utilized both sets of all possible dyads and subsets of politically relevant dyads only (or for that matter, otherwise limited subsets of dyads with conflict potential). The obvious argument in favor of using all dyads is that it provides the only way to examine the complete

⁷ I could not extend the analysis beyond 2001 because of the lack of data availability for a number of measures but mainly because of the complete lack of MIDs data past that year.

picture of the world. Common sense dictates that we cannot know with certainty that country A and country B will not fight, even if they have never been in conflict before.

Why then, is the subset of *politically active dyads* preferable to other subsets or the entire dataset of all possible dyads in the world? Some have noted that limiting the sample of dyads analyzed can produce different results than would the full data (McMillan, 1997; Mansfield and Pollins, 2003). However, many have argued that only cases in which the possibility for conflict exists should be included (Lu and Theis, 2010; Quackenbush, 2006; Lemke and Reed, 2001). Additionally, Table 1 below (p.16) shows that the overall probability of two countries engaging in a MID during this period is quite small, under 0.4%. Presumably, if the subset of politically active dyads does what the developer of the concept, Stephen Quackenbush, argues it does, we should see an increase of the overall conflict probability among the new set of dyads. Higher overall probability should, in theory, allow us to better capture the changes that result from varying the independent variables.

The results from limiting the dyads to the politically active ones only exceeded my expectations. A very large proportion of the MIDs between 1990 and 2001 were preserved, which resulted in a much higher overall conflict probability of 1.79%.

	All dyads (1990-2001)	Politically Active Dyads only (1990-2001)
N	203, 750	37, 926
# of MIDs in sample (Maoz)	810	681
Overall probability of conflict	0.39%	1.79%

Therefore, I use Quackenbush's set of politically active dyads between 1990 and 2000 to limit my master dataset. Using the criteria specified by the author for identifying politically active dyads, I then manually coded the politically active dyads in 2001 as well. Table 1 supports

the author's claim that, "identifying opportunity for conflict is important because it is a necessary condition – members of a dyad cannot fight without the ability to do so" (2006: 49).

Consequently, taking into account the argument above, my dataset consists of all **politically active** non-directed dyads between 1990 and 2001 which results in 12 years of observations for a total of 37,926 dyads.⁸ Intuitively, politically active dyads are those pairs of countries that have the potential of getting involved in a conflict with each other. This is an important consideration as including dyads consisting of two states with no likelihood of conflict whatsoever will only skew the results, especially given the small number of MIDs we observe. Quackenbush's concept of politically active dyads can be viewed as a modification of the widely utilized politically relevant dyads (2006).⁹ Politically active dyads satisfy one or more of the following criteria:

- The pair of countries is contiguous;
- One or two of them are great power(s);
- One country is a regional power, the other one is located in this region;
- An ally of one or both of them borders the other;
- At least one of the states is in alliance with a global power and at the time in a dispute with each other;
- One of the countries is in alliance with a regional power in the other's region and meanwhile in a dispute with the other state.

Operationalizing the Dependent, Independent and Control Variables.

In order to operationalize the concepts in my hypothesis, I constructed several key variables to strictly fit the purposes of the study. Although I generally relied on COW, EUgene,

⁸ Although I do have data until 2005 for most of the independent variables, the complete lack of any MID data past 2001 forced me to limit my analysis to the period between 1990 and 2001.

⁹ The criteria for politically relevant dyads encompass only the first two points of the ones for politically active dyads: contiguity and major power status of at least one of the two countries in a pair (Lemke and Reed, 2001). Politically relevant dyads have been used widely but do not suit well enough the purposes of this study as they miss many regional dyads and states in formal alliance with a global power.

and COW-compatible data, I have incorporated a comprehensive set of variables in my empirical analysis.

The main dependent variable, *DISPUTE*, is coded as 1 for the observations in which the two countries in a dyad were engaged in a militarized interstate dispute (MID) in a given year and 0 otherwise. MIDs “are episodes in which one state threatens, displays or uses force against another state” (Mansfield, 2003: 6). By contrast, armed conflict between two states is defined as a militarized dispute if there are 25+ battle-related deaths in a given year. Given the reasoning behind my argument, using the MID definition is more appropriate as it captures cases under the 25-casualty threshold. Since Maoz’s MID dataset did not contain a dichotomous variable for presence or absence of conflict, I created *DISPUTE* to equal 1 based on the presence of any outcome value and 0 if no value has been recorded. *HIGHEST MILITARIZED ACTION* provides information on the highest militarized action taken in the dispute – threat to use force, threat to declare war, show of troops, show of ships, show of planes, alert, fortify border, border violation, blockade, occupation of territory, seizure, clash, raid or interstate war. These are used to further analyze the type and implications of MIDs.

The independent variable of greatest interest to my argument, *NUMBER OF JOINT EIO MEMBERSHIPS* was initially constructed using the COW intergovernmental organizations (IGOs) dyadic state membership dataset by counting the total memberships the two countries in a pair share. However, the COW dataset of international organizations includes all IGOs, encompassing a broad array of organization types. For the purposes of testing my argument, I am only interested in the ones specifically with economic, financial or monetary focus. Additionally, it has been suggested that using the entire IGOs dataset diminishes the effects of the organizations that actually contribute to peace by ‘adding too much noise to the signal’ and does

not produce statistically significant results (Bearce and Omori, 2005: 661). To restrict the list of IGOs, I used the following rules for keeping an active organization¹⁰:

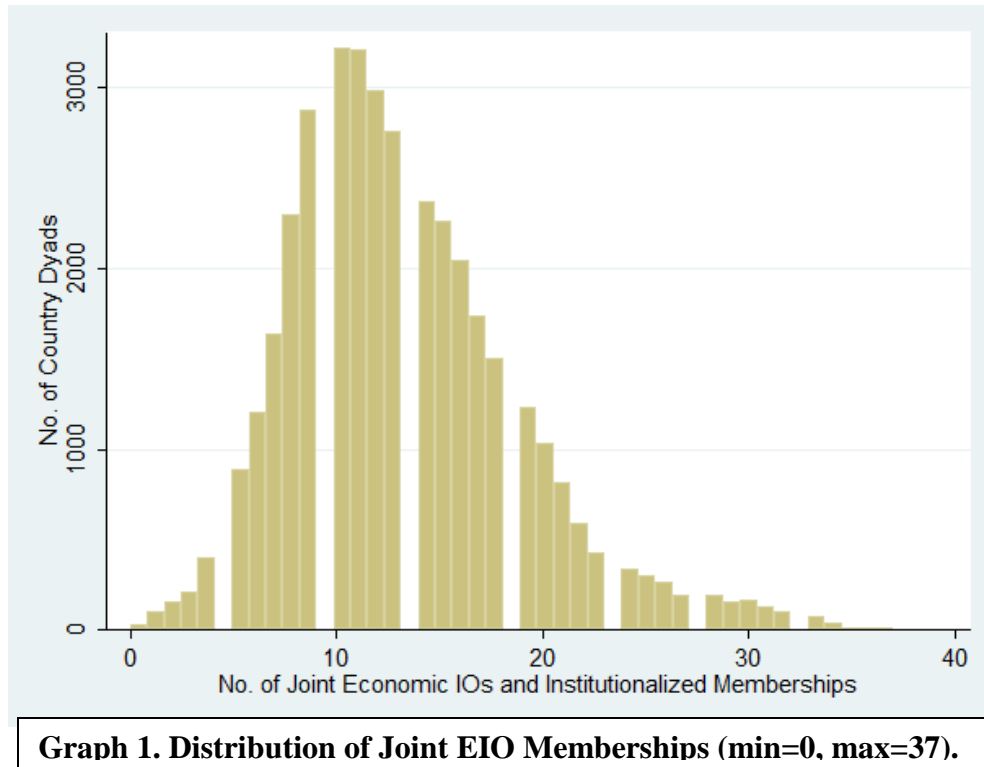
- a. FTA or FTA-based organization (ex. EFTA - European Free Trade Agreement, NAFTA - North American Free Trade Agreement);
- b. Multilateral RTAs (ex. Mercosur);
- c. Any organization with either of the words “economic”, “economic cooperation”, “bank”, “financial”, “investment”, “monetary” in the organization’s name (ex. IMF – International Monetary Fund, World Bank, EBRD – European Bank for Reconstruction and Development, MIGA – Multilateral Investment Guarantee Agency);
- d. Regional economic development organizations (ex. SPC – South Pacific Community, WCDC – Working Community of Danube Countries);
- e. Trade organizations/treaties for one or more commodities (ex. OPEC – Organization of Petroleum Exporting Countries);
- f. Finally, IGOs which promote economic integration, trade or growth (ex. AATPO – Association of African Trade Promotion Organizations).

This resulted in a list of 166 organizations and PTAs (out of 495 covered by the COW database) which are shown in Appendix B, Table B1. Based on this “restricted” list, I created the *NUMBER OF JOINT EIO MEMBERSHIPS* variable which reflects the number of the dyad’s joint memberships in these economic IGOs. Graph 1 on page 20 shows the surprisingly normal distribution of its values¹¹.

It must be noted that this way of measuring the number of joint economic IO and PTA memberships is preferable to many other ‘joint PTA’ variables for the following reasons. First and foremost, the Correlates of War IGOs dataset clearly defines the population of organizations included as consisting of at least three members, holding regular plenary sessions at least once

¹⁰ Active means that the organizations had to be in existence for at least two years in the period between 1990 and 2001. If an economic organization fits one or more of these criteria but ceased existing officially before 1990, it was excluded (for example, CARIFTA, CARICOM’s predecessor).

¹¹ Note: What appear to be white gaps in Graph1 are actually not missing values but automatic “spacing” that STATA generates between every 5 bars when I draw a histogram of my variable. There is no missing data for any number of memberships between 0 and 37.



every ten years, and possessing a permanent secretariat and corresponding headquarters (Pevehouse et al., 2004: 2). Few, if any, other studies identify specific criteria for the inclusion of organizations or PTAs. Second, the COW IGOs dataset provides complete membership information by year for almost all IGOs, which is also quite rare. Finally, the second and third inclusion criteria outline institutionalization by ensuring that there is some sort of organizational structure behind the agreements – an especially valid point for the inclusion of PTAs.

Next, in order to construct the trade interdependence measures, I used Katherine Barbieri's COW dyadic and national trade datasets (Barbieri et al. 2008, 2009), as well as the World Development Indicators Tables from the World Bank's Database (2011).

TRADE INTERDEPENDENCE combines the two bilateral trade flows as a proportion of each country's GDP. This method of representing bilateral trade interdependence is straightforward and has been advocated by Bearce and Omori (2005). It is based on Russett and Oneal's method

of calculating two interdependencies (1997, 2001), one for each country in the dyad, but instead of taking the value of the lower interdependency, it combines them. Others have argued that this may not be such a good interdependence measure and have proposed their own (Barbieri 1996, 2002, 2003; Gartzke and Li 2001, 2003), but later empirical analyses have proven them less effective and have argued against their use (Bearce and Omori, 2005).¹²

The following is an explanation of what *TRADE INTERDEPENDENCE* actually reflects. It is based on the bilateral imports and exports between the two countries in a dyad. For each dyad, I sought to estimate the trade interdependency of country A and country B. To do so, I added the exports of country A to country B (*FLOW2* in the formula below) to the exports of country B to country A (*FLOW1*), then calculated what proportion this sum represented of country A's GDP. The greater the proportion of GDP, the more dependent country A is on country B. The same is true for country B which, however, has a different dependence on country A since the imports and exports are now looked upon as a proportion of country B's GDP. As noted above, there has been much of a debate on how exactly to treat two separate dependencies, so that they are account as accurately as possible for the relationship in the dyad. Based on the recent arguments made in the literature and my preliminary statistical tests, I decided to combine the two.

Mathematically, I first created $DEPEND1 = (FLOW1 + FLOW2) / GDP1$ and $DEPEND2 = (FLOW1 + FLOW2) / GDP2$ for each country in the dyad. *TRADE INTERDEPENDENCE* simply is the sum of *DEPEND1* and *DEPEND2*. The two variables, *DEPEND1* and *DEPEND2* could be used on their own separately or together in a trade interdependence analysis and produce very similar (yet weaker)

¹² I attempted using Barbieri's trade interdependence measures myself. The trade interdependence variable created using Barbieri's methodology turned out insignificant in the models involving control variables. Interestingly enough, the same was true for Oneal and Russett's measure of trade interdependence which is takes the lower of the two interdependence variables – it is insignificant in the EIO models with control variables. This provides additional empirical support for using Bearce and Omori's measure of trade interdependence, which is based on Russett and Oneal's one but combines the two dependence variables.

results to those that *TRADE INTERDEPENDENCE* does. This is not surprising, considering that *TRADE INTERDEPENDENCE* is a dyadic measure which combines each of the two countries' dependency measures. Therefore, it is the more comprehensive single measure that better fits a dyadic model.

Similarly to *TRADE INTERDEPENDENCE*, *BILATERAL TRADE SHARE* combines the bilateral trade shares as ratios from each country's total trade. Country A's trade share with country B of total trade is simply the proportion (or percentage, if multiplied by 100) of the trade volume between the two countries from the total trade volume. Each trade volume represents the sum of imports and exports for a country. The trade volume within the dyad is the same for both countries but each country has its own total trade volume resulting from the total national imports and exports of the country in a year. *IMPORTS1* and *EXPORTS1* are the variables measuring country A's total national imports and exports, and *IMPORTS2* and *EXPORTS2* - country B's total imports and exports. The two trade share variables calculate the percentages of total trade that country A and country B trade with each other. In statistical terms, $TRADE\ SHARE\ 1 = ((FLOW1 + FLOW2) / (IMPORTS1 + EXPORTS1)) * 100$ and $TRADE\ SHARE\ 2 = ((FLOW1 + FLOW2) / (IMPORTS2 + EXPORTS2)) * 100$. Bilateral trade share is different from the trade interdependence variable in that it measures how important trading bilaterally with the other country is in the context of the country's total trade activities.

Variables *FLOW1* AND *FLOW2* are taken from Barbieri's COW dyadic trade data. Similarly, *IMPORTS1*, *IMPORTS2*, *EXPORTS1*, *EXPORTS2* were added from the Barbieri's COW national trade data for each country in a dyad (Barbieri et al., 2008, 2009). All of them are measured in current US dollars. GDP data (also measured in current US dollar) was added from the World Bank's World Development Indicators database (2011).

Control variables. *CONTIG* is a EUGENE-generated variable which is equal to 1 if the two countries share a border on land and 0 otherwise (Bennett and Stam, 2000, 2008). There are many reasons to believe that contiguous countries trade more and share memberships in more IOs, but they are also more likely to get involved in conflict with each other. Therefore, I controlled for the effects of land contiguity.

Similarly, *MAJOR POWER* is 1 if one or both of the two countries in the dyad had a major power status in the international system at the year under consideration and 0 otherwise. A prominent argument in the field is that major powers are more likely to be involved in interstate conflicts than other countries, even if a conflict involves one major power and one non-major power state (Keohane and Nye, 2012). In the period of my analysis, the United States, the United Kingdom, France, Germany, Russia, China and Japan are considered major powers (Quackenbush, 2006: 40; Bennett and Stam, 2008). Major powers are defined as countries “able to project power far beyond their boundaries” because they possess the necessary economic, military and transportation means to do so (Quackenbush, 2006: 41-42).

GDP DIFFERENCE calculates the absolute value of the difference in the GDPs of the two countries. Theoretically, similar arguments to the ones for major power status have been made regarding the difference in GDPs: the more unequal the two countries are, the more likely they are to be involved in conflict, since the more powerful one is perceived as more likely to win a military confrontation.

Finally, democratic peace theory has had a serious influence on any argument made in an attempt to explain interstate conflict. I included a control variable to account for the argument that democracies generally do not fight with each other. If country A and country B are both democratic, the likelihood of them fighting is expectedly decreased. I used the polity2 measure

from the Polity IV Project which ranges from -10 to 10, where 10 is fully democratic government and -10 is fully autocratic. Using this information for each country in each dyad, I created two variables, *JOINT DEMOCRACY HIGH* and *JOINT DEMOCRACY LOW* which are 1 if both countries' polity2 score was above a certain threshold and 0 otherwise. The threshold for *JOINT DEMOCRACY HIGH* is 7 or above, and for *JOINT DEMOCRACY LOW* 6 or above. Although arguments have been made in favor of either threshold for considering a country a democracy (Bearce and Omori 2003, 2005), I primarily use *JOINT DEMOCRACY LOW* as it imposes weaker assumptions in such an analysis, i.e., I do not need to restrict measuring the impact of the democratic peace theory to only highly developed democracies. All the variables used in my analysis are listed in Appendix A, Table A1.

V. Statistical Analysis and Results

I conducted pooled analyses of the time-series cross-sectional data introduced above, focusing on three logit models. I use a logit model as is best captures the changes in a dichotomous dependent variable (equal to either 1 or 0), like the one in this analysis, *DISPUTE*. Logit models predict the probability of an event occurrence - in this case a MID. Such models are used for binomial regressions which fits the binomial data onto a logistic curve. The better the data fits such a curve, the higher the probability that the event occurs. The first model includes the two basic premises of my hypothesis – joint memberships in economic IOs and trade interdependence. The second model includes three of the control variables identified as potentially having the largest effect, namely contiguity, joint democracy, and difference in

GDPs. Finally, the third model accounts for bilateral trade share and major power status, in addition to all of the above. Including bilateral trade share is expected to strengthen the effects of trade interdependence. Similarly, accounting for major power status of any of the countries involved in a dyad is expected to enhance the control variables.

One might question the decrease in N and number of MIDs from the original values presented above. The vast majority of observations lost are mainly due to the missing trade and/or GDP values for three countries, namely Iraq, North Korea and Yugoslavia. Missing values in any of the independent variables results in exclusion of the entire observation from a model as it is mathematically impossible to conduct calculations on missing data. Unfortunately for this study, these three countries were also involved in a good number of conflicts between 1990 and 2001, as they are also ‘responsible’ for the vast majority of lost MIDs as well (down from 681).¹³ Moreover, tabulating the number of MIDs in each of the models in terms of the HIGHEST MILITARIZED ACTION variable and comparing the distribution to the one for the 681 MIDs shows surprisingly similar distribution of the highest military actions pursued in all models and the original set. Hypothetically, losing over 200 MIDs could have skewed the results significantly, especially if the lost observations accounted for the interstate wars, raids and clashes, but fortunately, this is not the case. Table 2 below (p.26) represents the logit regression results for each of the three models.

¹³ Whether or not one would like to include such observations, given that 8.24% of the lost observations account for 33.19% of the lost MIDs is another question. Even though I explored multiple data sources, I could not obtain data for *any* of the missing values.

Variable	Model 1	Model 2	Model 3
Number of Joint EIO Memberships	0.018** (.008)	-0.049*** (.009)	-0.048*** (.009)
Trade Interdependence	0.726** (.307)	-3.152*** (.874)	-7.281*** (1.691)
Contiguity		3.142*** (.1192)	3.194*** (.123)
Joint Democracy		-0.261** (.108)	-0.217** (.11)
GDP Difference		0.194*** (.023)	0.1539*** (.028)
Bilateral Trade Share of Total Trade			2.284*** (.849)
Major Power Involvement			0.394*** (.138)
Constant	-4.59*** (.127)	-4.516*** (.144)	-4.631*** (.154)
Pseudo R²	.0017	.1618	.1695
LR Chi²	8.16	766.64	792.32
# of MID^s in sample	455	447	442
N	34,802	33,207	32,359

*p < 0.1; **p < 0.05; ***p < 0.01;
 Dependent variable: MID between the two countries in the dyad.
 Standard errors are listed in parentheses. The unit of observation is dyad-year.

All the coefficients are statistically significant with p-values smaller than .05. Moreover, most of the coefficients in Models 2 and 3, except for joint democracy, are highly significant with p-values smaller than .01 and many even lower than .0005. This is true for both joint memberships and trade interdependence in both models 2 and 3.

While model 1 has rather low R- and Chi-squares, models 2 and 3 score much higher with the inclusion of control variables. Moreover, the models accomplish this substantially greater accuracy without significantly decreasing the number of observations or the number of MID^s in the samples.

As predicted theoretically, *NUMBER OF JOINT EIO MEMBERSHIPS* and *TRADE INTERDEPENDENCE* have negative signs which signal that they are reducing the probability of

conflict. Also as expected, contiguity has a very large coefficient. These coefficients, however, do not directly reflect changes in the conflict probability. They do give us an idea of whether the relationship is positive or negative and of its significance, but not about the magnitude of the impact the independent variables have on the DV, *DISPUTE*. Since I am analyzing a dichotomous dependent variable, a better explanation of the exponential function and logit model is needed.

Although the values above seem like probabilities, the logit coefficients are not probability values in themselves. In a logit model, one variable is considered a dependent variable and the coefficients represent the odds for each of the variables “of being in one category (instead of any of the other categories) on the dependent variable” (Rodriguez, 2009). Each of the odds is modeled as a function of the other independent variables, which prevents us from examining their effects separately. To put it more clearly, in order to show the real probabilities and interpret them, we need to keep all the other variables at a certain value (e.g. mean) and see how a change in the specific variable(s) in which we are interested changes the probabilities. Therefore, the coefficients produced by the logit regression do not have direct substantive value for the specific probability change for a certain variable.

Interpreting the Results.

I used Michael Tomz, Jason Wittenberg, and Gary King’s CLARIFY program for STATA which allows the user to measure the relative changes in probabilities and interpret substantively the direct probabilities of the models.¹⁴ The user can pre-set the values of the independent variables and estimate the change in probability of any of them measuring the variable’s own probability effect. This is different from the basic logit model and its output

¹⁴ More precisely, Clarify creates 1,000 random samples to estimates not just the change in the estimated probability of the outcome for a given change in each of independent variables in the logit models, but also a confidence interval around those estimates. It allows the user to estimate the change in the conflict probability for each variable while keeping the rest of the variables at a specified value.

coefficients above which always uses one of the variables as a reference point. As the CLARIFY developers put it, “our method can convert raw statistical results into results that everyone, regardless of statistical training, can comprehend” (2000: 348). Table 3 presents the results. In fact, three of the four output columns use model 3 and only one is based on model 2. All columns but the last one set the variables at their mean values to estimate the probabilities. The two columns to the left show the change in probabilities from their minimum to their maximum values and the two columns to the right show the change between the 20th and the 80th percentiles.

Variable	Change in probability of conflict, based on Model 3, separately changing each var from its min to its max value while keeping all others at their means	Change in probability of conflict, based on Model 2, separately changing each var from its min to its max value while keeping all others at their means	Change in probability of conflict, based on Model 3, separately changing each var from its 20 th to its 80 th percentile value while keeping all others at their means	Change in probability of conflict, based on Model 3, separately changing each var from its 20 th to its 80 th percentile value while keeping all others at their medians
Number of joint EIO Memberships	-0.011 (.002) [-0.016 -0.006]	-0.012 (.002) [-0.016 -0.007]	-0.003 (.0006) [-0.0043 -0.0018]	-0.0022 (.0005) [-0.0032 -0.0013]
Trade Interdependence	-0.008 (.0006) [-0.0098 -0.0071]	-0.008 (.0005) [-0.009 -0.007]	-0.0015 (.0003) [-0.0023 -0.0008]	-0.0001 (.0002) [-0.0014 -0.005]
Contiguity	0.11 (.008) [0.09 0.12]	0.105 (.008) [0.09 0.12]	0	0
Joint Democracy	-0.0015 (.0008) [-0.0032 -0.00001]	-0.002 (.008) [-0.003 -0.0002]	-0.0015 (.0007) [-0.003 -0.001]	-0.001 (.0005) [-0.0021 -0.00007]
GDP Difference	0.024 (.007) [0.011 0.041]	0.036 (.009) [0.022 0.056]	0.001 (.0002) [0.0007 0.0015]	0.001 (.0002) [0.0006 0.0013]
Bilateral Trade Share of Total Trade	0.192 (.167) [0.011 0.663]		0.0007 (.0002) [0.002 0.001]	0.0006 (.0003) [0.0002 0.0011]
Major Power Involvement	0.003 (.001) [0.0007 0.0052]		0	0
# of MID's in sample	442	447	442	442
N	32,359	33,207	32,359	32,359

Columns titles indicate the model used and how the change in the variables is measured. Standard errors are listed in parentheses and the 95% confidence intervals are below them in brackets.

What do these results tell us about my hypothesis? Increasing the number of joint EIO memberships from its minimum value (0) to its maximum value (37) decreases the probability of militarized conflict by about 1.1%, holding all other variables at their mean values. Increasing trade interdependence from its minimum to its maximum lowers the probability of conflict by 0.8%. These probability numbers appear to be rather small and one can ask if they matter at all. Before I address this question, I would like to draw attention to Table 4 which presents the overall probabilities of conflict in models 2 and 3.

	Model 2	Model 3
N	33, 207	32, 359
# of MIDs in sample	447	442
Baseline probability of conflict	1.35%	1.37%

Table 4 demonstrates a point I made earlier in the Research Design section – in models like these, we are analyzing very small probabilities in the first place. Therefore, a change of 1.1% is actually rather large and quite significant, since it represents an 80.3% change *relative* to the baseline conflict probability. The high probability values in Table 3 for contiguity confirm what seemed to be highly significant values in Table 2 but there might be an endogeneity problem with this variable since it represents one of the criteria for politically active dyads. BILATERAL TRADE SHARE is an interesting variable as it could have tremendous *positive* impact on the conflict probability but has large standard error. In either case, the results show that the larger the trade share of a country's trade is with another single country, the more likely they are to be in conflict. On its surface, this appears to support realist arguments that as extensive trade interdependence reaches high levels, the likelihood of interstate conflict increases substantially. Upon closer examination, however, it becomes clear that such results could

be occurring mainly because of substantive insignificance.¹⁵ Contiguity and major power status do not vary between their 20th and 80th percentiles as their values are either 0 or 1, which explains the four “0” values in Table 3.

To summarize: in accordance with my theoretical predictions, I have found that *NUMBER OF JOINT EIO MEMBERSHIPS* has a stronger effect on the conflict probability than do *TRADE INTERDEPENDENCE*, *JOINT DEMOCRACY LOW* (in both models 3 and 2) and *MAJOR POWER INVOLVEMENT* (model 3) when each of these variables is changed from its minimum value to its maximum value while holding the other variables at their means. Some may find surprising the robustness of the results associated with joint memberships in EIOs. While surprising, the results provide support for my argument that joint EIO membership may have greater implications for reducing the probability of conflict than previous research had appreciated, based on analyses during the Cold War. Joint EIO membership has proven to be significant in all models and the *CLARIFY* results show clearly that its effect on the probability of conflict relative to the baseline probability is consistently greater than the effects of either trade interdependence and joint democracy. At the very least, Table 3 above (p.29) demonstrates that a variable like *NUMBER OF JOINT EIO MEMBERSHIPS* is certainly crucial to include in models seeking to explain militarized interstate conflict through economic interdependence. The robustness of the results implies that there is a rather strong basis to believe that joint EIO and PTA memberships in the post-Cold War period have greater impact on securing peace than previously claimed.

¹⁵ After additional estimations, the change in probability from the 80th to the 99th percentile is less than 0.5% which disproved the previous expectation, and thus the basis of the realist argument.

Limitations.

Before concluding, I must note some limitations of both the research design and the results of this study. Originally, I was hoping to analyze the post-Cold War period until present day. I learned that this was impossible due to the lack of data for the key variables from last 6 years. Moreover, the COW Project has only released MID's data until 2001 and refused to provide me with anything beyond that year before it is released officially in 2013. I expect that I would have found even stronger support for my hypothesis even with 4 additional years of observations, since the early 2000s is the period in which we observed the greatest economic integration across regions and less interstate conflicts than in the 1990s.

Another preliminary idea that could not materialize was developing a methodology and subsequently a variable to measure strength/ depth of interdependence across economic IOs and PTAs. This would have been an excellent addition to counting the number of joint memberships and measuring dyadic trade interdependence.

Unfortunately, my efforts to develop such a measure were severely limited by the short time frame of one semester. Matthew Shaffer, for example, has discussed how not all PTAs are the same (2011), but a comprehensive measure for the varying depth of interdependence across economic IOs and PTAs is yet to be developed.

Ideally, I would have also included bilateral PTAs which are excluded from the COW IOs dataset. Nonetheless, as Mansfield and Pevehouse argue, multilateral PTAs are the ones that have expanded with much greater frequency over the past few decades (2010: 6). While bilateral PTAs certainly matter, they only apply a single pair of

countries and normally lack organizational structure which is a key component of the causal mechanism outlined above.

VI. Two Different Paths of Joint Membership in EIOs

To better illustrate my argument and results I chose the following two examples based on the following criteria. First, the countries in the dyad had to be contiguous to ensure the possibility of conflict (Quackenbush, 2006). Second, according to my models the number of joint EIO and PTA memberships had to be increasing steadily over the years, if we were to expect peace, and decreasing (or at least not increasing, staying stable over the years), if we were to observe conflict. Additionally, I had to ensure that all the values for trade interdependence were not missing, or the observation would not have been in my statistical analyses in the first place.

Hungary – Romania

This case serves as an example of a dyad of neighboring countries which have been almost perpetually in conflict with each other ever since they both gained their independence in late 19th century. After the end of the Cold War and the fall of socialism in Eastern Europe, both countries joined a number of powerful economic IOs and PTAs, including the Central European Free Trade Agreement, the International Monetary Fund, the International Finance Corporation, the WTO, and the European Bank for Reconstruction and Development. Membership in these organizations was all in addition to pursuing the path of European integration which eventually led both countries to join the EU by 2007. Based on their increased joint memberships and presumably trade

interdependence, we can expect that the probability of militarized conflict between them decreased significantly, even when political tensions may still persist.

Indeed, the data demonstrates lack of MIDs between Hungary and Romania between 1990 and 2001. The number of joint IEO memberships between the two has grown steadily from 13 in 1990, 1991 and 1992 to 20 joint memberships in 2000 and 2001. Moreover, the trade interdependence between the two has grown from 1.8% to 4.2% over the same period.

Russia – Georgia

This case serves as an example of dyad of contiguous countries which even though were highly economically interdependent with each other and were well informed about each other's intentions, still engaged in 7 MIDs between 1990 and 2001. Such an outcome is predicted by, or at least consistent with, the model presented here and supported by the data we observe. Even if I exclude the first three years because of the conflicts associated with the dissolution of the Soviet Union, the two countries engaged in 5 MIDs between 1993 and 2001, and as we know also fought a full-scale war in August 2008 which is not included my dataset. The two countries shared 9 joint memberships in EIOs in 1993. These increased to 13 in 1998 but then dropped back to 12 for the rest of the years until 2001. In the same period, the trade interdependence between the two originally increased from 3% to 7% but then decreased to 4% starting in 1998 and stayed at levels between 4 and 5% until 2001. In agreement with my model, less joint EIO memberships were associated with more conflict in this case.

VII. Discussion and Conclusions

The results of my analysis generally confirmed the expectations set in constructing my argument and hypothesizing about the impacts of membership in economic IGOs and PTAs on international conflict. I have found evidence in support of my hypothesis. An increase in the number of joint memberships does reduce the probability of a conflict between the two states in a dyad. Additionally, the number of joint EIO memberships has proven more significant and possess greater impact on the militarized interstate conflict probability than do trade interdependence, joint democracy or major power involvement. This is a good sign for the robustness of the results, considering that scholars have advocated each of these three concepts as very impactful on the likelihood of international conflict.

This honors paper contributes to the rich field examining the relationship between economic interdependence and international conflict in at least two ways. First, it has focused the analysis of economic and trade interdependence on joint memberships in economic, financial and monetary IGOs and PTAs, demonstrating that they do inhibit international militarized conflict. The statistical results also show that the impact of an increased number of joint memberships in these organizations and agreements is not only significant, but also much larger than previously thought.

Second, I have provided a much needed contemporary argument in the debate on the relationship between EIO membership and trade interdependence on one hand and international conflict on the other. Even though my analysis extends only through 2001, we can observe significantly different results compared to those of previous research of

the Cold War period. This suggests that EIOs have had an increasingly important role in securing international peace since 1990.

These conclusions should not be interpreted as claims that this study explains everything in the complex relationship between economic interdependence and international conflict. There are at least two avenues for further research. First, the model should be expanded to include membership and MID data from the last decade, including such for bilateral agreements. Second, a measure for the depth of economic interdependence through these joint memberships should be developed. This can be as simple as economic integration scores on a Likert-type scale¹⁶ for each economic IGO and PTA or something more comprehensive.

Finally, this study has important policy implications for political leaders in countries in the process of economic integration. Deciding on whether to join or avoid international economic organizations and PTAs (or any economic, financial or monetary integration agreement for that matter) is likely to be a highly contentious issue domestically. However, since membership is favorable for securing peaceful relations with other countries, these conclusions may provide support for arguments in favor of participation and increased interdependence. My conclusions have illuminated a positive aspect of economic interdependence in today's world of divergent opinions on regional and global economic integration. In times when many people and political leaders have grown skeptic of economic interdependence and integration among countries, this study can serve a reminder of interdependence's merits.

¹⁶ A Likert-type scale ranks responses and allows to measure variation. In this case, it can be viewed as an alternative or supplement to a dichotomous variable simply measuring membership in an EIO. For example, my original idea included a 7-point Likert scale showing the level of economic interference for each organization or PTA, based on its structural framework.

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Appendix A:

Variable	No. of Observations	Mean	Standard Deviation	Min	Max	Description	Formula (if applicable)
year	37926	1995.5	3.38	1990	2001	Year of observation	N/A
NUMORGSR	37926	13.27	5.568	0	37	No. of joint memberships in economic IOs and institutionalized PTAs	= sum of 1s (full joint memberships) from the "Restricted" COW IGOs dataset
tradeinterdep	34802	.0238	.0738	0	4.4926	Trade interdependence	$= (\text{imports1} + \text{exports1}) / \text{gdp1} + (\text{imports2} + \text{exports2}) / \text{gdp2}$
tradeshcomb	37010	.037	.079	0	1.443	Bilateral trade share of total trade	$= ((\text{flow1} + \text{flow2}) / (\text{imports1} + \text{exports1}) + (\text{flow1} + \text{flow2}) / (\text{imports2} + \text{exports2})) * 100$
outcome	681	3.0792	2.9068	-9	8	MID outcome (Maoz)	N/A
highact	681	14.467	5.2588	2	22	Highest militarized action (Maoz)	N/A
dispute	37926	.0179	.1328	0	1	Ongoing MID in certain year (1 or 0)	= 1 if outcome != . ; 0 otherwise
contig	37926	.0888	.2846	0	1	Land contiguity between countries (EUGene)	N/A
gdpdiff	34806	.8594	1.88	.0006	10,233,888	Absolute value of the countries' GDP difference	$= \text{gdp1} - \text{gdp2} $
majpowinv	37926	.2672	.4425	0	1	Either country in a dyad a major power (1 or 0) (EUGene)	N/A
jointdemlax	36105	.4678	.4989	0	1	Joint democracy if both countries score 6+ on the Polity IV scale	= 1 if polity21 > 5 & polity22 > 5 ; 0 otherwise

Appendix B:

Table B1. List of Economic, Financial, and Monetary Organizations.					
	COW IGO Abbreviation	Full Name		COW IGO Abbreviation	Full Name
1	AAID	Arab Authority for Agricultural Investment and Development (AAID)	31	ASEAN	Association of South East Asian Nations (ASEAN)
2	AACB	Association of African Central Banks (AACB)	32	ATO	African Timber Organization (ATO)
3	AATPO	Association of African Trade Promotion Organizations (AATPO)	33	ATPC	Association of Tin Producing Countries (ATPC)
4	ABEDA	Arab Bank for Economic Development in Africa	34	AU	African Union (AU)
5	ACPEU	ACP-EU Joint Assembly	35	BENELUX	Benelux Economic Union
6	ACWL	Advisory Centre on WTO Law (ACWL)	36	BESCC	Benelux Economic & Social Cons. Committee
7	AfDB	African Development Bank	37	BIISEF	Banque internationale d'information sur les Etats francophones (BIEF)
8	AFESD	Arab Fund for Economic and Social Development (AFESD)	38	BIS	Bank for International Settlements
9	AFEXIMB	African Export Import Bank (Afreximbank)	39	BONN	Bonn Agreement
10	AFGEC	African Fund for Guarantee and Economic Cooperation	40	BSEC	Organization of Black Sea Economic Cooperation (BSEC)
11	AfrOPDA	African Oil Palm Development Association (AFOPDA)	41	CAECC	Central Asian Economic Community (CAEC)
12	AGPUNDO	Arab Gulf Prog. for UN Dev. Org.	42	CAMSF	Central American Monetary Stabilization Fund
13	AIC	Arab Investment Company (AIC)	43	CARICOM	Caribbean Community (CARICOM)
14	AIDO	Arab Industrial Development and Mining Organization (AIDMO)	44	CCOM	Central Compensation Office of the Maghreb
15	AIOEC	Association of Iron Ore Exporting Countries	45	CCPA	Cocoa Producers Alliance
16	AITIC	Agency for International Trade Information and Cooperation (AITIC)	46	CDB	Caribbean Development Bank (CDB)
17	AMF	Arab Monetary Fund (AMF)	47	CEAO	West African Economic Community (CEAO)
18	Andean	Andean Common Market (ANCOM)	48	CEC	Commonwealth Economic Committee
19	ANZUS	ANZUS Council	49	CEEPN	Central and Eastern European Privatization Network (CEEPN)
20	AOAD	Arab Organization for Agricultural Development (AOAD)	50	CEFTA	Central European Free Trade Association (CEFTA)
21	AOMR	Arab Organization for Mineral Resources (AOMR)	51	CEMAC	Communauté économique et monétaire d'Afrique centrale (CEMAC)
22	AP	Andean Parliament	52	CEPGL	Economic Community of the Great Lakes Countries
23	APEC	Asia-Pacific Economic Cooperation (APEC)	53	CFATF	Caribbean Financial Action Task Force (CFATF)
24	APPA	African Petroleum Producers Association (APPA)	54	CFC	Common Fund for Commodities (CFC)
25	ARC	Asian Reinsurance Corporation (Asian Re)	55	CIMA	Conférence interafricaine des marchés d'assurances (CIMA)
26	ARIPO	African Regional Industrial Property Organization (ARIPO)	56	CIS	Commonwealth of Independent States (CIS)
27	ArticC	Arctic Council	57	CMAOC	Conference of Ministers of Agriculture of West and Central Africa
28	ASBLAC	Association of Supervisors of Banks of Latin America and the	58	CMEA	Council for Mutual Economic Aid (CMEA)
29	ASCRubber	Association of Natural Rubber Producing Countries (ANRPC)	59	CMAEC	Council of Ministers for Asian Economic Cooperation
30	AsDB	Asian Development Bank (ADB)	60	COE	Council of Europe

61	COMESA	Common Market for Eastern and Southern Africa (COMESA)	96	IBRD	International Bank for Reconstruction and Development (World Bank)
62	CPSC	Community of Portuguese-Speaking Countries	97	ICCEC	Intergovernmental Council of Copper Exporting Countries
63	DBGLS	Development Bank of the Great Lakes States	98	ICCO	International Cocoa Organization (ICCO)
64	EACS	Secretariat of the Commission for East African Cooperation (EAC)	99	ICfO	International Coffee Organization
65	EADB	East African Development Bank (EADB)	100	ICHRB	International Commission for the Hydrology of the Rhine Basin
66	EAPC	Euro Atlantic Partnership Council (EAPC)	101	IFAD	International Fund for Agricultural Development (IFAD)
67	EBRD	European Bank for Reconstruction and Development (EBRD)	102	IFC	International Finance Corporation (IFC)
68	ECB	European Central Bank (ECB)	103	IMF	International Monetary Fund
69	ECCAS	Economic Community of Central African States (ECCAS)	104	INRO	International Natural Rubber Organization (INRO)
70	ECCB	Eastern Caribbean Central Bank (ECCB)	105	IOCom	Indian Ocean Commission (IOC)
71	ECO	Economic Cooperation Organization (ECO)	106	IOOC	International Olive Oil Council
72	ECOWAS	Economic Community of West African States (ECOWAS)	107	IPC	International Pepper Community (IPC)
73	ECSC	European Coal and Steel Community	108	IRC	International Rice Commission
74	EEC	European Economic Community/European Community	109	ISB	Inter-State Bank
75	EFTA	European Free Trade Association	110	ISDB	Islamic Development Bank (IsDB)
76	EIB	European Investment Bank	111	ITC	International Tin Council
77	EMI	European Monetary Institute (EMI)	112	ITTO	International Tropical Timber Organization (ITTO)
78	Entente	Council of the Entente/Entente Council	113	IUPCT	International Union for the Publication of Customs Tariffs
79	EPFSC	European Postal Financial Services Commission (EPFSC)	114	IUPIP	International Union for the Protection of Industrial Property
80	EU	European Union (EU)	115	LAEO	Latin American Energy Organization
81	FAO	FAO	116	LAIA	Latin American Integration Association (LAIA)
82	FDIPLAC	Fund for the Development of the Indigenous Peoples of Latin America	117	LATIN	Latin Union
83	G15	Group of Fifteen (G-15)	118	LCBC	Commission of the Chad Basin/Lake Chad Basin Commission
84	G24	Intergovernmental Group of Twenty-Four on International Monetary	119	LGIDA	Liptako-Gourma Integrated Development Authority (LGA)
85	G3	Group of Three (G-3)	120	LOAS	League of Arab States
86	GATT	General Agreement on Tariffs and Trade (GATT)	121	Mercosur	Southern Common Market/MERCOSUR
87	GEF	Global Environment Facility (GEF)	122	MIGA	Multilateral Investment Guarantee Agency (MIGA)
88	GLACSEC	Group of Latin American and Caribbean Sugar Exporting Countries	123	NAFTA	North American Free Trade Agreement (NAFTA)
89	GOIC	Gulf Organization for Industrial Consulting (GOIC)	124	NDF	Nordic Development Fund (NDF)
90	GRBDO	Gambia River Basin Development Organization	125	NEAFC	Northeast Atlantic Fisheries Commission (NEAFC)
91	IADB	Inter-American Development Bank	126	NERC	Nordic Economic Research Council
92	IAIC	Inter-American Investment Corporation	127	NIB	Nordic Investment Bank
93	IAIGC	Inter-Arab Investment Guarantee Corporation (IAIGC)	128	NRC	Niger River Commission/Niger Basin Authority
94	IBA	International Bauxite Association (IBA)	129	OAPEC	Organization of Arab Petroleum Exporting Countries (OAPEC)
95	IBEC	International Bank for Economic Cooperation	130	OAS	Pan American Union (OAS)

131	OAU	Organization for African Unity	151	SIECA	General Treaty on Central American Economic Integration
132	OCAM	Afro-Malagasy Union (Common Afro-Malagasy Economic	152	SITTDEC	South Investment, Trade and Technological Data Exchange Centre
133	OCAS	Organization of Central American States	153	SPC	South Pacific Commission/Secretariat of the Pacific Commission (SPC)
134	OCR	Organization for the Collaboration of Railways	154	SRDO	Senegal River Development Organization
135	OECD	Organization for Economic Cooperation and Development (OECD)	155	TIC	Trade and Investment Council
136	OESAS	Observatoire conomique et statistique d'Afrique subsaharienne	156	UBEC	Union of Banana Exporting Countries
137	OPEC	Organization of Petroleum Exporting Countries (OPEC)	157	UDEAC	Central African Customs and Economic Union (UDEAC)
138	PED	Pôle européen de développement (PED)	158	UEMOA	Union conomique et mon taire Ouest africaine (UEMOA)
139	PIARC	World Road Association	159	UMOA	West African Monetary Union/UMOA
140	PIPD	Partners in Population and Development - A South-South Initiative	160	UNIDO	United Nations Industrial Development Organization (UNIDO)
141	PMAESA	Port Management Association of Eastern and Southern Africa	161	WARDA	West Africa Rice Development Association (WARDA)
142	PTASEA	Preferential Trade Agreement for Southern & Eastern Africa	162	WCDC	Working Community of the Danube Countries
143	SAARC	South Asian Association for Regional Cooperation (SAARC)	163	WCO	Customs Cooperation Council
144	SACU	Southern African Customs Union (SACU)	164	WEU	Western European Union (WEU)
145	SADC	Southern African Development Community (SADC)	165	WNF	West-Nordic Foundation
146	SADCC	Southern African Development Coordination Conference (SADCC)	166	WTO	World Trade Organization (WTO)
147	SARTC	Southern Africa Regional Tourism Council (SARTOC)			
148	SEATO	Southeast Asia Treaty Organization (SEATO)			
149	SELA	Latin American Economic System/SELA			
150	SICA	Central American Integration System (SICA)			