International Trade and Third Parties' Conflict-Joining Propensities: The Political Economy of Conflict Expansion

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Dedication

For Mikel A. Norris

Who always taught me to leave it just a little better than I found it.

Acknowledgements

Writing a dissertation is a labor of love. While the "labor" part is obvious, the love often goes undocumented. That's the beauty of this section. It's going to be long and emotional, but no one gave me a page limit.

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Abstract

In recent years, a renewed interest in the differences between dyadic conflicts and complex, multiparty disputes has developed within international relations (Vasquez and Valeriano 2010; Valeriano and Vasquez 2010). The conflict expansion literature focuses heavily on how traditional realist variables – such as alliances, shared borders, and rivalries – facilitate the spread of conflict, but these studies largely ignore other incentives to join disputes, such as the protection of an economic relationship. Absent a few notable exceptions (Polachek 1980; Aydin 2008), questions concerning the role that economic interdependence plays in conflict expansion have remained generally unanswered.

This dissertation seeks to address the economic incentives to join ongoing disputes. Are states likely to join into conflicts as third parties to protect their economic relationships? I approach this question in three parts. First, I investigate states' conflict-joining propensities with regard to bilateral trade ties, making note of the evolution of the international economy from 1885-2001. I find that states are more likely to join disputes at higher levels of trade dependence and higher levels of trade concentration, but where the economy is more liberalized, the probability of joining is lower even at high values of trade dependence.

Second, I investigate whether states that abstain seek alternative markets to substitute trade jeopardized by the outbreak of a trade partner's conflict. States might do this to avoid conflict participation and also to ensure that their own economic health is preserved. If such circumvention occurs, then we should expect trade values to fall between a state and its disputatious trade partners, while trade values between non-disputant trade partners should simultaneously rise. I do not find support for these hypotheses.

Finally, I question not only whether states are *willing* to skirt conflict by diverting trade, but also whether they *can*. Here I assess how different trade components affect the probability of military intervention, arguing that the unique nature of primary commodities renders these goods virtually non-substitutable. Because of this, third parties whose economies rely heavily on trade in primary goods are more likely to intervene to protect their lifeline of resources. I find some support my primary hypotheses.

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Chapter I
Introduction

Section 1.1 Research Questions and Motivations for the Dissertation

In 1921, Costa Rican forces invaded a small piece of territory on the Pacific Coast of Panama, near the border between the two states. This region, known as Coto, had been awarded to Costa Rica in 1900, and Panamanian citizens living in this region were ordered to evacuate in the years following this decision. Panama refused to acknowledge the agreement, prompting the influx of Costa Rican troops into Coto. The importance of this region was largely economic; Coto had two deep-water ports, one for the export of bananas, which were prominently grown in the region, and another for oil. In addition, the United Fruit Company, which was owned and operated by the United States, was located in the invaded region. Business interests in the United States began to lobby the US Congress after the Costa Rican invasion, arguing that the threat of war in the region was going to be detrimental to the operation of the United Fruit Company (renowned for its sale of Chiquita bananas) as well as the ability to transport oil from the region through the recently opened Panama Canal. Shortly after the conflict began, the United States intervened on the side of Costa Rica, who legally owned the territory, to force a resolution of the dispute and ensure the continued trade in raw materials from Coto's ports (De La Pedraja 2006). The Coto War was only one example from a string of US interventions in Latin America from 1898-1934 collectively known as the "Banana Wars".

Conflicts like the Coto War are not anomalous events. Throughout history, we have seen third-party states intervene militarily into others' disputes in order to protect economic interests. In fact, cases abound from both the nineteenth and twentieth centuries. The 1936

conflict between Haiti and the Dominican Republic is another example. Haitian forces raided the Dominican Embassy in the Haitian capital of Port-au-Prince, and while the conflict itself produced no fatalities, it became a major problem for the sugar and bauxite industries (Aydin 2008; Rutter 1936). The risk of losing access to these markets for key industries prompted the intervention of the United States, the United Kingdom, and Canada on the side of the Dominican Republic. These three powerful states were importers of these commodities, and British and Canadian industry largely controlled the bauxite trade, which was key for the production of aluminum.

The United States also fought a war against Spain in 1898, arguably for continued access to Cuban sugar. While this is not an example of an intervention into an interstate war, as Cuba was considered by the Spanish as a province of Spain, it remains an historical example of military intervention for the purpose of continued economic benefits. There are, of course, other considerations for the American involvement in the Spanish-American War, as accusations of torture and oppression of Cuban workers were also widespread. Nevertheless, access to Cuban sugar markets should the Spanish decide to restrict access remained a key issue for the United States, who relied heavily on Cuba for sugar imports (Ayala 1999). Moreover, the coalition response to Saddam Hussein's invasion of Kuwait in 1990 can also be interpreted on some economic grounds. While combatting aggression was naturally a key motive for the 34 members of the United Nations-sponsored "coalition of the willing", the fact also remained that by occupying Kuwait, the Iraqi leader put himself in control of nearly 20 percent of the world's oil supply. Had the invasion spread to neighboring Saudi Arabia, which was feared, Saddam Hussein would have single-handedly controlled almost 50 percent of the world's oil (Stoessinger 2011). This would have created a

serious problem for oil-dependent economies, as the supply of oil would likely have dropped immensely, while the price per barrel simultaneously skyrocketed.[1]

These historical cases present us with a potential answer to a fundamental puzzle in international relations: if security and survival are the most important state goals, as most would assume, what motivates states to intervene militarily into disputes that do not originally or directly concern their own security? We know very little in the way of answering this essential question. Many would suggest the answer is no different than those we have gleaned from decades of concern over the causes of dispute initiation, as the factors that are associated with conflict onset are generally thought to impact joining behavior as well. The seeming conclusion is that "conflict is conflict" and factors that motivate initiation are not fundamentally different from factors that motivate intervention.

The inherent problem with this suggestion, however, is that the choices available to third parties – those who are neither initiators nor direct targets of the dispute – are quite different than those available to originators. While all conflict participation is self-selected, the types of decisions available to different categories of disputants are not identical to one another. Initiators choose to begin an interstate dispute because they perceive that some other state threatens their national or economic security, because they seek some policy or regime change, or simply because they want to pursue some imperialistic conquest for territory or other tangible resources. Targets, however, only choose to defend or acquiesce in the face of this aggression.

Joiners seldom experience the direct effects of dispute initiation against another, though negative externalities can easily spill across shared borders, impact economic

[1] One of the chief reasons Saddam Hussein invaded Kuwait was in response to Kuwait's exporting of oil in excess of its OPEC quota.

relationships, and threaten the regional and/or global balance of power. Since these effects are often indirect or marginal, it is difficult to conclude that the same causal forces are at work in motivating conflict initiation and conflict intervention. While every state involved in a dispute makes a choice to be involved in that dispute, joiners' choices require diverting their own military and economic resources, risking their soldiers' lives, and hazarding their own security all for the sake of another.

It is obvious that in order for a third party to become militarily involved in a dispute that did not originally involve it, it must have some type of interest in one or more of the disputant states. The belief that an external conflict might threaten its own security – even indirectly – is an equally obvious motivator for military involvement, but what of those conflicts that do not necessarily threaten national security? States also value prosperity, and while economic well-being can be achieved through means other than international exchanges (increasing domestic productive capacity, e.g.), the conventional wisdom in the literature suggests that interstate disputes have the capacity to threaten international trade (Oneal and Russett 1997, 1999a, 1999b, 2001; see also Barbieri and Levy 1999). Might states intervene into ongoing dispute to protect their economic interests in disputant states? The above examples suggest to us that this might be a strong possibility.

The primary purpose of this dissertation is to investigate these economic motivations. In exploring this phenomenon, it is necessary to consider not only the level of trade dependence between third parties and belligerents, but also the ways in which the global economy has changed over the course of the last century. Trade dependence on a disputant, as the above examples suggest, might be a key motivator for third parties' decisions to join. This may also be strengthened by the conditioning impact of the

international economy itself. Where trade is more concentrated – in other words, where states are more economically reliant on fewer trade partners – joining is also likely to occur. However, trade concentration has diminished over time, and in an economic environment where a greater variety of trade partners exist – and states are simultaneously less dependent on a handful of them – the probability of joining to protect trade relationships might actually be reduced.

In this latter case, the necessity of maintaining economic relations with any particular state has become arguably less vital.[2] The web of economic relations has become so intricately woven that very few states depend exclusively on one or a set of others to maintain their own economic survival. Given this empirical reality, it is plausible that military intervention on the basis of economic interests alone is less likely where the concentration of trade in the global economy is low. If this is indeed the case, then when an economic partner becomes embroiled in a militarized interstate dispute (MID), we may see third party states altering their trade patterns to avoid military intervention where they deem the benefits of joining to be fewer than the costs. Where they reach this conclusion, third party states may circumvent a conflict by increasing trade with non-disputant states while simultaneously decreasing their reliance on a combatant trade partner.

Of course, this begs another question: to what extent are trade relationships substitutable? To suggest that states can circumvent conflicts by altering their trade patterns implicitly assumes that markets are interchangeable. This is a patently false assumption. Not all economic relationships are perfectly substitutable; there are, however, variations in the

[2] For example, the United States can seek comparable textile imports from various countries, and in various regions, such as China, Vietnam, Mexico, Italy, and Egypt, to name a few (US Census: Foreign Trade Statistics).

types of international trade that may be more conducive to substitution than others. Because of the idiosyncratic nature of geography, climate, and productive capacity, certain states may be the sole (or one of few) suppliers of particular tradable commodities. These primary goods – extracted resources, foodstuffs, and other agricultural commodities – may be specific to certain environments. Where trade dependence primarily consists of trade in these types of goods, as was the case with the anecdotal examples, states should exhibit a greater willingness to join disputes involving their trade partners. However, when trade dependence rests primarily on manufactured goods, which are easier to substitute should markets become jeopardized, the probability of joining might actually decline.

Thus, the overarching research question I ask in this dissertation can be stated as: what is the impact of bilateral trade dependence on third-party states' conflict-joining propensities? Given the breadth of this question, I approach it in three parts derived from the discussion above. These individual research questions inform each of the quantitative chapters of this dissertation, and can be summarized as follows:

> *Do high levels of trade dependence on a disputant trade partner increase the probability that a third party will join into a dispute? Does the concentration of trade relations in the global economy condition this relationship?*
>
> *Where states abstain from ongoing disputes, what is the impact on their trade relations with disputant states? Does dyadic trade decline between them? Does trade with abstainers' other trade partners simultaneously increase?*
>
> *Does what states trade matter for third parties' decisions to join their trade partners' militarized disputes? Is trade dependence on primary commodities more likely to prompt a military intervention than trade dependence on manufactured goods?*

Section 1.2 Third-Party Conflict Intervention: Joining Ongoing Disputes

A "militarized interstate dispute" in this dissertation is operationalized as a military conflict between two or more independent and sovereign states, as defined by the State System Membership data available in the Correlates of War Project (2011). A MID is classified as a dispute between two or more states that involves either a threat to use military force, a display of military force, or the use of military force. Any confrontations between the same states over the same issue that occur within a six-month period of one another are considered to be part of the same dispute (Jones, Bremer, and Singer 1996). Using these criteria, there were 2,118 unique MIDs during the period 1885-2001, the temporal domain of this dissertation. Fatal MIDs are those that produce at least one fatality on either side, and interstate wars are classified as those disputes where at least one side experiences a minimum of 1,000 battlefield deaths during a one-year period (Jones, Bremer, and Singer 1996).

Third-party military intervention, as operationalized in this dissertation, corresponds to the Correlates of War Project's coding of originators and joiners in its Militarized Interstate Dispute and Interstate War datasets. A state is considered an "originator" if and only if it was a conflict participant on the first day of a given dispute. All MID participants that do not meet this criterion are deemed "joiners". In so doing, I purposefully ignore "interventions" that are not accompanied, at minimum, by a threat to use military force. Mediations, arbitrations, and humanitarian and peacekeeping missions, though important in their own right, may stem more from a sense of international responsibility, altruistic motivations, or strategic reputational concerns. I am concerned with military interventions because they present opportunities to garner more tangible benefits, in terms of economic wealth and hard power. While mediators and states and international organizations that

order humanitarian interventions often seek any peace between the original disputants, joiners seek a specific peace – a peace that benefits their interests. For the purposes of this dissertation, no case of "soft intervention" is particularly relevant to understanding what motivates a third-party state to enter an ongoing interstate dispute as a willful and deliberate belligerent.

Theoretically, conflicts increase in severity by one of two primary mechanisms. First, a dispute can deepen vertically, through an escalation of hostilities between the original combatants. Second, disputes can spread horizontally through the accumulation of new disputants after the conflict has begun. There has been no shortage of empirical work concerned with the former, but by comparison, the literature largely fails to distinguish the processes that may be unique to the latter. Of course, these two mechanisms can function interactively, and it is difficult to rule out the possibility that additional states join because the conflict has already escalated. Similarly, we cannot ignore the possibility that conflicts deepen vertically because they become complex disputes due to the greater degree of uncertainty with regard to both enemies and allies (Valeriano and Vasquez 2010; Vasquez and Valeriano 2010). My purpose is not to investigate this particular nuance of complex disputes in any great detail, but severity and size must be incorporated in any analysis of conflict diffusion.

Three figures below display descriptive statistics about joining from the period 1885-2001. Figure 1.1 shows the frequency of joining during this timeframe, incorporating both first instances of joining (defined as the first year of a conflict that a joiner participates), as well as ongoing years of joining (defined as any and all years after the first year where a joiner remains in the dispute). Joining is a recurrent phenomenon, as this figure shows, and

where conflicts last beyond the year of their onset, joiners tend to remain belligerents once they become involved. The largest number of joiners naturally occur during those conflicts that spread across the globe, as can be seen from the larger spikes in the early 1900s (World War I), the 1940s (World War II), the early 1990s (the Persian Gulf War) and the late 1990s (the Yugoslav wars).

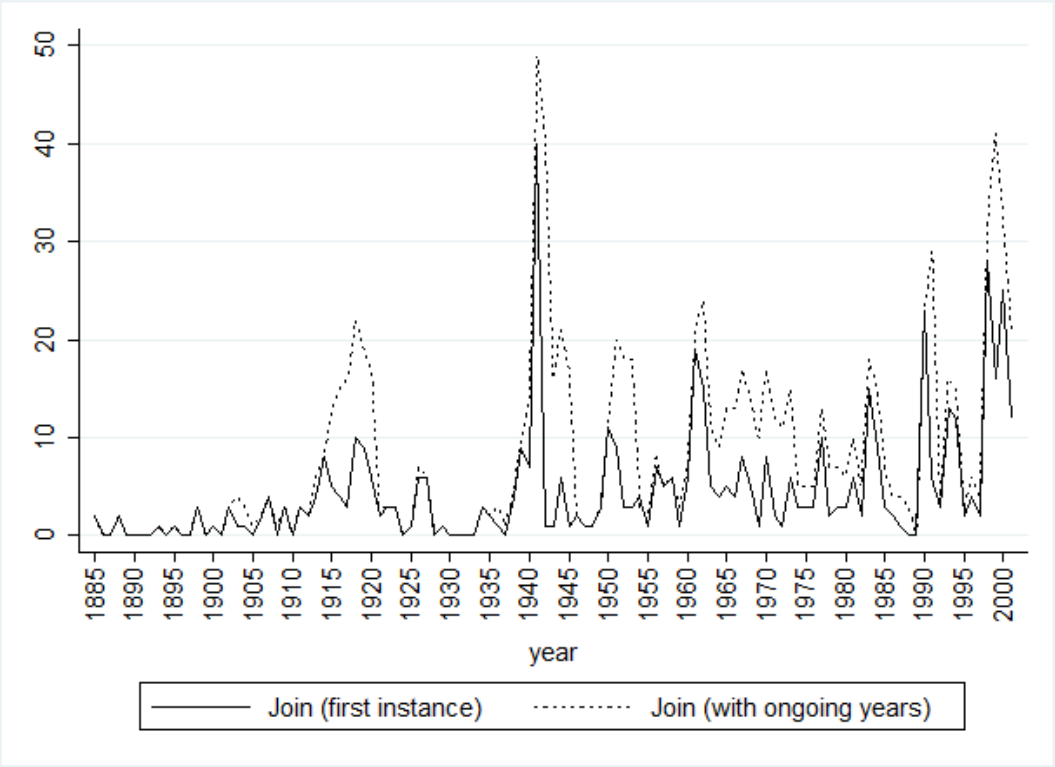

Figure 1.1 Frequency of Joining All MIDs, 1885-2001

Figure 1.2 displays the frequency of joining by the type of dispute. The first two bars represent joining over all militarized interstate disputes, regardless of the number of fatalities, if any. There have been 532 unique instances of joining from 1885-2001, as represented by the leftmost gray bar. There have been just under 1,000 instances of total joining, including

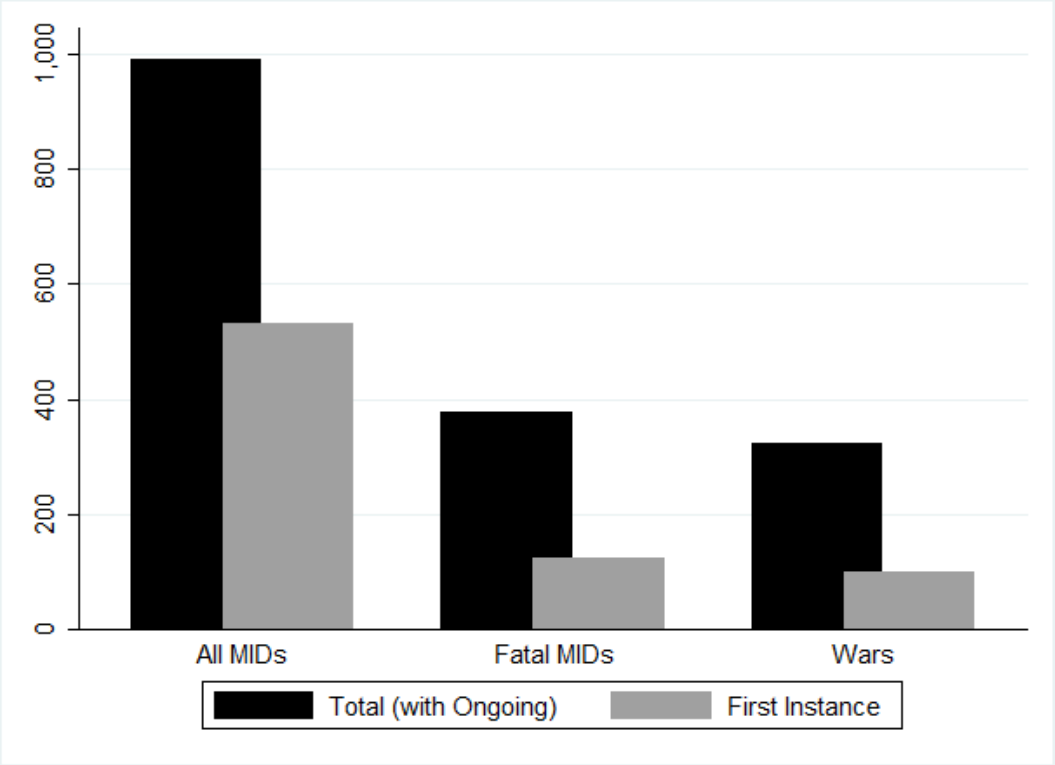

Figure 1.2 Joining MIDs by Type, 1885-2001

those joiners that remained in beyond the first year of their joining an ongoing dispute. Of the 2,118 disputes considered in this dissertation, only 388 met the fatality criterion. In these disputes, there were 125 unique instances of joining, and 376 counting ongoing years. This represents almost 25 percent of the total first instances of joining captured in the data, indicating that disputes that produce fatalities are more likely to have expanded.[3] The bars in the rightmost portion of the figure represent instances of joining in interstate wars, as defined above. Of the fatal MIDs from 1885-2001, only 60 reach the threshold to classify them as interstate wars. These 60 wars experienced 100 first instances of joining (of the 125

[3] It is impossible to say, however, whether these MIDs expand because fatalities are produced or whether they produce fatalities because they expand. The data are coded in "ex post" fashion, meaning that we only know for certain the number of fatalities at the end of the dispute, and not the number of fatalities or the hostility level of a dispute at the exact time a third party joins.

in fatal MIDs), and 322 instances of joining counting ongoing years (of the 376 from fatal disputes). This further indicates that more severe conflicts produce a greater proclivity for expansion (though see footnote 3).

Finally, of these instances of joining, are there certain states that constitute the majority of joiners? Obviously, we anticipate those with greater opportunities for intervention to serve as joiners. These states have greater military capabilities or are major world powers, under whose charge the stability of the international system rests. These are not the only states we see with a propensity for joining others' conflicts, however. Figure 1.3 displays the top joiners from 1885-2001, specifying five unique military interventions over the entire period as the lower threshold. All seven of the current major powers make the cut[4], but of the remaining 21 states included in this figure, most of them are better classified as economic powers (United Arab Emirates and Kuwait), regional leaders (Saudi Arabia and Turkey), allies of major world powers (South Korea, Canada, and Australia), or states contiguous to these other states (Iraq, Italy, and Poland).[5] Some states in this list fit multiple classifications (South Korea is an economic center and a key ally of the United States, e.g.), but there are also states on this list that we would not otherwise expect to be probable joiners (Romania, Bulgaria, and Portugal). These states are not militarily powerful, not particularly economically powerful, and at least in the modern period, not particularly prone to border clashes with their neighbors.

[4] The COW Project identifies the current major powers as The United States, The United Kingdom, France, Russia, China, Germany, and Japan.

[5] It should be noted that the majority of Germany's and Japan's military interventions occurred prior to 1945, when both states were banned from possessing offensive militaries as part of their respective unconditional surrenders in World War II.

What factors might account for this set of strange bedfellows as joiners? There is no single characteristic that unites them, save for the fact that all of them – at least in modern times – are major producers or major consumers in the international marketplace, or they are fundamentally connected to those other states that are. By the behest of the European Union, states like Bulgaria, Romania, and Portugal have their economic well-being explicitly tied to those other member-states of their customs union. As such, economic incentives present themselves in the set of states that we see actually engaging in this behavior.

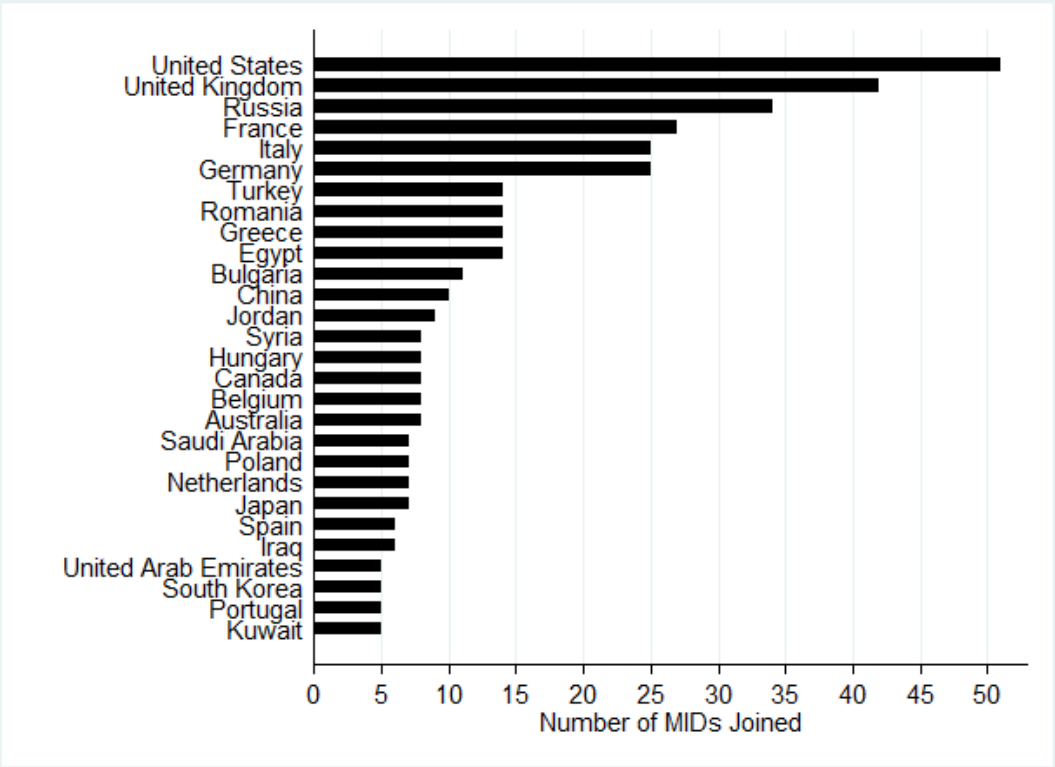

Figure 1.3 Joining MIDs by Country, 1885-2001

Section 1.3 Theoretical Perspective

It is important to understand the underlying causal processes that motivate third parties to intervene into ongoing MIDs. Ultimately, "we know very little about the decision-making process that leads some nations to remain neutral while others join ongoing wars" (Altfeld and Bueno de Mesquita 1979: 87). Though I focus on a specific set of motivators – those that are economic in nature – and broaden my analysis to include all types of militarized interstate disputes, the investigation I undertake in this dissertation will serve to enhance our understanding of what induces some states to take up arms while others abstain.

Given present data limitations, my analysis centers exclusively on bilateral trade dependence.[6] While the expansion subset of the conflict literature focuses primarily on the role of alliances and on the negative security externalities outside conflicts may present – especially if neighbors or rivals are involved – there is an obvious limitation regarding the remaining correlates of war. Few scholars have examined the potential economic incentives to intervene, but given the revival of interest in the conflict processes undergirding complex, multiparty disputes, it is fruitful to explore all drivers of conflict expansion. This tripartite interaction between militarized conflict, conflict expansion, and economic interdependence is only partially understood, and in its nascence, it is ripe for further review.

Section 1.3.i The Evolution of International Trade Patterns

When a dispute erupts between two states, it not only affects the direct participants, but negative externalities can spill over to other states in the international system (Aydin

[6] The value of foreign direct investment between a third party and a disputant would arguably be a better measure of economic dependence that might motivate military involvement. This is because FDI represents much more of a "sunk cost" that is not as easy to withdraw or alter as trade relations.

2008, 2012). Some of these negative spillovers may be economic, especially since interstate conflict has the potential to disrupt international trade (Oneal and Russett 1999a, 1999b; Barbieri and Levy 1999). The burgeoning liberal peace literature suggests that this trade disruption may be a consequence of fighting, and this is a primary reason why economically interdependent states are significantly less likely to fight one another than states that do not enjoy these mutually beneficial relationships (Oneal and Russett 1999a, 1999b). It is not a large leap to carry this argument to conflict expansion, and contend that in seeking to preserve trade ties, joiners that are economically interdependent with disputatious states are more likely to intervene in the conflict. According to Oneal and Russett (1997), states have a significant stake in the economic well-being of their trade partners. Where states are caught in potentially disastrous conflict, trade partners have an incentive to intervene to protect their own interests. In addition, the outcome of violence can have devastating consequences for third parties should essential trade partners be vanquished and trade ties permanently severed or benefits from trade severely diminished (Huth 1988; Organski and Kugler 1977). These theoretical arguments parallel those that Aydin (2008) used to generate her primary hypothesis – that states are more likely to join conflicts involving their trade partners. Her findings support this argument, but there are reasons to pursue a refinement of her analysis.

The argument that economic interdependence among states creates an incentive for them to intervene to protect their trade ties fails to consider the structure of the global economy itself. As trade markets have become more liberalized over time, the web of global interdependence has widened. The majority of states trade with a large number of others, which gives states a greater variety of options in choosing their trade partners, and more importantly, choosing the partners on which they are more dependence. Figure 1.4 shows

the number of trade partners, computed as a world average, for each year from 1885-2001. To create this figure, I calculated a variable that took on the value of 1 for every observation in a directed-dyad data set in which a state's value of for either imports or exports with its partner in the observation was non-missing and greater than zero.[7] These sets of "1's" were then summed by state for each year in the data, and these total values were then averaged by year. Figure 1.4 shows that there is a substantial increase – of more than 100 additional trade partners on average – from the beginning to the end of this time period. An increase in the number of available partners, however, only shows that states trade with more states, but is

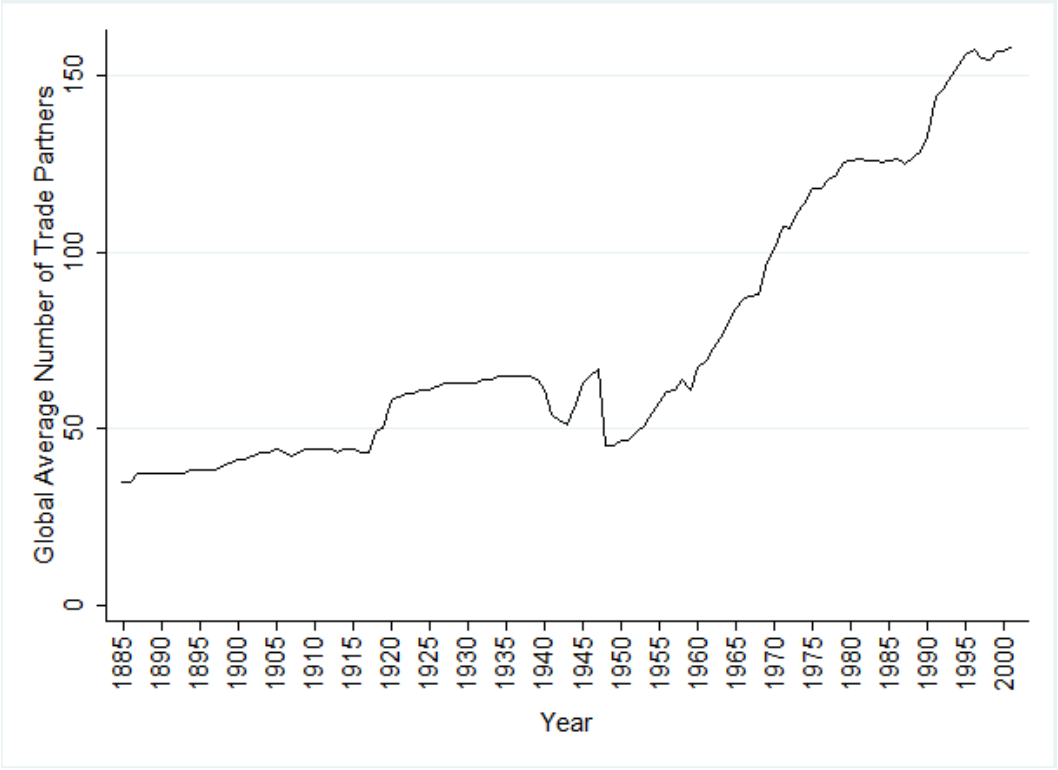

Figure 1.4 Global Average Number of Trade Partners, 1885-2001

[7] See Section 1.4.ii.b for a full description of this data.

not alone enough to show that trade has indeed become more integrated over time.

As states have increased the number of trade partners over time, their economies have simultaneously become more open to trade. Economic openness is measured as the total value of a state's national trade (imports and exports to all trade partners) as a percent of its gross domestic product. From 1885-2001, the average global level of trade openness moved from 0.311 to 0.484 – a 55 percent increase – indicating that states have staked larger and larger portions of their overall economic well-being on international trade. Figure 1.4 and these descriptive statistics are perfectly complementary, however, as we would expect that economies become more open as more trade partners are added, or vice versa.

To truly capture the state of global trade dependence, we need a measure of trade concentration at the system level. To this end, I created a Herfindahl index. A Herfindahl index is a commonly used economic indicator that provides an estimate of a firm's expected share of a particular industry's total market (Rhoades 1993). In the global economic context, I use it to approximate the value any given state might expect to capture of any other state's total trade market. To calculate this measure, I took the total nominal trade between a pair of states and divided it by the total national trade of the state of interest. These values, which range from 0 to 1, were then squared and summed, and remain constrained, but continuous, between 0 and 1. To capture the concentration of the global economy, I calculated the global average of the index for each year in the data. Values closer to 0 indicate a less concentrated, more liberalized global economy; values closer to 1 indicate a more concentrated, less liberalized global economy.[8] The Herfindahl value for 1885 was 0.0067, and this value fell to 0.0025 by 2001. While the values are small in both cases, the percentage change is rather

[8] See also Down 2007 for an alternate use of this type of index

stark, representing a 168 percent decline in the value of trade concentration. This decline in trade concentration means that as states have increased the number of trade partners and become more open to trade, they have also simultaneously decreased the level of reliance on any particular one of them.

Section 1.3.ii Costs and Benefits of Joining in an Integrated Global Economy

The empirical realities presented above suggest that states exist in a world of options, and that the diffusion of trade may at times present a disincentive to join ongoing MIDs. The overarching suggestion that states should intervene militarily to protect their trade relationships overlooks the fact that states have options to preserve their trade relations other than conflict participation. Abstention from joining is usually not treated as the outcome of interest in studies of conflict expansion, but in this dissertation, I suggest that this abstention is at least as relevant as actual intervention because it can signal that the economic relationship between states may not be fruitful enough to fight for. This, of course, assumes that states are willing to forgo their economic relationships with disputants in order to pursue these other alternatives. The decision to do so rests on the costs and benefits of their available choices.

First, conflict is inherently costly. When hostilities erupt between states, resources must be diverted toward the war effort and casualties are a definitive possibility. Even where MIDs only involve the threat of force, states may also pay reputational costs that have ramifications throughout the international system and could affect domestic electoral fortunes (Bueno de Mesquita and Siverson 1995; Fearon 1994, 1997). While the choices that originators and joiners face may differ from one another, the costs of conflict are universal. Potential joiners have an incentive to avoid paying these costs where they can. It is feasible

to assume that states will only intervene into others' conflicts where the costs of joining are expected to be lower than the purely economic loss of bilateral trade. Secondly, as described above, the network of economic interdependence has simultaneously widened and become less concentrated over time. In such an interconnected world, there may be a markedly lower incentive for states to intervene in conflicts involving their trade partners if a market substitute is available.

Given these considerations, it is conceivable that states can consciously choose to abstain from a trade partner's conflict and divert their trade relations where they deem it worthy and/or less costly than mounting a military effort. Doing so simultaneously avoids paying the costs of conflict intervention while maintaining economic health. If this is the case, then we should see a decline in bilateral trade when a partner is in conflict and a simultaneous increase in trade volume with other states, especially those other trade partners who are not involved in disputes. Early (2009) has applied the same logic successfully to sanctions-busting trade. Economic sanctions can be said to have an extremely punitive effect on their targets, but only when they cannot circumvent the sanction and seek economic relief elsewhere. As in this situation, modern states have the capacity to seek necessary commodities from other suppliers on the world market, and thus avoid the necessity of joining a conflict to protect their economic well-being.

Section 1.3.iii Market Idiosyncrasies

While diverting trade patterns in the face of a militarized dispute is always an option for third parties – at least in theory – it may not always be a plausible option. It is misleading, then, to suggest that all trade ties are created equally. In other words, some trade relationships are more beneficial than others, and some exchanges are simply more necessary

for an economy's survival. What remains, then, is to consider that even when states are willing to bear the costs of substituting their trade markets in the face of a dispute that threatens their economic well-being, can they?

Some markets are simply more amenable to substitution than others. Take, for example, the anecdotes from the beginning of this chapter. Each of these scenarios presented a trade relationship that was highly dependent upon primary resources. These resources – bananas, sugar, bauxite, and oil – do not grow everywhere, are not harvested everywhere, and do not exist everywhere. The United Fruit Company could not simply relocate its operational facilities from the Coto region to Ecuador, from whence the United States received the majority of its banana imports between 2002-2006 (UNCTAD). Likewise, the United States could not simply turn to Canada, or Britain, or France – some of its other primary trade partners at the time – to substitute these fruits because they simply do not grow in those countries' climates. Oil-dependent countries in the early 1990s primarily imported this resource from the Middle Eastern economies threatened by Saddam Hussein. There is a reason that we have banana wars and oil wars instead of refrigerator wars or plastics wars. The former two are idiosyncratic resources, meaning that their production and supply depends not so much on human ingenuity or on the availability of labor, but on the dictates of the environment. Such things are beyond human control, and where tradable commodities fall into this category, they represent a set of resources that are simultaneously more difficult to come by and more difficult to substitute.

To put it in economic terms, these products require factors of production that are immobile (such as arable land), represent those whose demand is inelastic to supply (such as oil), and whose asset specificity is particular to certain regions of the world (such as

bananas). Where trade dependence on these types of goods is what is in jeopardy from a trade partner's conflict, third parties have an even greater incentive to intervene to protect their lifeline of resources. Conversely, mass-produced goods such as textiles, low- or high-tech electronics, plastics, and even automobiles can be made virtually anywhere, assuming enough cheap labor and capital exist to facilitate their production. These goods then, give states less of an incentive to risk the costs of a military intervention to ensure their protection. As such, we must consider the basis of a trade relationship before we can definitively conclude that an economic incentive for military intervention is dampened by trade diffusion.

Section 1.4 Outline of the Dissertation

Section 1.4.i Chapter II: International Trade in a World of Options

In one of the few pieces of scholarly research on the relationship between international trade and conflict expansion, Aydin (2008, 2012) found that third-party states are more likely to intervene militarily in ongoing militarized interstate disputes when they are economically reliant on one of the disputants. They do so, she argues, because bilateral trade ties represent an economic investment, and failure to intervene when these investments are jeopardized may risk their loss. In this chapter, I plan to elaborate on the nature of the relationship between bilateral trade dependence and third-party states' MID-joining behaviors by accounting specifically for changes in the international economic structure over time. Conflict interventions may indeed be expected where a state in conflict is the sole supplier of a commodity of interest to a third party, as the outbreak of conflict may disrupt a disputant state's ability to conduct international trade. However, states are simultaneously

trading with more partners, more open to international trade, and less reliant on a single trade partner for any particular product, as evidenced in the previous section.

While trade dependence should remain an important factor in a third party's decision to join an ongoing dispute that did not originally concern it, it is not the only factor that needs considering. Third-party states are presented with a greater variety of options under periods of greater economic integration, and as such, the incentive to intervene on the basis of economic interests alone is likely to be smaller where the value of trade concentration is lower. States must weigh their choices carefully when so many costs are at risk, and where the economic environment is much more liberalized – and thus options for substitution may be available – the incentive for intervention is much smaller than it is where alternatives are less – or not at all – available.

The analyses performed in this chapter examine the way trade dependence and the international economy affect a third party's conflict-joining propensities. Consistent with Aydin (2008, 2012), I expect that bilateral trade dependence will exhibit a positive independendent effect on a third party's decision to join an ongoing dispute, all else equal. Since I also account for the international economic environment through the inclusion of a Herfindahl index, however, I expect that greater periods of trade concentration should also positively impact a third party's joining behavior. Finally, because I believe the intersection of these two phenomena is the most important consideration, I include an interaction term between them. While I expect the overall relationship to be positive, I anticipate that under conditions of greater economic integration, even where trade dependence is high, the probability of intervention should be lower.

The results from this chapter partially support these hypotheses, though not across all models. Trade dependence bears a significant positive effect, particularly for targeted states and particularly in fatal militarized disputes. However, when trade dependence is interacted with trade concentration in the international economic environment, the probability of intervention – while still positive – is significantly lower under periods of greater economic integration.

Section 1.4.ii Chapter III: The Circumvention Hypothesis

This chapter of the dissertation builds on the results from Chapter II, but also tests the assumption that the changes in the nature of the international economy have generated an environment conducive to conflict circumvention. As mentioned above, when conflict erupts, potentially affected third parties face a choice: they can join the conflict to protect their economic relationships, or they can abstain from fighting. Where they abstain, states face another set of choices: they can do nothing, and hope that their trade partner's dispute resolves itself without a serious disruption to their economic relationship, or they take measures to ensure that their own economic well-being is secure. While there are a variety of ways that states can do this, one of them includes potentially circumventing their combatant partners by increasing trade values with other states or seeking new markets elsewhere in the international system.[9] The latter outcome is interesting because it would suggest that states make a conscious decision to avoid conflict by choosing an alternative that is also relatively costly. Given the empirical realities presented earlier, and the results I present in Chapter II, we can question whether states might actually and actively circumvent joining international disputes involving their trade partners. States might do this for two reasons: to avoid the

[9] Other ways include, but are not limited to, increasing levels of domestic production or attempting to mediate a trade partner's dispute short of becoming militarily involved.

negative consequences of conflict participation as a third party and also to ensure that trade is not lost due to a partner's participation in an interstate conflict. The purpose of this chapter is to discover whether these trade pattern alternations actually occur when a trade partner is involved in a militarized dispute.

The majority of existing studies of conflict and trade center on the way that economic interdependence pacifies dyadic relations and reduces the likelihood of a dispute occurring between trade partners, but fewer explicitly test the liberal peace's assumption that trade is disrupted by international conflict (see Barbieri and Levy 1999). However, if militarized conflict does in fact jeopardize otherwise beneficial economic relations, then third parties who have these ties with a disputant state may have an incentive to seek new alternatives so as to preserve at least their own flow of goods, transactions, and economic benefits. If this is so, then we should see a decline in the value of a trade a third party has with a disputant state, but a simultaneous increase with the value of trade between the third party and its other trade partners, particularly those trade partners that are themselves not involved in any type of militarized dispute.

The results presented in Chapter III do not directly support this circumvention hypothesis, and in fact, indicate that states do continue to trade with their disputant trade partners, even during fatal disputes and interstate wars. However, the results do indicate that states also increase their trade with other states when one trade partner is in dispute. This could be due to some willful pursuit of other opportunities "just in case", since it is difficult to know whether low-level disputes will escalate and become real threats to trade relations, or whether this is just indicative of the fact that trade values generally tend to increase across the data. More importantly, however, I find that trade values do decline between a third

party and its other trade partners when it is involved in a dispute of its own, and particularly when it joins into a conflict that did not originally concern it.

Section 1.4.iii Chapter IV: Trade Substitution and Conflict Expansion

Even though I ultimately find very little evidence of states discontinuing their trade with a disputant state – or even evidence of trade falling between a disputant and a trade partner – for circumvention to occur, states must be more than willing to alter their trade patterns; they must be *able* to. The arguments that I make and the results that I present in Chapter III rest on a fundamental assumption: that trade relationships are, in fact, interchangeable. This is, of course, an inherently fallacious assumption, and one that needs to be investigated more directly. This chapter of the dissertation seeks to further parse out the nature of trade relationships presented in Chapters II and III by directly testing the substitutability of trade relationships. In order to do this, I disaggregate total trade values into two categories: consumer durable manufactured goods and primary commodities.

The former products are more easily substitutable should a state risk losing access to them because a trade partner finds itself in the midst of a militarized dispute; states can seek new markets rather than injecting themselves into an international conflict. The latter – given the finite and often scarce nature of primary resources – are not so easy to substitute, and failure to intervene may result in a loss of access, which can have both international and domestic economic ramifications. Essentially, this final quantitative chapter builds upon the conclusions of the previous two, replicating Chapter II by disaggregating the key independent variable and extending Chapter III by explicitly testing the way each category of tradable goods impacts the probability of third-party states joining into their trade partners' conflicts.

The analyses of this chapter examine whether trade dependence on primary commodities and trade dependence on manufactured goods affects the likelihood of conflict joining. I believe that the greater the reliance on primary resources – regardless of whether the potential joiner is the importer or exporter of the primary goods – the greater is the likelihood that this state will intervene to protect its access to these decidedly more scarce resources. The positive relationship between bilateral trade dependence and conflict joining propensities presented in Chapter II might thus be driven not only by the changing nature of the international economy, but also by the ease of substituting manufactured goods compared to those whose very existence depends on nature.

The results I present in Chapter IV partially support the above hypotheses. Trade Dependence on Primary Goods consistently has a positive relationship with third-party states' decisions to join ongoing disputes – regardless of the level of dispute hostility – while Trade Dependence on Manufactured Goods consistently has a negative relationship with joining across the models. However, the coefficients are largely only significant for joining states on the target side of a dispute, which partially indicates that states are more careful about weighing their economic relationships when they might truly be in jeopardy, as initiators of interstate disputes are more likely to win the conflicts they begin (Bennett and Stam 1998; Gartner and Siverson 1996).

Section 1.5 Conclusions and Contributions to the Discipline

Chapter V of the dissertation presents a summary of the conclusions from the empirical investigations presented herein. The first section will revisit the major research questions and approach to the dissertation as a whole. The next section will discuss the major findings of each of the quantitative chapters, as well as tie these individual chapter

conclusions together to synthesize the overall conclusions from and implications of the dissertation in its entirety. Final sections will discuss some of the limitations of the research design, offer suggestions for future work in this research program, and present final remarks.

The contributions of this dissertation are three-fold. First, I contribute to a growing body of research on third-party decision-making with regard to military conflict, and more specifically, to a relatively understudied branch of this literature that centers on the economic components of this calculus. I engage the broad literatures focusing on international trade, international conflict, and conflict diffusion and hone in on the intersection of these three expansive research programs. The recent revival of interest in the causal processes undergirding complex, multiparty disputes suggests that my work here will contribute to a greater understanding of the logic of conflict expansion.

Second, I refine, extend, and synthesize two separate, but complementary, theoretical explanations for conflict diffusion and conflict onset regarding the role of bilateral trade dependence. The first, from Aydin (2008, 2012), argues and finds that trade dependence is a motivation for third parties to intervene militarily into their trade partner's conflicts in order to protect mutually beneficial economic relationships. I do the same here, but argue that the probability of third-party military intervention should also be affected by the state of the global economy, and moreover, that the concentration of global trade should condition the impact of bilateral trade dependence. Secondly, I take up Dorussen's (2006) arguments that what states trade matters just as much as the fact *that* they trade for maintaining peaceful relations. Dorussen suggests that primary commodities are more scarce and more difficult to substitute, and these should contribute more to pacifying dyadic relations than commodities that are relatively substitutable. While Dorussen examines the probability of MID onset, I

take up his theoretical arguments here to examine the impact of different types of trade dependence on third parties' conflict-joining propensities. My dissertation is thus a theoretical refinement of Aydin's work and an extension of Dorussen's.

Finally the dataset I have compiled to test my hypotheses – particularly those in Chapters II and IV – is the first of its kind, and serves as a comprehensive dataset covering all militarized interstate disputes from 1885-2001. Previous investigations have relied on directed-dyad frameworks, but these datasets produced solely from generated data do not incorporate all militarized disputes,[10] do not account for all ongoing dispute years,[11] and thus, do not account for all instances of conflict joining. The dataset that I introduce here resolves these issues, and it also includes a variety of specifications concerning hostility and fatality levels, the choices of sides in a disputes[12], and the unique and directional components of bilateral trade dependence. Introducing such a dataset to the discipline will open my research agenda to replication, debate, and extension. These efforts can only facilitate a greater knowledge of conflict processes as they apply to expansion, and I hope that these analyses can foster meaningful questions that drive further research on this interesting topic.

[10] Usually, the EUGene (Bennett and Stam 2000) software program from which datasets are generated force the user to specify which a type of dispute to display: the first onset of a MID or the most severe MID in a year. Where there are two more MIDs that begin between a pair of states in a given year, this specification loses valuable information. When this parameter is set to "first onset", for example, more than 600 disputes between 1885-2001 are unaccounted for.

[11] Because the user must make a choice between the program reporting the first onset of a MID or the most severe MID in a year, ongoing dispute years are only that MID. Where there are two MIDs that begin in a year and carry onto into the next, the second year is thus only coded as "ongoing" for one of them.

[12] These are initiators and targets, as well as revisionists and status quo states.

Chapter II
Trade Diffusion as a Disincentive: Interstate Conflict in a World of Options

Section 2.1: Introduction

Why do some states join ongoing military conflicts while others abstain? How do states decide which side to join? With regard to the conflict literature as a whole, such questions have received scant attention. Inquiry has centered primarily on the calculus of conflict initiation and has left the decision-making process(es) that undergird conflict diffusion largely untouched. While Valeriano and Vasquez (2010) and Vasquez and Valeriano (2010) have begun to unpack the contagion effects underlying the expansion of conflicts from dyadic disputes to complex, multiparty conflicts, most of the relevant literature has generally borrowed explanations for conflict onset and extended their domain to joining behavior as well. Factors such as contiguity, material capabilities, and alliances have been touted as the most plausible justifications for third-party intervention in ongoing interstate disputes, but very little work has centered on economic interests.[13] Typically, trade openness is included as a control variable, resting on the conventional wisdom that more open economies have economic interests that are more widespread, and thus have more to protect should these interests become jeopardized through conflict. Conventional wisdom, however, fails to consider that trade patterns change over time, and where economic indicators are included in models encompassing data covering the breadth of the nineteenth and twentieth centuries, the results may camouflage a relationship that is different during greater periods of economic internationalization. This chapter seeks to examine the relationship between bilateral trade dependence and conflict expansion from 1885-2001,

[13] Cf. Polachek (1980), Werner and Lemke (1997), and Aydin (2008)

positing that the increase in global trade integration over this period conditions the relationship between economic reliance and military intervention. Using the interaction between trade dependence and global trade concentration, I argue that even where a third party has a high level of bilateral trade dependence one or more of the disputant states, the prevailing global economic conditions – especially the potential opportunity to substitute suppliers in competitive markets – should affect a state's decision-making calculus when a conflict threatens its trade relationships. In essence, high levels of trade dependence should matter more when global trade concentration is also high. This means that a third-party state has fewer opportunities outside of intervention to protect its economic interests. This argument replicates, but also refines, Aydin's (2008) study, and suggests that structural shifts in the global economy are as important as the individual trade relationships themselves.

By examining such a relationship, I engage the very extensive and detailed literature on conflict initiation as well as the much more limited work on conflict expansion. I also examine arguments from the liberal peace literature, which is particularly relevant to the study of conflict expansion undertaken here. Extending these arguments beyond the beginning stages of conflict to its horizontal expansion is a fairly simple task, but one that has been largely ignored within the conflict literatures and is ripe for investigation. This chapter asserts that economic interdependence should be considered an important factor in a state's decision making process when it confronts the choice of whether to join an ongoing dispute. Naturally, ideological, cultural, and military factors are important in determining whether to become involved in other states' conflicts, but economic interests are also a key motivation. In reality, "we know very little about the decision-making process that leads some nations to remain neutral while others join ongoing wars" (Altfeld and Bueno de

Mesquita 1979: 87). Unfortunately, not much has changed in the last few decades. We still lack an integrated framework for assessing why some states are joiners and others abstain from conflict. I hope to build on previous attempts to tackle this very problem.

This chapter is organized as follows: The first section surveys relevant research from the conflict, conflict expansion, and liberal peace literatures, highlighting the shortcomings of applying conflict initiation logic to the dynamics of conflict expansion. It then elaborates on an economic explanation for third-party intervention and offers some testable hypotheses. The third section explains the research design. The next section presents and discusses the results from the empirical analysis, and a final section offers some general conclusions and addresses some shortcomings of this research design.

Section 2.2: Existing Explanations for Third Party Military Interventions

Existing research on conflict expansion, especially regarding economic interdependence, is relatively scarce. The primary focus in the conflict literature has been to examine the circumstances under which militarized disputes are likely to occur, but relatively little work has tackled questions concerning third-party states' joining propensities. Why do states join conflicts that are already in progress? A cursory glance over the literature might suggest that this question is not terribly different from those concerning conflict initiation, and as such, many of the accepted explanations for conflict expansion are extensions of the findings from studies of conflict onset, though there are several studies that have directly investigated third parties' propensities to join ongoing disputes (Aydin 2008, 2012; Gartner and Siverson 1996; Melin and Koch 2010; Siverson and Starr 1991; Corbetta 2010, 2013; Werner and Lemke 1997; Corbetta and Grant 2012).

However, there are potential influences that have not been examined – or have not been examined thoroughly enough – and there are reasons to believe that a substantive difference exists between initiating (or being the target of) a conflict and joining a conflict once it has already begun. Conflict participation is always self-selected, regardless of the role a state plays therein. States choose to initiate MIDs for a variety of reasons – territorial expansion (Vasquez 1995; Senese and Vasquez 2003), policy disagreements over territory and other issues (Mitchell and Prins 1999), regime change (Enterline 1998). These initiations are obviously self-selected (Bueno de Mesquita 1980; Reed 2000; Werner 2000), and targets likewise face a choice to respond or submit. Witness the case of Melos during the Peloponnesian War: the Melians were not morally or practically obligated to resist the Athenians, but could have submitted, though submission usually means surrender to the rule of violence (Thucydides 431 BCE [1818]). While acquiescence or appeasement is always an option, it is often the less attractive option and a violent response in defense of oneself or one's polity is usually deemed justifiable and is sometimes considered the only appropriate response to aggression (Walzer 2006; May 2008).

There are fundamental differences between third-party military interventions and choosing to initiate or respond to aggression. Third parties, as external states, are not original conflict participants; they did not attack, and they were not directly attacked. Their choice, therefore, is distinct from initiation-stage choices, and it is worth investigating on its own merits. A third party's decision to take up arms in a conflict that did not originally concern it is a signal that it has some stake in an external dispute (Melin 2011), and we must be concerned with these stakes if we hope to understand disputes that evolve beyond the dyad.

Section 2.2.i: Traditional Explanations of Conflict Diffusion

There are three primary literatures that address third parties' military involvement in ongoing interstate disputes; two address expectations regarding conflict expansion generally, while the third focuses on which states are likely to join which disputes. Gartner and Siverson's (1996) predator-prey model suggests that militarized conflicts evolve out of dyadic disputes because of miscalculations on the part of the initiating state. In such a case, these conflicts expand horizontally because the initiator either overestimated its probability of victory in a one-on-one confrontation or underestimated the likelihood that its target would receive assistance from its allies (see also Smith 1996). However, the predator-prey model often serves as an explanation for why most disputes remain at the dyadic level rather than expand into larger, multiparty disputes.

The extended deterrence literature, on the other hand, suggests that initiating states may still attack despite the probability of third party intervention (Huth 1988; Werner and Lemke 1997). Bueno de Mesquita (1980, 1981) however, still suggests that states are unlikely to initiate a dispute if the probability of victory in dyadic combat is low. Extended deterrence rests primarily on the interaction between third-party threat credibility, capabilities, and strategic interests. Between the challenger and defender, whichever party typically has the greater balance of capabilities and interests in the dispute is likely to prevail (Fearon 1994; Danilovic 2001), and as such, weak challengers are unlikely to provoke states that are more powerful or have a greater stake in a protégé state for fear of expansion. Again, however, this literature primarily explains why disputes remain small or do not occur at all.

The third body of conflict expansion literature focuses on the unique state, dyadic, and dispute-level attributes that predict when and why states will become involved militarily

into ongoing interstate conflicts, and generally borrows from the existing research on conflict initiation. Most studies have focused on the role of shared borders, alliances, and major power status (Siverson and Starr 1990; Gartner and Siverson 1996; Smith 1996). Because of their prominence in more traditional inquiries of conflict studies, these explanations often travel from onset to expansion.

Reduced distance between states increases the probability of conflict between them because it is simply easier to fight in one's own backyard (Starr 1978; Diehl 1991; Bremer 1992). It may also increase the probability that a state will join an ongoing interstate dispute if one or more of its neighbors is involved, especially if the conflict in question might produce negative externalities across national borders (Siverson and Starr 1990).

Alliances have been used to explain the decreased likelihood of war between states (Bremer 1992; Leeds 2003), but they also contribute to the field of conflict expansion by linking states formally to one another in the event of a conflict. Defense pacts are especially important here, as these are the alliances that explicitly bind states together should one become embroiled in a militarized interstate dispute and are quite reliable (Leeds, Long and Mitchell 2000; Gibler and Sarkees 2004). Moreover, powerful states are simply more capable of staging a full-scale military intervention (Huth 1998), and the connection between major powers' willingness to initiate conflicts and their ability to intervene is well accepted in the literature (Altfeld and Bueno de Mesquita 1979).

Corbetta and Grant (2012) also suggest that third parties are much more likely to intervene militarily into disputes where power is unbalanced between initiators and targets. Where disputes are more equal in terms of power and interests on both sides, third parties

that choose to become involved often do so as intermediaries, attempting to broker peace between them without a specific peace in mind.

Somewhat less examined are the roles that measures of state similarity play in conflict expansion. An enormous literature exists on the phenomenon of the democratic peace, and its core findings need hardly be addressed in explicit detail here. Suffice it to say that we are fairly confident in the significance of democratic governance in international relations, and if there is anything we can say that we know, it is that democracies are significantly less likely to fight with one another (Doyle 1986; Maoz and Russett 1993; Bremer 1995; Levy 1988; Bueno de Mesquita et al 1999; Russett and Oneal 2001). We are, however, much less certain as to whether democracies are more willing to fight *for* one another. Would a democratic state be more likely to defend a democratic target? Join a democratic aggressor? The results from this line of research are anything but conclusive. While some scholars argue that democratic regimes will theoretically seek to protect their own kind (Doyle 1986; Chan 1984), others like Reiter and Stam 2002 demonstrate empirically that joint democracy makes little difference when deciding to join an ongoing conflict.[14]

In addition, shared membership in international institutions has been shown to dramatically reduce the likelihood of conflict because, like measures of joint democracy, shared membership in a cosmopolitan framework of governance illustrates a degree of

[14] The arguments for democracy are theoretically ambiguous. One could argue that democratic states would be likely to aid their brethren by joining democratic belligerents or protecting democratic targets, as Doyle's (1986) democratic diffusion hypothesis claims. On the other hand, however, once conflict is under way, democracies may be unable to pass the domestic institutional muster to join in if the conflict does not directly threaten their security (Bueno de Mesquita et al 1999). Moreover, different types of democratic systems may react differently to questions of conflict with other democratic states (Palmer, London, and Regan 2004), and some research has also suggested that certain types of authoritarian governments have a stable peace with one another similar to democracies (Pickering and Peceny 2006).

similarity between states (Hafner-Burton and Montgomery 2006). What is especially interesting is that the reverse of the argument applies here – similar states should be more likely to come to one another's defense in the event that one comes into conflict with an outside state, though this has yet to be tested empirically.

Moreover, other studies suggest that different measures of "affinity", such as common civilizational heritage (Corbetta 2010) and domestic economic arrangements (Werner and Lemke 1997) increase the likelihood that a third party will intervene militarily on the side of the most similar disputant. Corbetta (2013) also suggests that the frequency of positive public social interaction between states increases the probability that a third party will intervene on the behalf of its "friend", while intervening in opposition to those states with which it has greater social distance.

Unfortunately, these variables have rarely been included in models that seek to test a variety competing explanations. For indicators capturing traditional understandings of opportunity and willingness, the importance to the diffusion stage of conflict is primarily assumed because of their relevance to conflict onset. If these factors are important when a state initiates a conflict, they should also matter when a state decides to join one in progress. These claims are not being challenged in this chapter, but decisions to intervene in a conflict that does not directly threaten a third party's security or its homeland interests require more refined explanations than tradition affords.

Section 2.2.ii: Economic Explanations

Economic interdependence is the primary point of interest for this dissertation. Unfortunately, there is a paucity of economic literature to review in the field of conflict expansion. A vast body of research exists on the subject of the liberal peace, according to

which states engaged in bilateral trade are less likely to go to war with one another.[15] Again, this is because of mutual benefit and shared interests in preserving economic ties. Trade relations with other states is incredibly important to economic well-being, as states are constrained by their own resources and factors of production in terms of their ability to be economically self-sufficient. Market idiosyncrasies, such as the inability for all states to supply their own oil, grow their own foodstuffs, or manufacture their own high- and low-tech consumer durable goods, prevent states from being economically viable in autarchy (Grieco and Ikenberry 2003). Comparative advantage conditions domestic production, and states that produce different resources and goods trade with one another because product specialization creates economic efficiency and avoids a misallocation of scarce factors of production.

Conflict, it is argued, is terribly disruptive to these beneficial trade ties because disputes threaten production, transport, and consumption. As such, militarized disputes are much less likely to occur between trade partners. The utility of fighting a trade partner, even when the two confront an international disagreement, is much lower than the utility for resolving a dispute peacefully and preserving trade connections. The primary research agenda in the international political economy literature, as far as economic interdependence is concerned, has been to test the implications of the liberal peace on the likelihood of conflict initiation (Oneal and Russett 1997, 1999a, 1999b; Gartzke 2007). We have indeed seen very few studies attempt to carry over the economic arguments from conflict onset to conflict expansion, as has been done with some of the more traditional conflict indicators described above.

[15] See McDonald 2004 for an argument that only "free trade" promotes peace, rather than the existence of bilateral trade

One particular study of note in this area is Aydin's (2008) investigation of economic interdependence and conflict expansion.[16] Aydin's article marks one of the first attempts to integrate economic variables with traditional realist and neoliberal indicators and assess the factors that motivate states to join ongoing MIDs. She examines the impact of bilateral trade dependence on states' conflict-joining propensities and finds that states are more likely to intervene on behalf of their trade partners, and that this relationship holds regardless of whether trade partners are the initiators or the targets of a militarized dispute. Though the reasoning seems valid prima facie, there are reasons to believe that her conclusions merit further investigation.

Most importantly, she fails to account for structural changes in the international economy over time. By using the full temporal domain without any controls for the changing global economic environment, Aydin implicitly assumes that the antecedent conditions facilitating interstate conflict or international trade are identical in each year of the observed data. This is at best an erroneous assumption, as globalization has – to risk cliché – made the world much smaller over time. It is entirely possible that her results are driven by the failure to account for the evolution of the international economy, a shortcoming this chapters seeks to remedy.

Section 2.3: An Economic Theory of Conflict Expansion

Conflicts are, first and foremost, not isolated events. When a militarized dispute breaks out, it does not only affect the direct participants, but negative externalities may also spill over to other states in the international system (Aydin 2008). Some of these negative spillovers will necessarily be economic. Interstate conflict has the potential to seriously

[16] See also Aydin (2012)

disrupt international trade (Oneal and Russett 1999a; Barbieri and Levy 1999). When trade relations are jeopardized by interstate conflict, it can negatively affect the performance of national economies – not only those economies of the states in dispute, but those whose economic well-being might depend on one or more of them. Moreover, it creates an unstable and risky market scenario where investors and international corporations engaging in trade might lose trust in governments' abilities to manage conflict situations, causing them to consider diverting resources and changing relationships that might threaten domestic economies. Again, these effects are not only felt by the disputants, but by third parties with economic connections to them. This can motivate governments to take international action to preserve these existing economic ties, rather than risk their loss due to militarized disputes between economic allies (Aydin 2008). According to Oneal and Russett (1997), states have a huge stake in the economic well-being of their trade partners. Where states are caught in potentially disastrous conflict – both politically, militarily, and economically – trade partners have an incentive to intervene. Likewise, the outcome of violence can have devastating consequences for third parties should essential trade partners be defeated and ties permanently severed (Huth 1988; Organski and Kugler 1977).

The burgeoning liberal peace literature suggests that this potential for lost trade is a consequence of fighting, and this is a primary reason why economically interdependent states are much less likely to fight one another than states without mutually beneficial trade relationships (Oneal and Russett 1997, 1999a, 1999b). It is not a large leap to carry this argument to conflict expansion, and contend that in seeking to preserve trade ties, joiners that are economically interdependent with disputant states are more likely to intervene in the conflict. These arguments parallel those that Aydin (2008) used to generate her primary

hypothesis – that states are more likely to join conflicts involving their trade partners. Her findings support this argument, but as mentioned above, there is a need to refine her argument to account for the evolution of the international economy over time.

The overarching argument that economic interdependence between states creates an incentive for them to intervene to protect their trade ties fails to consider that structural shifts in the international system might change trade patterns. Particularly, periods like the Golden Age of trade liberalization at the end of the nineteenth century and the breadth of the twentieth century since World War II have witnessed a great expansion in the web of global interdependence. Most states trade with a large number of others, and as long as this widely cast web of trade links can be maintained, there may be less economic incentive for states to intervene in conflicts involving their trade partners. From Figure 1.4 in Chapter I, we saw that the number of trade partners, computed as a world average, has substantially increased from 1885-2001, more than tripling from the beginning of the time period to the end. This gives states a greater variety of options in the international marketplace, as we can safely assume that several of them produce (consume) the same goods that a third party imports (exports). The descriptive statistics regarding trade openness in Chapter I likewise support the notion of a wider global economy, as states have generally become more open to international trade over the period under investigation.

This increase in the number of available trade partners and the general trend toward openness, however, are not enough to show that trade has indeed become more integrated over time. To this end, I created a Herfindahl index, measuring the world average level of trade concentration, against the same period of time. A Herfindahl index is a commonly used economic indicator that provides an estimate of a firm's expected share of a particular

industry's total market (Rhoades 1993). In the global economic context, I use it to approximate the value any given state might expect to capture of any other state's total trade market. To calculate this measure, I took the total nominal trade between a pair of states and divided it by the total national trade of the state of interest. These values, which range from 0 to 1, were then squared and summed, and remain constrained, but continuous, between 0 and 1. To capture the concentration of the global economy, I calculated the global average of the index for each year in the data, which reflects the values discussed in Chapter I. Values closer to 0 indicate a less concentrated, more liberalized global economy, and values closer to 1 indicate a more concentrated, less liberalized global economy. Trade concentration has remained relatively low over the entire time series, but at its lower levels, has consistently decreased. Taken together, these summary statistics indicate that as states have increased the number of trade partners and their levels of openness to the international economy, they have also simultaneously decreased the level of reliance on any particular other state for their economic well-being.

Barbieri (1996, 2002) and Barbieri and Levy (1999) argue that economic interests are neither guarantees of pacifism between potential disputants nor are they reasons to believe that states will intervene. Only if a joining state is so economically dependent on a disputant state that it cannot seek trade from elsewhere does it have a real economic incentive to intervene in conflicts that do not directly threaten its own security or immediate interests. Beyond sole reliance on a trade partner, however, it is also conceivable that a relative lack of available market substitutes might encourage states to intervene to protect their economic interests. This is captured by the interactive effect of trade dependence and trade concentration. Where trade dependence is high, but an alternative to military intervention is

available, a third party may opt to abstain. Where trade dependence is high, but a substitute is not available, joining becomes a much more realistic option.

Early (2009) has applied the same logic successfully to sanctions-busting trade. Economic sanctions can be said to have an extremely punitive effect on their targets, but only when they cannot circumvent the sanction and seek economic relief elsewhere. As in this situation, modern states may have the opportunity to seek necessary commodities from other suppliers on the world market, and thus obviate the need to join a conflict to protect their economic well-being. Examining such an assumption directly is beyond the scope of the present investigation, but will be tested directly in Chapter III. However, for the purposes of this chapter, a positive marginal effect of trade concentration on the relationship between trade dependence and conflict-joining would lend credence to this possibility.

Section 2.4: Hypotheses

While the logic that states have a greater incentive to become militarily involved in an ongoing militarized interstate dispute when they are economically dependent on one or more states in the dispute is perfectly sound, the impact of the international economic environment itself should condition a third party's proclivity for joining. If a more interconnected global economy gives states a diminished incentive to intervene into ongoing disputes based on their levels of bilateral dependence with one or more of the disputants, then we should expect to see probabilities that are much lower under periods of greater trade liberalization than periods that experience higher levels of concentration. Thus, the nature of the relationship itself lies in the margins.

The marginal impact of bilateral trade dependence on conflict-joining should be positive – and increasingly so – under periods of greater trade concentration. Essentially,

when the global economy is more concentrated, it means that states have fewer options for substituting their trade relationships, and scarcity makes these relationships more valuable. The more valuable the gains from trade, the more willing should a state be to use force to protect them. As the level of trade concentration has declined over the past century and a half, however, states find themselves in a more precarious position – while gains from trade are still prized and still valuable, these gains may be viewed as less impactful on conflict-joining decisions because of the simultaneous widening and shallowing of the global economy, as described in Chapter I. Given these considerations, I offer the following three hypotheses:

> H1: Potential joiners should be more likely to join their trade partners in ongoing MIDs at higher levels of trade dependence on one or more of the disputant states.
>
> H2: Potential joiners should be more likely to join their trade partners in ongoing MIDs under periods of greater trade concentration.
>
> H3: The probability of joining should be smaller under periods of greater trade liberalization, even at higher levels of trade dependence.

Section 2.5: Research Design

This chapter seeks to examine the likelihood that third party states will join ongoing militarized interstate disputes based on vested economic interests in one or more of the disputant states. In order to test the above hypotheses, I generated data from the Correlates of War Militarized Interstate Disputes (v3.02) database using Bennett and Stam's EUGene software (v3.204). I produced data for each militarized interstate dispute that occurred between 1885 and 2001. Conflicts that were ongoing at the beginning of 1885 are excluded from the analysis, and only the first year of conflict is used for those beginning in 2001. I

then matched all original participants in each of these disputes with all other states that are not considered dispute originators. The latter group forms the subset of states labelled "State(s) A" and serve as the group of potential conflict joiners.[17]

Using these parameters, a directed-dyads framework was constructed whereby each original conflict participant was matched with every potential joiner (State A). Though the use of all dyads may at first seem facetious because small, relatively weak states such as Fiji are quite unlikely *a priori* to join militarized disputes between far-off states, there are a number of similar incidents in the data. For example, Ethiopia is considered to have joined into the Korean War from 1951-1953, even though Ethiopia was neither a militarily powerful state nor geographically proximate to North and South Korea. Restricting the set of potential joiners to only those politically relevant to the disputant states – usually operationalized as states that are either major powers or directly contiguous to a disputant – misses some of these less obvious, but interesting instances of conflict-joining.[18]

The unit of observation is the directed-dyad MID year. Each observation represents an opportunity for each State A to join either or any of the originating disputants, depending on the number of original parties.[19]

Moreover, I also choose to include ongoing dispute years in these analyses. Because a state can join at any time during a conflict so long as it does not terminate, only coding

[17] The MIDs database operationalizes an "originator" as any state that participates in a dispute on the first day. Any state that participates in the dispute from the second day forward is considered a "joiner". I adopt this operationalization and terminology in the analyses that follow.

[18] A sensitivity analysis using only the subset of politically relevant potential joiners can be found in Appendix A.

[19] The great majority of MIDs arise between only two original states, but of the 2,118 MIDs used in these analyses, 141 of them occur between three or more original disputants. This gives rise to the possibility than a joiner can join multiple states simultaneously if they are grouped together on the same side of the dispute.

joining in the first year of a conflict's duration may miss actual instances of joining, especially where conflicts begin quite late in a year and carry on to the next.

Section 2.5.i: Dependent Variable and Choice of Estimator

Because I am examining the probability of joining a conflict, and specifically the probability of joining a particular side, my dependent variable captures whether a third-party state becomes involved in a militarized interstate dispute for which it is not an original participant. Because the conflict data from COW are coded for the first and final days each state participates in a conflict, it makes it possible to evaluate exactly when states entered and left ongoing disputes.

Because the data also communicate which side of a conflict (initiator or target) a state joins, I construct a dependent variable that captures a state's choice of sides in its decision to join. This variable can be described as a multiple category nominal variable. Join Side is coded 0 in each year that a potential joiner abstains from joining the conflict, 1 for the first year that a state joins Side A (initiating side) as well as each subsequent year it remains in the conflict, and 2 for the first and each subsequent year that a state participates on the side of the target(s).[20] Joining is operationalized in both of these dependent variables according to whether the state participated in the conflict on the first day. First-day participants are coded as originators; all others are coded as having been latecomers to the conflict.

[20] Sensitivity analyses found in Appendix A also evaluate *Join Side* using the revisionist and status quo sides of a dispute in lieu of defining initiators and targets. In certain cases in the MIDs data, states coded as an initiator are not thought to have been the actual aggressor in the dispute. For example, Poland is coded as having initiated World War II against Germany, rather than vice versa. This is due to the fact that Poland issued a threat to defend itself against future German aggression in March 1939, and though Germany invaded Poland in September 1939, Poland's initial threat to use force falls within the MIDs database coding rules that any threats, displays, or uses of force between the same states over the same issue within six months of one another are part of the same dispute (Jones, Bremer, and Singer 1996).

The discrete nature of the dependent variable makes linear regression infeasible. The estimations that follow will examine the relationship between bilateral trade dependence, trade dependence conditioned by the concentration of the global economy, and conflict joining using multinomial choice models. The multinomial logit model will produce two parameters for each non-zero category of the dependent variable – joining with or against the initiator(s).[21] After estimation, I present the substantive and marginal effects for significant covariates and interaction terms, respectively. I use Tomz, Wittenberg, and King's (2003) CLARIFY package for STATA to simulate predicted probabilities based on interesting values of the significant explanatory variables.

In order to account for potential unit effects and serial correlation, I cluster robust standard errors around each dispute and incorporate peace years and polynomial splines (Carter and Signorino 2010). Because of the unique nature of my unit of analysis and dependent variable, peace years and the polynomial splines calculated from them might theoretically achieve a positive sign, rather than a negative one. This is because these measures of temporal dependence are often utilized in studies examining the probability of conflict onset, where greater stretches of peace decrease the probability that two states will fight one another. Here, greater stretches of peace between a disputant and a potential joiner might just as likely increase the probability that the joiner actually joins the dispute because of past peaceful relations with one or more of the disputants.

In addition, I replicate the analyses on two subsets of the overall data: fatal MIDs and interstate wars.[22] The great majority of MIDs never escape the threat to use force or a

[21] The "abstain" choice of 0 is used as the excluded reference category.
[22] A "fatal MID" is a militarized interstate dispute during which at least one fatality is recorded; an "interstate war" is a militarized interstate dispute during which both sides experienced at least 1,000 battlefield deaths in a given year (Jones, Bremer, and Singer 1996).

display of force, whereas fatal MIDs and interstate wars are conflicts where military force is actually used. They represent the higher categories of dispute hostility, and are more likely to witness a military intervention from a third party. Of the 2,118 total MIDs used in these analyses, 388 are marked by at least one fatality, and 60 are classified as interstate wars.

Section 2.5.ii: Causal Variables

Because the primary hypothesis is that states are more likely to intervene in conflicts based on vested economic interests under higher levels of trade concentration, the primary variable of interest used here are bilateral economic dependence and trade concentration. *Trade Dependence* measures the total annual bilateral trade flow between a disputant and each State A as a percentage of State A's GDP.[23] This measure is a commonly adopted indicator of economic openness in the conflict and IPE literatures, but when utilized in a directed-dyadic framework, it provides a snapshot of each potential joiner's dependence on a disputant state (Oneal and Russett 1999a, 1999b). I use Katherine Barbieri's trade data available through the COW database, which records total imports and exports between a pair of states in each year, and divide these measures by the potential joiner's GDP.[24] The measure is also logged to normalize discrepancies.

Because the hypotheses are conditional on the level of trade liberalization in the global economy, I also incorporate a Herfindahl index. For the analyses, I use the global values – rather than the individual market values – to capture the international economic environment. Values closer to 0 indicate a less concentrated, more liberalized global

[23] Both trade flows and GDP are fixed in millions of constant 2006 U.S. dollars.

[24] I choose Barbieri's trade data for the primary analyses in this chapter because her trade data cover the broadest temporal domain. Sensitivity analyses in Appendix A also utilize Oneal and Russett's (1997, 1999a, 1999b) logged measures of trade dependence, as well as a logged measure of trade dependence derived from Gleditsch (2002). Oneal and Russett's data cover the period 1885-1992, while Gleditsch's data only cover the period from 1948-2000)

economy; values closer to 1 indicate a more concentrated, less liberalized global economy. *Trade Dependence* is interacted with the global Herfindahl index to approximate the level of bilateral trade dependence conditioned by the concentration of the international trade market. As hypothesized above, at higher Herfindahl levels, the marginal effect of bilateral trade dependence should increase the probability of joining.

Section 2.5.iii: Control Variables

Prior research on conflict initiation and conflict expansion indicates the importance of a vast array of control variables. What work has been done in the latter field has directly indicated the importance of the control variables utilized in the former.

Contiguity – Countries that are geographically proximate are more likely to intervene into ongoing conflicts (Most and Starr 1980; Siverson and Starr 1990). Because of the shared space, states also share an external security environment, and are more likely to be affected by the negative externalities of conflicts in their own vicinity than are states at a greater distance from the dispute. Neighbors also have an easier time mobilizing military resources over short distances, so capabilities can be used more efficiently (Siverson and Starr 1990). I use the logged measure of capital-to-capital distance between countries, which should be negatively related to the probability of joining a conflict (Stinnett et al 2002). This relationship should hold regardless of side.

Major Power Status – Altfeld and Bueno de Mesquita (1979) suggest that great powers are significantly more likely to join ongoing MIDs than are minor powers. Major powers tend to have significantly greater military capabilities, which makes them likely conflict participants, but they may also intervene to prevent the influence of a greater number of smaller, weaker states, thereby cutting conflicts off from becoming widespread

spatially and decreasing their longevity. A major power joining a conflict can signal to other states that it is unwilling to allow the conflict to become further inflamed. Major power states should thus be more willing and likely to intervene in conflicts, and potential joiners are coded as 1 if they belong to the list of major powers identified in Singer and Small's (1972) COW classification, and 0 otherwise.

National Material Capabilities – States that are militarily stronger have a greater capacity to inject themselves into ongoing interstate disputes than do other states. Powerful countries can finance adventures abroad more easily, and can also exercise greater influence on conflict resolution than weaker states. National capacity is operationalized here as the potential joiner's national material capabilities score per annum according to the COW project (Singer, Bremer, and Stuckey 1972). I use the natural log of these CINC scores to avoid the bias of non-normal discrepancies between states' military power.[25]

Economic Openness – Like states with greater material capabilities, economically stronger states have a greater capacity for intervention. However, high degrees of pre-existing wealth or more open economies may deter states from joining ongoing conflicts simply because they have less need to intervene in order to preserve their economic status. States with more open economies states should actually have an easier time circumventing ongoing conflict and seeking out alternative trade partners, though such is merely speculation in this chapter. Economic openness is measured as a potential joiner's total national trade in imports and exports as a percentage of its GDP. The measure is also logged to normalize discrepancies in the size of state economies.

[25] Since there is generally a correlation between military power and major power status, the inclusion of both variables may be cause for concern. The correlation coefficient between them is indeed quite large at 0.81. Models omitting one or other, however, do not substantively change the results presented here. When major power status is deleted from the models, CINC scores are significant, and when CINC scores are dropped, major power status is statistically significant.

Defense Pacts – Formal alliances have been argued to not only reduce the probability of conflict between states, but also to increase the probability that states will intervene in the conflicts of others (Gibler and Sarkees 2004; Leeds, Long, and Mitchell 2000; Siverson and Starr 1990). Existing work on alliances and propensities to join ongoing armed conflicts indicates that states are approximately 25 percent more likely to join conflicts where doing so is obliged by a formal defense pact (Smith 1996), and that commitments to provide military support increase the incentives of third-party states to join, especially where the conflict invokes the *causus foederis* of an existing alliance (Leeds, Long, and Mitchell 2000). A potential joiner that is committed to defending another state should thus be more likely to join a conflict involving its ally. Alliance data are taken from the COW database, and are coded 1 if there exists a formal defense pact between an original disputant and a potential joiner (State A) in the year(s) of conflict, and 0 otherwise.

Number of Participants – One of Aydin's (2008) conclusions is that states tend to bandwagon rather than balance, but she does not explicitly control for the number of states on each side in a conflict. I do so here, using a count of the total number of states on each side at the time a state joins.[26] Both of these controls are expected to have a positive relationship to third-party joining behavior. Valeriano and Vasquez (2010) and Vasquez and Valeriano (2010) suggest that conflicts that evolve from small, dyadic disputes into complex multiparty disputes do so in part because of a "contagion effect" created by the participation of additional belligerents. I also control for whether the number of states participating on the side of the initiator is higher, given that states are more likely to initiate conflicts they believe they will win, and so joiners might be more likely to participate where there are more

[26] This number includes original participants and other, previous joiners

initiators, as the perceived probability of victory is higher (Bennett and Stam 1998; Gartner and Siverson 1996). More initiators should thus be associated with a greater to propensity to join with initiators, but should be negative for joining targeted states.

Democracy – A vast literature on the democratic peace suggests that states that are jointly democratic are less likely to initiate conflicts against one another. A much more limited literature posits that democracy also plays a role in conflict expansion, though the evidence is mixed. While Chan (1984) and Doyle (1986) argue that the democratic peace should extend to conflict expansion, Reiter and Stam (2002) contend that democratic states are no more likely to protect democratic targets or join democratic aggressors than if they were autocratic states. Nevertheless, Huth (1998) and Raknerud and Hegre (1997) provide empirical support for Doyle's democratic diffusion hypothesis. I use three variables to capture the effects of democracy. First, I used Marshall, Jaggers, and Gurr's (2012) POLITY IV database to attain potential joiner's individual democracy scores. I coded the difference between each state's respective democracy and autocracy scores. Consistent with Gartzke (2007), I added 10 to this difference and divided by 2. Where the final score is 7 or greater, the country is considered democratic. Second, I used these same scores to construct a variable for the joint democracy between a potential joiner and a disputant. Where both the disputant and the potential joiner reach the threshold of 7 as a democracy score, the dyad is coded as jointly democratic. Theoretically, joint democracy could be signed in either direction.

In addition, when states face the decision of joining a conflict, they must choose a side. Doyle (1986) contends that democratic states are more likely to bandwagon with other democracies than join autocrats. Interestingly, however, we do not know exactly how states

behave when facing a decision to join a conflict involving jointly democratic disputants. It is plausible to hypothesize that democratic states will be reluctant to enter disputes involving two other democracies, perhaps not out of fear of a conflict escalating to a democratic war, but because democracies can be confident that other democracies will resolve their disputes peacefully (Bueno de Mesquita et al 1999). For this reason, democratic states that are jointly democratic with all states on both sides of a conflict should be less likely to join, and on either side. This variable is coded 1 where all original disputants and the potential joiner reach the democracy threshold described above, and 0 otherwise.

Economic Interdependence with the Other Side – Aydin's (2008) study also incorporated a measure to capture a potential joiner's trade dependence on the state on the *other* side of the conflict from the state with which it is matched in each observation. She interacts this measure – the logged value of bilateral trade dependence with the other side – with a dummy variable capturing whether the trade dependence with the state in observation is at least one-half standard deviation above the mean value of trade dependence in the entire sample. Doing so captures the possibility that the potential joiner is concurrently interdependent with both sides in a conflict, but conditions its economic interdependence on a disputant's adversary with the fact that it is highly dependent on the state it is matched with in each observation. Since the present investigation directly challenges Aydin's (2008) findings, I replicate this variable as a control in my analyses.[27]

[27] Because there can be multiple states participating on either side during a dispute, I use the value of trade dependence from the state that the potential joiner is most dependent on from the other side.

Section 2.6: Empirical Analysis

Section 2.6.i: Multinomial Logistic Regression: All MID, 1885-2001[28]

Table 2.1 presents the results from multinomial logit regression over all MIDs from 1885-2001. Model 2.1 displays the results from a baseline model, using only the variables of interest, and Model 2.2 displays the results from the full model, incorporating all of the control variables described above. There results from Model 2.1 do not fully support the central hypothesis that states with higher levels of bilateral trade dependence on one or more disputant states are more likely to join into their disputes under periods of greater trade concentration. The interaction term between trade dependence and trade concentration bears a strong positive and significant coefficient only for joining the initiating side of a conflict, but is negative and significant for joining targets. This runs counter both to the primary hypothesis of this chapter and to intuition. Because states that initiate disputes are often likely to prevail in them (Bennett and Stam 1998; Gartner and Siverson 1996), trade relationships between a disputant and a third party are much more likely to be threatened if the disputant state is a target of aggression. Hence, we would expect to see greater proclivities for joining targets if an economic investment is truly in jeopardy. The primary hypothesis is also only partially supported – and in the opposite directions – in Model 2.2, which includes the control variables described in the previous section. Here, the interaction term bears a positive, significant coefficient for joining target, but it is negative and insignificant for joining initiators. In Model 2.2, as in Model 2.1, the coefficients on the

[28] Sensitivity analyses substituting Oneal and Russett's (1997, 1999a, 1999b) and Gleditsch's (2002) trade data for the Barbieri's COW data may be found in Appendix A. In both of these supplemental models, trade dependence, the interactive effect between dependence and concentration, and interdependence with the other side were calculated and tested using the respective alternative data sets. Further sensitivity analyses using only politically relevant potential joiners and using the revisionist/status quo state distinction instead of initiators/targets may also be found in Appendix A. Each of these four additional analyses use all MIDs as the population, and are essentially replications of Model 2.2 with the designated changes.

Table 2.1 Joining All MIDs, 1885-2001

	Model 2.1		Model 2.2	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	-0.507***	-0.462***	-0.0571	0.300***
	(0.0191)	(0.0308)	(0.0654)	(0.0746)
Trade Concentration	25.79***	-27.98	19.96***	-27.86
	(2.034)	(16.92)	(2.852)	(18.86)
Dependence*Concentration	29.38***	-18.35***	-6.417	11.61*
	(5.994)	(2.838)	(5.464)	(5.380)
Distance (log)			-0.816***	-0.410***
			(0.0516)	(0.0953)
Major Power			1.463***	1.398***
			(0.188)	(0.185)
CINC (log)			0.259***	0.756***
			(0.0733)	(0.0891)
Defense Pact			0.266	1.262***
			(0.204)	(0.221)
Number Initiators			0.119***	0.115*
			(0.00618)	(0.0476)
Number Targets			-0.0137	0.0427***
			(0.0127)	(0.00788)
More Initiators			1.389***	-2.803
			(0.194)	(1.702)
Openness (log)			0.668***	0.165
			(0.0642)	(0.111)
Democracy Score			0.0389	0.158***
			(0.0215)	(0.0256)
Joint Democracy			0.0626	-0.349
			(0.209)	(0.264)
All Democracies			0.218	-0.996*
			(0.215)	(0.474)
Interdependence Other Side			-0.124***	-0.0774***
			(0.00829)	(0.0101)
Constant	-12.47***	-14.41***	-2.196	2.719
	(0.256)	(0.566)	(1.458)	(1.704)
N	617,728	617,728	468,720	468,720
Pseudo R2	0.0791	0.0791	0.367	0.367
Wald Chi2 (df)	(12) 1650***	(12) 1650***	(36) 5377***	(36) 5377***
Log Likelihood	-6457	-6457	-3579	-3579

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, **p<0.01, *p<0.05

constitutive elements alone are difficult to interpret and offer only little added value to the results. Trade dependence alone is negative and insignificant for joining initiators, but positive and significant for joining targets. In essence, when international trade is perfectly liberalized (i.e., the Herfindahl index measuring trade concentration is 0), higher levels trade dependence do not affect a third party's decision to join an initiator, but still positively impact the decision to join a targeted state. On the other hand, when the value of trade dependence is 0, higher levels of trade concentration in the global economy positively impact a decision to join only an initiator.

To illustrate the conditional impact that trade concentration has on trade dependence and the decision to join, the marginal effects for both initiators and targets are presented in Figure 2.1. The marginal effects are negative, but not significant, for initiators from Model 2.2, but global trade concentration does condition the probability of joining to protect trade investments for states on the target side of a MID.

The concentration of the global economy has no effect on the relationship between a third-state's trade dependence on an initiating state and its decision to join the militarized dispute, as seen in the left-hand pane of Figure 2.1. In the right-hand pane representing the interactive effect for joining targets, however, we see a positive and significant relationship.

Higher levels of bilateral trade dependence on a target state under conditions of higher trade concentration in the international economy increases the chance that a third party will join. Though this probability remains positive over the spectrum of trade concentration, it is much lower in a more liberalized world economy, where Herfindahl index values are closer to zero. This percentage change increases from nearly 0 at the lowest levels of trade concentration to nearly 10 percent at the highest value of 0.8. The majority of

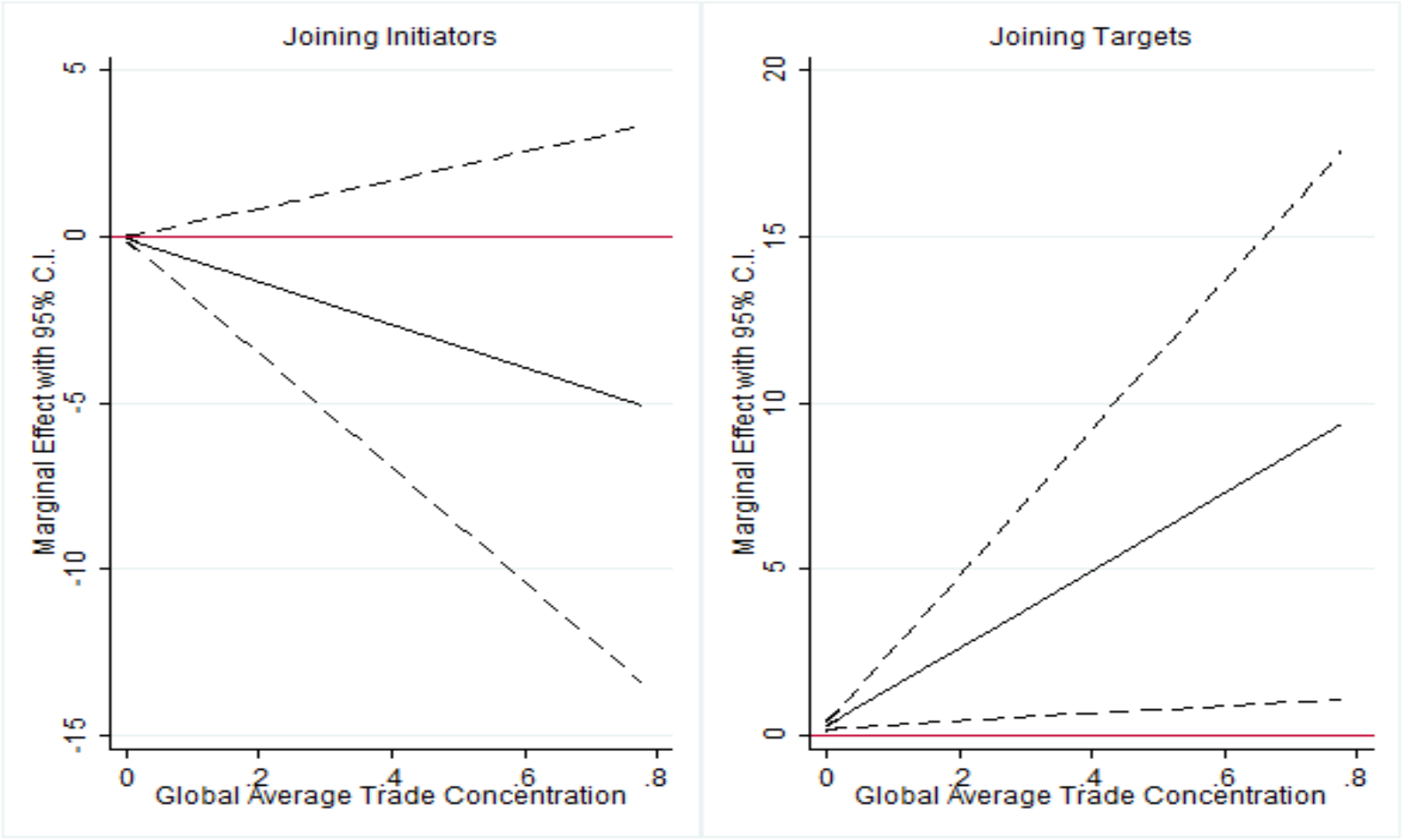

Figure 2.1 Marginal Effects of Trade Dependence in All MIDs, 1885-2001

the time period falls under a Herfindahl index value of less than 0.2, however. Conservatively then, we can say that the probability of joining a target where trade dependence is high is only slightly conditioned by the global economy, at an increase from nearly 0 percent to approximately 3 percent.[29]

The remainder of the control variables in Model 2.2 are predominantly signed and significant as expected, and substantive effects from the significant covariates can be found in Table 2.2. Greater capital-to-capital distance decreases the probability that a third party will join either side in a militarized dispute. Third parties are approximately 47 percent less likely to join initiators at one standard deviation above the mean of distance, and are also around 27 percent less likely to join targets. Given the robust consensus in the conflict literature that geographic proximity creates a great opportunity for states to fight, and also for negative externalities to spill cross international boundaries into surrounding states, this is unsurprising. It does appear from the magnitude of the substantive impacts, however, that far-away targeted states are still more likely to garner sympathy than initiators, all else equal. Third parties that are major powers or have more powerful militaries are significantly more likely to join either side in ongoing MIDs, which is also unsurprising given their great ability to project their power and intervene into others' conflicts. For both initiators and targets, third parties are more than 300 percent more likely to join disputes than are minor powers or other small states. States with greater than average CINC scores are 65 percent more likely to join initiators, but more than 300 percent more likely to join targeted states. Again, this supports the intuitive contention that where a third-party state feels its relationships are

[29] Model A.1 in Appendix A uses Oneal and Russett's (1997, 1999a, 1999b) trade dependence data for the primary variables of interest, as well as for calculating interdependence with the other side, and Model A.2 uses Gleditsch's (2002) expanded trade data for the same variables and calculations. The results in both mirror those found in Model 2.2, but are insignificant. The controls variables remain predominantly signed and significant as expected. Marginal and substantive effects are not reported for either model.

Table 2.2 Substantive Effects Model 2.2, 1885-2001

	Join Initiator			Join Target		
	Base Prob: 0.0000846			Base Prob: 0.0000647		
Variables	Value	Prob	Change	Value	Prob	Change
Distance (log)	-1 sd	0.0001612	90.54	-1 sd	0.0000901	39.26
	+1 sd	0.0000448	-47.04	+1 sd	0.0000469	-27.51
Major Power	1	0.0003681	335.11	1	0.0002687	315.3
CINC (log)	-1 sd	0.0000433	-48.82	-1 sd	0.00000974	-84.95
	+1 sd	0.0001396	65.01	+1 sd	0.0002595	301.08
Defense Pact				1	0.0002392	269.71
Number Initiators	1	0.0000784	-7.33	1	0.00006	-7.26
	5	0.0001348	59.34	5	0.0001045	61.51
	10	0.0002289	170.57	10	0.0001881	190.73
	15	0.0004156	391.25	15	0.003845	5842.81
Number Targets				1	0.0000624	-3.5
				5	0.0000789	21.95
				10	0.0000913	41.11
				15	0.0001131	74.81
More Initiators	1	0.0003451	307.92			
Openness (log)	-1 sd	0.0000438	-48.23			
	+1 sd	0.0001797	112.41			
Democracy Score				0	0.0000308	-52.4
				2	0.0000367	-43.28
				7	0.0000898	38.79
				10	0.0001435	121.79
All Democracies				1	0.0000249	-61.51
Interdependence Other	-1 sd	0.0001844	117.97	-1 sd	0.0001045	61.51
Side	+1 sd	0.0000428	-49.41	+1 sd	0.0000426	-34.16

threatened by a militarized dispute, it is likely to take up arms in defense of a target instead of an initiator. This is further demonstrated by the role that defense pacts play in third parties' joining behavior. The coefficients for the alliance variable are positive for both initiators and targets, but only attain statistical significance for the latter. When a third party has a defense pact with a targeted state, it is just under 270 percent more likely to join into the dispute. This also lends credence to Leeds, Long, and Mitchell's (2000) contention that alliances – and defense pacts in particular – are overwhelmingly reliable.

To capture the possible bandwagoning/contagion effects suggested by Valeriano and Vasquez (2010) and Vasquez and Valeriano (2010), I included controls for the number of participants on each side of a dispute. Moreover, to control for the possibility that states might elect to bandwagon together under the perception that initiators tend to emerge victorious, I also accounted for whether the initiator's side had more belligerents. Higher numbers of states on the initiating side increase the probability of joining either side, but a higher number of targets only significantly increases the probability of joining a target. The substantive effects for these two variables are quite interesting. When there is only state on the initiator's side, a third party is approximately 7 percent less likely to join either side, all else equal.[30] However, when membership increases to five participants on the initiator's side, the probability of joining either side jumps to approximately 60 percent. When there are ten initiators, we also see a tandem increase in the probability to around 170 and 190 percent for joining initiators and targets, respectively. Likewise, when there is only one target state, a third party is actually 3.5 percent less likely to join it. However, when there are five or more targets, the probability of a third party joining a target increases to just over 20 percent, and

[30] The mean number of initiators is 1.7, and the mean number of targets is 1.8.

reaches more than 40 percent when there are 10 states on the target's side. This set of results directly supports Valeriano and Vasquez's (2010) and Valeriano and Vasquez's (2010) claims that complex, multiparty disputes tend to evolve from smaller, dyadic disputes through a process of contagion. Moreover, where the number of initiators is greater than the number of targets in any given dispute, states are significantly more likely to join the initiating side, by a magnitude of around 300 percent. Third parties in this scenario are less likely to join the targeted side, but the results are insignificant. This offers some further support for contagion dynamics functioning in complex disputes, but also suggests that states are more likely to join with the side that has a higher *a priori* probability of victory, all else equal.

Third party states with more open economies only appear more likely to join initiators, as the results for joining targets are insignificant. At one standard deviation above the mean of openness, third parties are approximately 112 percent more likely to join an ongoing dispute on the side of the initiator. Though this seems counterintuitive on its face, as we would expect states to be more likely to intervene militarily to protect targets, it does suggest an interesting phenomenon. More open states are more exposed to the vicissitudes of the international economy, and conflict is a disruption to normal economic affairs. It makes sense that they would take up arms to protect their own economic well-being, but it seems a bit paradoxical that they would only do so when it comes to joining initiators. It is possible that states with open economies have an easier time circumventing disputes because they can substitute lost or jeopardized markets by altering their trade patterns with their other partners, and only intervene with initiators to reap the probable rewards of victory. Such is mere speculation based on the results in Model 2.2, but will serve as the subject of Chapter III.

Democratic states – achieving a score of 7 or greater on the democracy index described above – are more likely to intervene than non-democracies, but the results are only significant for joining targets. At the minimum score classifying a state as a democracy, a third party is just under 40 percent more likely to join a target state, and the most democratic third parties (achieving a score of 10) are more than 120 percent more likely to join with the targeted state(s). However, it appears that democratic joiners do not discriminate against non-democracies on either side of a dispute. Consistent with Reiter and Stam (2002), democratic states are no more or less likely to join other democracies on either side, as the joint democracy variable is insignificant for both sides of a dispute. Interestingly, though, where all parties on both sides of a dispute – and the potential joiner – are democratic, third parties are only significantly less likely to join on the target's side; the results for joining an initiator under these conditions are insignificant. Where all parties are democrats, third parties are approximately 60 percent less likely to become involved on the target's side. This is potentially due to the consensus that democratic states are much more likely to settle their disputes – especially those involving other democracies – short of a resort to force (Bueno de Mesquita et al 1999).

As suggested by Aydin (2008), joining a conflict is an exercise in strategic decision-making, even when it comes to trade dependence. Interdependence with the other side attempts to capture some of these calculations incorporating a third party's trade dependence on one side, conditioned by whether it has a greater than average level of trade dependence with the other. Third parties that simultaneously have higher levels of trade dependence on both sides of a dispute are significantly less likely to join either side, all else equal. At one standard deviation above the mean of this dual interdependence, a third party

is approximately 49 percent less likely to join an initiator, and around 34 percent less likely to join a target.[31]

Section 2.6.ii: Multinomial Logistic Regression: Fatal MIDs

As a refinement to the above analyses, I replicate them over only the subset of militarized interstate disputes that can be classified as fatal MIDs. These disputes produce at least one fatality in their duration, and represent a greater level of hostility than those MIDs that never escape a threat to use force or a mere display of force. As such, they represent conflicts that have escalated – at least slightly – and may be cases that are more likely to witness expansion. We may expect, for example, that disputes that arise only briefly or those that remain at low hostility levels (or both) are unlikely to receive joiners because of their low degree of severity and lower potential to disrupt the global order or the international economy. Disputes that become fatal, however, may represent cases where sever disruption is a possibility and merit intervention. Of the 2,118 MIDs between 1885-2001, there are only 388 that meet this criterion, indicating that minor disputes occur with much greater frequency than those that produce fatalities. As seen in Figure 1.2 from Chapter I, these 388 MIDs had 125 unique instances of joining between 1885-2001 (376 instances counting years joiners remained in the dispute). This accounts for roughly 25 percent of all 532 unique instances of joining.

[31] Models A.3 and A.4 in Appendix A alter the specification of Model 2.2 by using only politically relevant states to each dispute as potential joiners and by treating the sides of a conflict as revisionists and status quo states rather than the initiator/target dichotomy, respectively. In neither model is the interactive effect between trade dependence and trade concentration significant, though the control variables are generally signed and significant as expected. In Model A.4, the number of revisionists and status quo states participating on each side bear similar results to Model 2.2, and under similar bandwagoning/contagion logic. With regard to a higher number of revisionists than status quo states, however, third parties are significantly more likely to join the status quo side, indicating a greater desire to defend the status quo than to participate in altering it.

Table 2.3 displays both the baseline results in Model 2.3, using only the key causal variables, and the full model with all control variables in Model 2.4. The primary hypothesis is again partially supported by Model 2.3. The coefficient on the interaction term is positive for joining both sides of a dispute, though it is only significant for joining initiators. The primary hypothesis is, however, fully supported by Model 2.4. In a perfectly liberalized global economy, high values of trade dependence still give a third party an incentive to join on the side of the target state in fatal interstate disputes, as the coefficient on trade dependence alone is positive and significant in the target equation of Model 2.4. In the absence of any trade dependence, trade concentration does not appear affect a decision to join. The interaction between trade dependence and global trade concentration, however, is positive and significant in both parts of the model, indicating that higher levels of trade concentration condition the relationship between trade dependence and joining behavior, all else equal. Figure 2.2 displays the marginal effects from Model 2.4 to further illustrate this conditional relationship. The left-hand pane of Figure 2.2 displays the effects of trade concentration on the relationship between trade dependence and joining initiators in fatal MIDs, while the right- hand pane shows the same relationship for joining targets. Here, the effect is positive and significant for both sides of a fatal dispute. For initiators, the probability of joining increases from nearly 0 percent in a very liberalized economy to more than 20 percent in a much more concentrated economic environment. As above, since Herfindahl values remain relatively low over the entire temporal domain, it is likely that we only see a 7 percent positive impact on the probability of joining at high levels of trade dependence. For targets, the impact in fatal MIDs is almost identical that of initiators, bearing a greater than 20 percent increase in the probability of joining under very high levels

Table 2.3 Joining Fatal MIDs, 1885-2001

	Model 2.3		Model 2.3	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	-0.414***	-0.497***	0.0242	0.405***
	(0.0359)	(0.0330)	(0.0830)	(0.0810)
Trade Concentration	23.84***	-68.45	2.418	-88.95
	(4.881)	(57.83)	(8.052)	(47.25)
Dependence*Concentration	15.61*	4.140	29.65*	27.67**
	(7.573)	(4.975)	(12.91)	(8.954)
Distance (log)			-0.486***	-0.375**
			(0.0945)	(0.126)
Major Power			0.977**	1.215***
			(0.321)	(0.229)
CINC (log)			0.623***	0.909***
			(0.106)	(0.0965)
Defense Pact			1.475***	1.551***
			(0.263)	(0.311)
Number Initiators			0.170***	0.253
			(0.0217)	(0.154)
Number Targets			0.107*	0.174***
			(0.0426)	(0.0320)
More Initiators			0.633	-3.807
			(0.368)	(3.700)
Openness (log)			0.412***	0.291**
			(0.111)	(0.100)
Democracy Score			-0.0369	0.200***
			(0.0316)	(0.0302)
Joint Democracy			0.634*	-0.344
			(0.272)	(0.267)
All Democracies			-1.576*	-0.210
			(0.734)	(0.514)
Interdependence Other Side			-0.00767	-0.086***
			(0.0155)	(0.0117)
Constant	-10.74***	-13.10***	3.245	5.892**
	(0.540)	(0.654)	(1.863)	(1.861)
N	202,891	202,891	152,044	152,044
Pseudo R2	0.0948	0.0948	0.241	0.241
Wald Chi2 (df)	(12) 727.9***	(12) 727.9***	(36)1681***	(36)1681***
Log Likelihood	-2421	-2421	-1601	-1601

Clustered standard errors in parentheses, polynomial splines not reported.
***p<0.001, **p<0.01, *p<0.05

of trade concentration, but a more conservative approximate 7 percent impact in a realistic scenario.

Most of the control variables behave as theoretically expected, though some experience minor changes from Model 2.2, and joint democracy becomes significant for joining the initiating side of a fatal MID. A summary of the substantive effects from these significant controls can found in Table 2.4.

Geographic proximity, as well as the potential joiner's major power status, military capabilities, and level of democracy perform almost identically in Model 2.4 as in Model 2.2, and with only minor changes to their substantive impact on the probability of joining. Small differences occur with defense pacts, the bandwagoning variables, openness, joint democracy, and simultaneous high levels of trade dependence on states on both sides of a dispute.

Defense pacts in fatal MIDs become important for joining either side, which makes theoretical sense given that these disputes are actual military confrontations that produce fatalities. A defense pact increases the probability of joining an initiator by around 335 percent, though the probability of joining a target is still higher, at 430 percent.

The number of states on the initiating side loses significance for the probability of joining a target, but the number of targets becomes significant for joining both sides. The variable capturing whether there are more states on the initiating side loses significance altogether in Model 2.4. This is interesting, because it implies a potentially different line of reasoning in decision to join between fatal MIDs and non-fatal MIDs. Since non-fatal MIDs account for roughly three-quarters of the variation in joining behavior, these are likely the disputes driving the results in Model 2.2, where it appeared that third parties were more

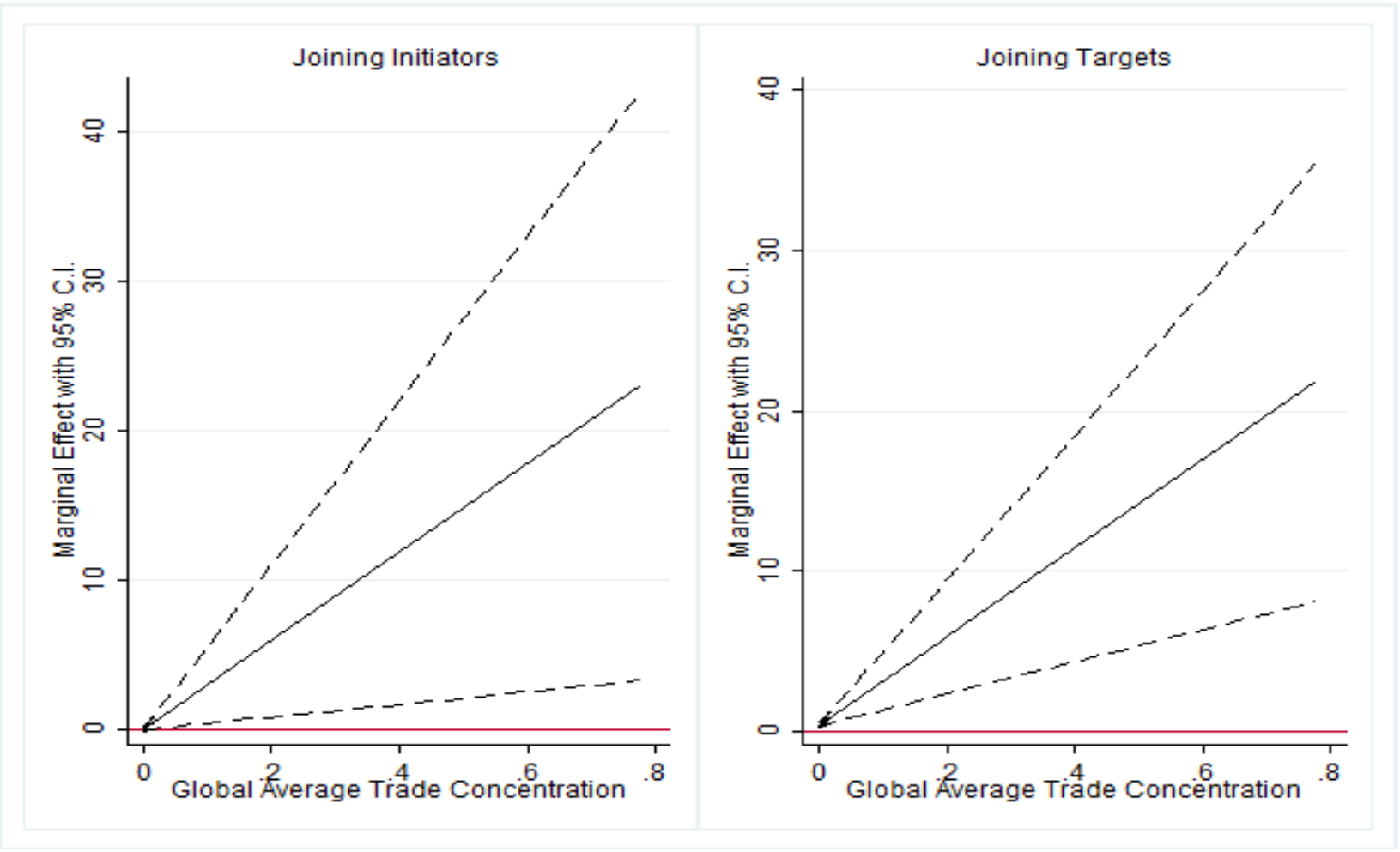

Figure 2.2 Marginal Effects of Trade Dependence in Fatal MIDs, 1885-2001

Table 2.4 Substantive Effects from Model 2.4, 1885-2001

	Join Initiator			Join Target		
	Base Prob: 0.0000473			Base Prob: 0.0001214		
Variables	Value	Prob	Change	Value	Prob	Change
Distance (log)	-1 sd	0.0000708	49.68	-1 sd	0.0001642	32.26
	+1 sd	0.0000323	-31.71	+1 sd	0.0000972	-19.96
Major Power	1	0.0001333	181.82	1	0.0004244	249.59
CINC (log)	-1 sd	0.0000095	-79.96	-1 sd	0.0000117	-90.36
	+1 sd	0.00001533	-67.59	+1 sd	0.0006447	431.05
Defense Pact	1	0.0002058	335.1	1	0.0006436	430.15
Number Initiators	1	0.0000459	-2.96			
	5	0.0001002	111.84			
	10	0.0002163	357.29			
	15	0.0005093	976.74			
Number Targets	1	0.0000465	-1.69	1	0.0001181	-2.72
	5	0.0000885	87.1	5	0.0003187	162.52
	10	0.0001351	185.62	10	0.0005972	391.93
	15	0.0002592	447.99	15	0.0015235	1154.94
Openness (log)	-1 sd	0.0000322	-31.92	-1 sd	0.0000932	-23.22
	+1 sd	0.0000761	60.89	+1 sd	0.0001685	38.8
Democracy Score				0	0.0000483	-60.21
				2	0.0000604	-50.25
				7	0.0001907	57.08
				10	0.0003484	186.99
Joint Democracy	1	0.0000899	90.06			
All Democracies	1	0.000013	-72.52			
Interdependence Other Side				-1 sd	0.0001922	58.32
				+1sd	0.0000698	-42.5

likely to join either side when there were many initiators. With fatal MIDs, third parties are more likely to become militarily involved when there are more states on the target's side. The fact that the variable capturing whether there are more initiators than targets in a dispute fails to attain significance further supports the idea that fatal MIDs – as more hostile and dangerous disputes – are likely to garner more sympathy for targeted states than aggressors.

States with more open economies are more likely to join either side in a fatal MID, which differs from all MIDs, where openness was only positive correlated with joining initiators. This result conforms to intuition, in that states that expose themselves to the potentially volatile swings of the global economy are likely to be affected by a dispute involving an economic partner and have a greater incentive to join to protect their investment. Simultaneous high levels of economic interdependence with both sides, however, only appear to negatively impact the decision to join a target during fatal disputes. It makes theoretical sense that a third party would not want to jeopardize its trade relations with an initiator by joining a target when it has a high degree of trade dependence on both sides.

Third parties that are jointly democratic with an initiator are more likely to take up arms with their brethren, though they are no more or less likely to join democratic targets, which lends further credence to Reiter and Stam's (2002) conclusion. Democratic third parties, however, are still less likely to join a dispute when all parties on both sides are also democracies, though this variable is only significant for joining initiators.

Section 2.6.iii: Multinomial Logistic Regression: Interstate Wars

To the extent that fatal militarized disputes are more severe and potentially more disruptive globally, interstate wars represent the greatest possible disruption of the political

status quo or global economic relations. An interstate war is classified as a militarized dispute wherein there are greater than 1,000 battlefield deaths on one side in a given year (Jones, Bremer, and Singer 1996). Of the 2,118 MIDs in the data, only 60 of them reached this threshold, indicating that interstate war is a fairly rare phenomenon. Given the special consideration that interstate wars may warrant, I also replicate the analyses on this subset of disputes. Of the total unique instances of joining from 1885-2001, 100 of them occurred during an interstate war, and these are also included in the class of fatal MIDs described above (see Figure 1.2 in Chapter I). Counting all war joiners – including ongoing participation after the first year of joining – these 60 interstate wars witnessed 322 instances of joining.

Table 2.5 presents the results of multinomial logit regression over interstate wars. Model 2.5 displays the results from a baseline model, as with the analyses above, and Model 2.6 displays the results of the full model with all control variables. The baseline model is again consistent with the results from Models 2.2 and 2.4, though here the interaction term is only positive and significant for targets.

The results from Model 2.6 – the full model with all controls – supports the primary hypothesis in terms of sign, but the interaction term fails to achieve statistical significance for either side of an interstate war. There are, however, some minor significant marginal effects for targets of an interstate war, and these are presented in Figure 2.3. In the right-hand pane, we see that at the lowest levels of trade concentration, the confidence intervals do simultaneously remain above zero, indicating that a very liberalized economy conditions the relationship between trade dependence and third party joining, but only at a very modest increase in the probability. In terms of the constitutive elements, however, there is still some

Table 2.5 Joining Interstate Wars, 1885-2001

	Model 2.5		Model 2.6	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	-0.367***	-0.447***	0.272*	0.593***
	(0.0563)	(0.0436)	(0.124)	(0.106)
Trade Concentration	7.827	-643.3***	-6.118	-639.3***
	(9.330)	(58.25)	(12.45)	(116.6)
Dependence*Concentration	26.77	22.54**	59.47	25.10
	(22.35)	(8.587)	(47.46)	(16.85)
Distance (log)			-0.374	-0.0902
			(0.209)	(0.184)
Major Power			0.232	0.457
			(0.488)	(0.378)
CINC (log)			1.024***	1.089***
			(0.197)	(0.121)
Defense Pact			2.908***	2.770***
			(0.417)	(0.545)
Number Initiators			0.114	0.699*
			(0.195)	(0.275)
Number Targets			-0.118	-0.103*
			(0.149)	(0.0418)
More Initiators			-0.626	-4.106***
			(0.881)	(0.980)
Openness (log)			0.161	0.242
			(0.174)	(0.142)
Democracy Score			0.104*	0.252***
			(0.0450)	(0.0397)
Joint Democracy			-1.337	-1.162*
			(0.773)	(0.585)
Interdependence Other Side			-0.0124	-0.095***
			(0.0214)	(0.0153)
Constant	-7.699***	-8.073***	10.80**	9.792***
	(0.756)	(0.611)	(4.032)	(2.106)
N	23,391	23,391	15,752	15,752
Pseudo R2	0.174	0.174	0.336	0.336
Wald Chi2 (df)	(12)505.5***	(12)505.5***	(36)13937***	(36)13937***
Log Likelihood	-955.9	-955.9	-586.4	-586.4

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

support for the other hypotheses. Where trade concentration is 0, which admittedly does not ever describe the global economy, higher levels of trade dependence continue to exhibit a positive and significant effect on the probability of joining an interstate war. Interestingly, where the level of trade dependence is 0, which is realistically feasible, higher values of trade concentration render a third party significantly less likely to join the target during an interstate war. This lends some support at least to the contention that states do not enter into interstate wars without caution and careful consideration.

Table 2.6 reports the substantive effects of the significant controls variables from Model 2.6. The results bear some similarity to those from Model 2.4, though there are again a few minor changes. Distance, as well as the potential joiner's major power status and its level of economic openness lose significance when it comes to joining interstate wars. The third party's military capabilities are still positively and significantly related to the probability of joining, and much higher substantive values than in either Model 2.2 or Model 2.4. Defense pacts between a third party and a disputant on either side again positively and significantly impact a decision to join, and also at much higher probabilities than in either of the two previous full models. These latter two results might speak to the threat that interstate wars make to the state of global relations. With regard to the bandwagoning phenomenon in interstate wars, a greater number of states participating on the initiating side increases the probability of joining the target astronomically, though a greater number of states on the targeted side of an interstate war actually decreases the likelihood of joining with them, and so do more initiators participating in the war.

Democratic states are more likely to join wars overall, but are actually 40 percent less likely to join democratic states that are targets in a war. There are no results to report in

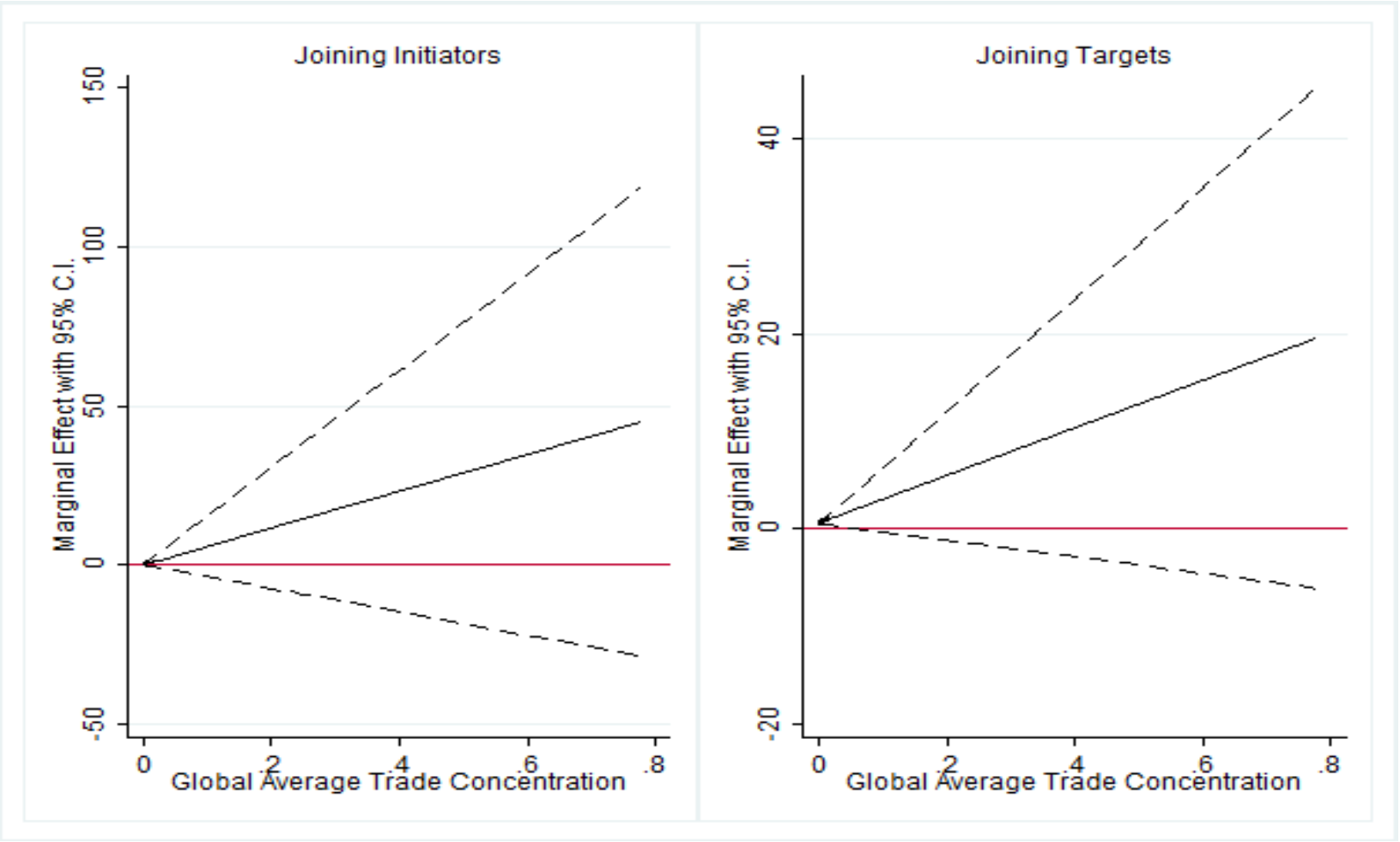

Figure 2.3 Marginal Effects of Trade Dependence in Interstate Wars, 1885-2001

Table 2.6 Substantive Effects from Model 2.6, 1885-2001

	Join Initiator			Join Target		
	Base Prob: 0.0000722			Base Prob: 0.00000096		
Variables	Value	Prob	Change	Value	Prob	Change
CINC (log)	-1 sd	0.00000442	-93.88	-1 sd	0.000000048	-95.01
	+1 sd	0.0006611	815.65	+1 sd	0.0000094	879.17
Defense Pact	1	0.0013446	1763.32	1	0.0000127	1222.92
Number Initiators				1	0.00000078	-18.44
				5	0.0000478	4879.17
				10	0.0066343	690972.9
				15	0.1102594	11485254
Number Targets				1	0.000000996	3.75
				5	0.000000511	-46.77
				10	0.00000035	-63.54
				15	0.000000209	-78.23
More Initiators				1	0.0000000249	-97.41
Democracy Score	0	0.0000443	-38.64	0	0.000000291	-69.69
	2	0.0000496	-31.3	2	0.000000387	-59.69
	7	0.0000925	28.12	7	0.00000171	78.13
	10	0.0001315	82.13	10	0.00000374	289.58
Joint Democracy				1	0.00000057	-40.63
Interdependence				-1 sd	0.00000159	62.63
Other Side				+1 sd	0.000000496	-48.33

Model 2.6 for the democracy on all sides variable, as there has never been a recorded war between two democratic states.[32] High levels of trade dependence with both sides simultaneously negatively impacts the probability of joining a target, consistent with Model 2.4 over fatal MIDs, and with a similar substantive impact.

Section 2.7: Conclusion and Discussion

Do states join ongoing militarized interstate disputes based on a desire to preserve economic relationships? The results presented here offer some support for the contention that an economic calculus is vital when it comes to intervening in others' conflicts, but the economic environment in which states find themselves matters for their decisions to join ongoing militarized interstate disputes. Whereas Aydin (2008) found that higher levels of bilateral trade dependence on a disputant state increase the probability that a third party will a militarized conflict on its trade partner's behalf, she did not explicitly account for the larger international economic context in which these decisions are being made. In this chapter, I used a Herfindahl index to capture this global trade environment, and found evidence that partially supports her originally conclusion, but refines it substantially.

The interaction between trade dependence and the international economy included in this chapter is both novel and warranted. Without accounting for the larger context of trade relations, estimating the relationship between trade dependence and third parties' conflict joining propensities essentially assumes that the decision-making calculus that leads to joining is identical across the breadth of the temporal domain. Such an assumption is flawed, as the economy has evolved over this large span of time, and states find themselves in a situation where a greater number of "options" are available to them in terms of their

[32] This variable was omitted by force during the estimations because it perfectly predicts the 0 (abstain) outcome in the dependent variable.

trade patterns and trade partners. Figure 1.4 in Chapter I displayed the increase in the number of trade partners from 1885-2001, showing that the global average has increased by more than three-fold from the beginning to the end of the time period. Moreover, individual economies have become, on average more open to international trade. Together with the relative decline in trade concentration, these descriptive statistics paint a picture of global economy that has simultaneously widened and become shallower. We cannot assume, then, that states' decisions to join ongoing militarized disputes in the late nineteenth century are tantamount to those decisions in the late twentieth century. The results presented in this chapter support the need to interact bilateral trade dependence with a variable capturing this economic evolution to fully conclude that trade dependence has a positive effect on joining behavior.

While the results from all models support Aydin's (2008) conclusions, as even in a perfectly liberalized global economy, levels of trade dependence have a positive impact on joining propensities, they offer a more robust specification of the relationship. This chapter claimed that while bilateral trade dependence and global trade concentration should exhibit independent positive effects on the probability of a third party joining an ongoing MID – and that the interaction between should likewise be positive – the probability of joining at low levels of trade concentration with high levels of trade dependence should be significantly lower than where dependence and concentration are both high. While Model 2.2 only partially supported this claim, and the results in Model 2.6 were largely insignificant, militarized interstate disputes that produce fatalities were particularly important. This makes theoretical sense, as disputes at the threat stage may not merit any real consideration of joining, and wars represent a situation where economic relationships may or may not be the

most important interstate connections to consider. Those disputes that fall somewhere in the middle of the spectrum – representing actual armed conflict between belligerents short of all-out war – appear to be the drivers of the results in this chapter.

This introduces a potential caveat to these conclusions, however. Most disputes typically start at low levels with a threat to use force, escalate into fatal MIDs, and then evolve into interstate wars (where war is the classification). Others remain low, and others still only evolve to fatal MIDs short of war. The problem is that the data only record the highest action and highest hostility level for the dispute as a whole, and do not measure the exact level of hostility or number of fatalities present in the dispute at the time that a third party enters. This means that we cannot ascertain whether there is a meaningful difference between these types of disputes in terms of third parties decisions to join them at varying levels of hostility, though it does appear that there is a statistical difference between them. It also appears from these results that trade dependence and trade concentration impact a third party's decision-making calculus differently in these different types of disputes, but the evidence presented herein should be viewed with a moderate amount of caution given these shortcomings.

These results also beg an important question for further consideration. If international conflict does indeed present a disruption to mutually beneficial trade relationships – as the literature suggests (Oneal and Russett 1997, 1999a, 1999b) – and the probability of joining is lower in a more liberalized global economy, what do those states whose trade relationships are in jeopardy do when they decide not to join a dispute to protect their interests? As speculated above, the possibility exists in this "world of options" to circumvent participation in a militarized dispute by altering trade patterns and substituting

markets. This presents a viable alternative to third parties when faced with the dilemma of joining into a fight that is not their own, and while the results from this chapter give rise to the question of whether the phenomenon of circumvention actually occurs, they do not offer a definitive answer to it. This question does, however, form the basis for Chapter III.

Chapter III
The Circumvention Hypothesis

Section 3.1: Introduction

When an international dispute arises between two or more states, how does the conflict affect these states' economic relationships with third parties? Where bilateral trade ties between a conflict participant and a third party state are valuable, it is conceivable that the third party may join into the dispute in order to protect its economic ties and investments, as partly evidenced by the results in Chapter II (see also Polachek 1980; Aydin 2008, 2012). However, states may choose to abstain from becoming disputants themselves, but in the event of this choice, they also confront the possibility of losing economic benefits from disputatious trade partners. States cannot know outright whether low-level disputes will escalate to all-out warfare, or whether disputes will severely threaten the economic capabilities of a trade partner and thus put their own economic interests in jeopardy. Faced with this potential loss, and ideally wishing to avoid the costs of conflict themselves, states have a final option: they can choose to abstain from joining the conflict and alter their economic relations with disputant states. To preserve their own economic wherewithal, third party states can theoretically seek to substitute lost import or export markets by either increasing trade volume with other partners or by seeking new trade ties.[33] Such a choice is interesting because it indicates a willful and deliberate instance of conflict avoidance.

Such a trade diversion does not stand in direct contradistinction to Aydin's (2008, 2012) conclusions, or to the conclusion of Chapter II of this dissertation, but it does present

[33] States could also increase domestic production of certain goods where applicable to account for potentially jeopardized markets, since many market goods are both exported/imported and consumed/produced domestically.

a refinement to them. While trade relationships may be fruitful enough to merit fighting for them, not all states are going to be willing or able to intervene into ongoing disputes to protect or preserve these gains from trade. When this is the case, affected states that desire to maintain their economic health must weight their alternatives.

By examining such a relationship, I engage the very extensive and detailed literature on the liberal peace as well as the much more limited work on conflict expansion and economic incentives to intervene into ongoing disputes. I contribute to this broad understanding of conflict and international economic exchanges by testing a novel hypothesis about trade diversion during periods of international conflict, assessing whether states indeed reduce their trade volume with disputants while simultaneously seeking to substitute this loss by increasing levels of trade with other – specifically non-disputant – states. Such a finding would lend support to and serve as an extension of the liberal peace, which suggests that conflict is disruptive to trade ties (Oneal and Russett 1997, 1999a, 1999b).

This chapter is organized as follows: the first sections will survey the relevant literature concerning economic interdependence and conflict as well as work on conflict expansion, highlighting the relative scarcity of studies on the impact of conflict on trade patterns in the former, and the dearth of economic investigations in the latter. The next section details an economic theory of conflict abstention, suggesting that states avoid both the costs of conflict and loss of economic benefits from conflict by altering their international trade patterns when one of their partners becomes involved in an interstate dispute. A fourth section outlines the research design, methods, and operationalization of key variables. The penultimate section presents and discusses the results, and a final section

offers some general conclusions, addresses shortcomings of this research design, and points to avenues for future research.

Section 3.2: Economic Interdependence, Armed Conflict, and the Determinants of Bilateral Trade

The extant literature concerning interdependence and armed conflict focuses primarily on the divide between liberals and realists over the nature of trade's pacifying effects.[34] A vast body of research examines the hypotheses of the liberal peace, under which states engaged in bilateral trade are less likely to fight with one another.[35] This is because trade produces mutual benefits and economic partners share interests in preserving such ties (Polachek 1980; Arad and Hirsch 1983).[36] Trading with others is invaluable to a state's overall economic health, as states are constrained by their own resources and factors of production in terms of their ability to be economically self-sufficient. Differences in market structure and relative factor endowments, such as the inability for all states to supply their own oil, grow their own foodstuffs, or supply labor to manufacture their own goods, prevent states from functioning successfully in autarchy (Grieco and Ikenberry 2003). States trade with one another because product specialization based on their comparative advantage creates economic efficiency and avoids a misuse of scarce resources.

Conflict, then, can be terribly disruptive to these beneficial trade ties, and as such, it is much less likely to occur between trade partners. The utility of fighting a trade partner, even when a pair of states find themselves in disagreement, is much lower than the utility for solving a dispute peacefully and being able to reap continued gains from trade (Oneal and

[34] See Mansfield and Pollins (2001) for a full assessment of the literature on international trade and conflict.

[35] See McDonald 2004 for an argument that only "free trade" promotes peace, rather than the existence of bilateral trade

[36] See also Gasiorowski and Polachek 1982

Russett 1997; Oneal and Russett 1999a, 1999b; Gartzke 2007). This utility is, of course, conditional on whether the value of the trade relationship is greater than the value of the potential gains from conflict, but the conventional wisdom and the empirical record nevertheless point to the idea that economic interdependence greatly pacifies international relations.

Not only may trade ties reduce the probability of a dyadic dispute, but they may also have indirect effects on third parties. Dorussen and Ward (2010) examine the "friend of a friend" phenomenon and find that indirect trade ties – where two states have a mutual trade partner – can also pacify dyadic relations. Huth and Russett (1984) also contend that trade ties can serve as a deterrent to outside states because states with mutually beneficial trade ties are likely to band together to avoid loss.[37] Third parties are thus less likely to provoke either state in a trading dyad to avoid the possibility of having to fight both of them.

Beyond the scope of purely economic considerations, however, scholars have also suggested that other shared interests and similarities often highly correlated with economic interdependence serve to deepen trade cooperation, and in conjunction, dampen the probability of armed conflict. Dyads with cooperative foreign policies (Pollins 1989b), dyads that are jointly democratic or participate in the same broad array of international organizations (Oneal and Russett 1997, 1999a; Morrow, Siverson, and Tabares 1998), or dyads that enjoy a formal alliance (Gowa and Mansfield 1993; Long and Leeds 2006; Bagozzi and Landis 2013) tend to trade more with one another and experience fewer fluctuations in trade than states that do not share these characteristics.[38] Other work has examined the

[37] See also Huth 1988

[38] See also Savage and Deutsch 1960, Nagy 1983, and Kunimoto 1997 and for further studies on cooperative political arrangements.

benefits of joint political and economic cooperation – specifically free trade areas and preferential trade agreements – on pacifying dyadic relations (Mansfield, Pevehouse and Bearce 1999).[39] The presence of these other pacifying factors may increase the impact that economic interdependence has on peaceful interstate relations.

Arguments to the contrary posit that trade creates interaction points between states, and these multiple points of contact provide opportunities for states to come into conflict. Moreover, trade may be thought to have an aggravating effect in that "trade dependence provokes conflict because it acts as a lever of power" (Peterson 2011: 187). States that are dependent upon one another are vulnerable to one another, so it is possible that costs may be imposed by the termination of trade ties (Keohane and Nye 1977; Hirschman 1980) and it is conceivable that weaker states might initiate militarized disputes to prevent economic exploitation by the stronger when the balance of power is upset within the dyad (Gasiorowski 1986; Mastanduno 1991; Gowa 1994; Barbieri 1996, 2002).

In addition to conflict considerations, "trade flows are affected by the decisions of social actors at every level, from individuals to interest groups to nation-states" (Pollins 1989a: 738). Neither the volume of trade nor the distribution of international trade patterns is decided exclusively at the international level or by states themselves. Various empirical studies have examined the national and sub-national factors associated with global economic relations, indicating that variations in economic development (Hegre 2000), political ideology (Garrett 1995; Milner and Judkins 2004), regime type (Gelpi and Grieco 2003), domestic institutions and coalitions (Frieden and Rogowski 1996; Papayoanou 1996; Hiscox 2002; Solingen 2003) and amount of government economic management (Brada 1985; Batra and

[39] See also Aitken 1973, Pelzman 1977, Brada and Mendez 1983, and Pollins 1989b

Casas 1976) all contribute to state decisions about with whom to trade, what to trade, and how much to trade. A variety of interest group decisions – especially from industry-level decision makers in import-competing sectors – also restricts the degree to which any state can engage in free trade practices (Finger, Hall, and Nelson 1982; Marvel and Ray 1983). Nevertheless, it is important to consider the relationship at the national level, as available data on both conflict and trade are aggregated at the state level, and even though companies and multinational corporations are often those making trade decisions, their decisions impact national economies. Companies and MNCs have an incentive to be wary of international conflict, as the disruptive nature of conflict can threaten both their immediate international business, their profit margins, and the level of trust investors place in them. The nature of international trade is thus a complex issue, and one that continues to dominate investigations of the patterns of interstate conflict.

Section 3.3: Conflict Expansion and State Abstention

Taken together, studies of economic interdependence and conflict tend to posit that trade should influence conflict patterns, but often do not investigate the reverse relationship (Pollins 1989b). Do patterns of international conflict affect the way that states trade with one another? More specifically, do conflicts result in immediate and active changes in states' trade policies, especially where the states in question are third parties that do not directly participate in the dispute? Empirical answers to such questions are scarce, but the analysis presented in this chapter seeks to contribute to the understanding of conflict patterns of international trade.

One such unanswered question concerns whether the onset of a militarized interstate dispute produces a trade diversion on the part of a non-combatant third party. States that are

not original parties to disputes face a choice when one or more of their trade partners become embroiled in a conflict: they can join in the hope of preserving economic ties, but they can also abstain and risk losing the benefits of trade. Such an action would constitute evidence in support of the liberal claim that conflict disrupts mutually beneficial trade ties, even when one of the states is not a direct party to the dispute. However, states are not limited to the choice of joining and risking the costs of conflict or abstaining and losing the benefits of trade; they do possess another choice: they can abstain and substitute trade lost to conflict by altering their patterns of international trade.

Prior studies of conflict expansion largely ignore the potentially significant nature of abstention from ongoing disputes, and instead focus on the motivations states have to inject themselves into the disputes of others. Recent research by Valeriano and Vasquez (2010) and Vasquez and Valeriano (2010) prop up this focus on joining and expansion by investigating the potential contagion processes that cause militarized interstate disputes to expand horizontally. In fact, the majority of the conflict literature suggests that questions of conflict-joining are not terribly different from those that concern conflict initiation, and as such, many of the accepted explanations for conflict expansion are extensions of the knowledge accumulated from studies of conflict onset. There are, however, reasons to believe that a substantive difference exists between originating a conflict and joining a conflict once it has already begun. Though conflict participation is always self-selected, we must be concerned with the factors that motivate a state to become involved in a conflict that did not originally concern it, and more importantly for this study, the factors that may motivate states to abstain from participation altogether.

The majority of studies incorporate traditional conflict indicators from the standard conflict model (Bremer 1992), such as the role of geographic proximity, alliances, and major power status (Siverson and Starr 1990; Smith 1996; Gartner and Siverson 1996) in studies of conflict expansion. Because of the robust findings on these variables in studies of conflict onset, they have been highlighted as fruitful explanations of conflict diffusion as well. When two states share a border, the probability of a dispute arising between them increases substantially (Starr 1978; Diehl 1991; Bremer 1992), but so does the possibility that negative externalities from a dispute will spill across national boundaries into a third party's territory, motivating it to become involved as well. Alliances are important because their existence reduces the likelihood that states will fight against one another (Bremer 1992; Leeds 2003), but their existence does increase the probability that states will become involved in alliance partners' conflicts because these treaties bind states together in the event of a dispute (Leeds, Long, and Mitchell 2000). Of particular importance here are mutual defense pacts, as these are the alliances that specify direct military responsibilities in the event that one party becomes embroiled in an interstate dispute (Gibler and Sarkees 2004). Moreover, powerful states are simply more capable of fighting and of staging military interventions (Huth 1998), and the connection between major powers' and militarily powerful states' ability and willingness to participate in a broad array of conflicts is well-established by the empirical record (Bremer 1992; Altfeld and Bueno de Mesquita 1979).

The role of state similarity has been less examined in the conflict expansion literature, but state similarities also serve as deterrents to conflict, may attract states to one another when a member of the "brethren" is involved in a dispute, and as discussed above, interact with economic interdependence to pacify international relations. The first among

these is regime type. An enormous – and robust literature exists on the democratic peace, which holds that states that share a common democratic regime are much less likely to fight one another (Doyle 1986; Maoz and Russett 1993; Bremer 1995; Levy 1998; Bueno de Mesquita et al 1999; Russett and Oneal 2001).[40] It is unclear, however, whether jointly democratic states are more likely to fight for one another when one becomes involved in dispute. Some scholars suggest that democratic regimes will seek to defend their own kind (Doyly 1986; Chan 1984), others like Reiter and Stam (2002) show that democratic states are no more or less likely to join into disputes with other democracies.

As described above, shared membership in international institutions, for example, increases the probability of trade between states, but it has also been shown to dramatically reduce the likelihood of conflict because mutual participation in a broad array overlapping institutions indicates a degree of state similarity (Hafner-Burton and Montgomery 2006). The arguments in the conflict expansion literature suggest that while similar states are much less likely to fight one another, they might be more likely to come to one another's aid in conflict scenarios.

While a few economic studies of conflict expansion do exist – and the literature was reviewed in greater detail in Chapter II – they, like all studies of diffusion, focus on the incentives to join an ongoing dispute to protect trade ties. Aydin (2008, 2012) particularly finds evidence that states are much more likely to intervene in an ongoing dispute when they have a high level of trade dependence on one or more of the disputant states, and the results from Chapter II support and refine her conclusions. None of the studies above – Chapter II of this dissertation included – address the economic effects on third parties that choose *not*

[40] There are also findings in support of an "authoritarian peace", where non-democratic governments in certain typologies are also less likely to fight against one another (Pickering and Peceny 2006).

to join. While the literature gives us much to understand about the dynamics of conflict expansion, we must also consider the instances where states are faced with the same incentives to join (economic dependence, geographic proximity, or state similarity), but choose not to. What recourse is available to those states who stand to lose by their choice of conflict avoidance? Such considerations are necessary if we are to understand whether and why states may choose not to intervene.

Section 3.4: The Circumvention Hypothesis

International conflicts are likely to have international consequences. When disputes erupts between states, they affect not only the direct participants, but also have the potential to seriously disrupt or jeopardize the relationships that the disputants have with other states in the international system (Aydin 2008). One type of relationship that might be negatively impacted by international disputes is a trade relationship, as interstate conflict has the potential to seriously interfere with economic interdependence (Oneal and Russett 1999a, 1999b; Barbieri 1996, 2002; Barbieri and Levy 1999). The conventional wisdom in the liberal peace literature is that states experience mutual gains from bilateral trade, as it reduces opportunity costs of production and allows for production specialization as well as developing economies of scale and experience (Grieco and Ikenberry 2003). The mutual gains from trade are cited as one of the primary reasons that trading states are less likely to fight against one another (Oneal and Russett 1999a, 1999b).

As an extension of this liberal peace contention, it may be argued, as Aydin (2008, 2012) does, that states have an incentive to intervene into ongoing MIDs on behalf of their trade partners to protect their economic investments and maintain their economic status. This is a purely intuitive line of reasoning, and the results from Chapter II support this

hypothesis, especially under periods of greater trade concentration in the international system. What it does not consider, however, is the fact that states have options – other than intervention – to preserve their economic health and trade relations. Abstention from joining is usually not treated as the outcome of interest in studies of conflict expansion, but I argue in this chapter that abstention may be just as relevant as actual intervention because it can signal that the economic relationship between states may not be fruitful enough to fight over. Presented the choice between militarized conflict and market substitution, the latter is arguably less costly.

First, conflict is inherently costly. When hostilities erupt between states, resources must be diverted toward the military effort and casualties are a foregone conclusion where a dispute has evolved to a fatal MID or an interstate war. Even where MIDs only involve the threat of force, states often pay reputational costs that can have ramifications throughout the international system and affect domestic electoral fortunes (Bueno de Mesquita and Siverson 1995). States that are not directly involved in these conflicts – and are thus potential joiners – have an incentive to avoid paying these costs where they can. It is feasible to assume that states are only likely to intervene into others' conflicts where the costs of joining are expected to be lower than the purely economic loss of bilateral trade

Secondly, to build upon the theoretical framework presented in Chapter II, the network of economic interdependence has simultaneously widened and become less concentrated over time. As evidenced by Figure 1.4, on average, most states have trade relationships with a large number of other states. In this so-called "world of options", the

incentive for intervention to preserve existing trade relationships might be dampened by the fact that opportunities exist for substitution.[41]

This increase in the number of available partners, however, is not be enough to show that trade has indeed become more integrated over time. This does not capture the possibility that a very large proportion of a state's national trade volume only comes from a small handful of its trade partners. On average, state economies have become more open to international market exchanges over time. More importantly, the global average level of trade concentration – and thus reliance on any particular economic partner – has simultaneously decreased as the other two phenomena have increased.

In conjunction, these empirical realities suggest that states may have a variety of market substitutes available should they decide to abstain from joining a trade partner's dispute and that the marginal impact of any trade partner in conflict should not substantially affect their overall economic health. As such, it is conceivable that states can consciously choose to abstain from a trade partner's conflict and divert their trade relations where they deem it worthy and/or less costly. Doing so simultaneously avoids paying the costs of conflict intervention while giving states the ability to preserve their national economies and maintain price consistency for consumers. While it is true that states are not often the ones that make the actual decisions to trade what with whom, national economies are the ones that are affected by these marketplace decisions and the available data are aggregated at the state level.

Taken together, these considerations point to the possibility that states may indeed circumvent joining into ongoing MIDs by altering their trade patterns when trade partners

[41] Whether trade relationship can be substituted is the subject of Chapter IV.

are involved in interstate disputes.[42] If this is the case, then we might see a decline in bilateral trade when a partner is in conflict and a simultaneous increase in trade with other states, especially those other trade partners who are not involved in militarized disputes of their own. This coincidence of trade pattern alterations I label the circumvention hypothesis, and expect the following:

> H1a: When a trade partner is involved in a militarized interstate dispute, dyadic trade values are likely to decline.
> H1b: When a trade partner is involved in a MID, trade values with other states are likely to increase.
> H1c: When a trade partner is involved in a MID, trade values with trade partners not involved in any type of MID are likely to increase.

Naturally, if a trade partner's conflict is enough to produce a diversion of trade, conflict in the state of interest (hereafter, State A) should produce a similar decline. In contrast to the above hypotheses, however, State A's conflict should result in a decline in trade values with all other trade partners, in accordance with the expectations of the liberal peace. As such, I expect the following:

> H2: When State A is involved in a MID, trade volume should decrease with all of its trade partners.

Given that State A's conflict involvement should also impact its trade relations, it is crucial to consider two other sets of circumstances. The first concerns whether both states in the observed dyad are involved in the same MID and opposed to one another. Oneal and Russett (1997, 1999a, 1999b) have argued that economically interdependent states are less likely to fight one another, and as such, it can be expected that states that do indeed fight should witness decreasing levels of bilateral trade during times of conflict. On the contrary,

[42] It is also theoretically possible that states join into disputes to protect their trade ties while simultaneously altering their trade patterns. This is not directly accounted for by the investigations that follow, but it is partially controlled by including control for whether a state does, in fact, join its trade partner (see Hypothesis 4).

Barbieri and Levy (1999) have demonstrated that conflict does not necessarily preclude states from continuing mutually beneficial economic relations. While it is conceivable that states could maintain pre-existing trade ties when conflict erupts between them, it is much more likely that the economic relationship would be dampened by the outbreak of conflict. Given the general consensus surrounding Oneal and Russett's (1997, 1999a, 1999b) findings and the expectation of the second hypothesis concerning A's MID involvement above, I expect the following:

> H3a: When both states in the observed dyad are involved in a MID as originators on opposite sides, their trade values should decrease.
> H3b: When both states in the observed dyad are involved in a MID as originators on opposite sides, State A's trade values should decrease with other trade partners, especially those trade partners not involved in any type of dispute themselves.

However, if State A does in fact join into an ongoing dispute involving the state with which it is paired, this renders the circumvention hypothesis moot because all of the above rests on the assumption that states actively avoid joining. It is important, however, to account for whether a state does join its trade partner. If the assertions of Oneal and Russett (1997, 1999a, 1999b) are correct, then State A's participation (regardless of origination or joining) should decrease its trade volume with all trade partners, but it is not clear whether trade should increase or decrease with the partner it joins. Theoretically, either outcome could obtain. The conflict could be so damaging economically that dyadic trade values decline concurrently with total trade values, or partners in the same conflict could maintain or even increase their current reliance on one another when they participate on the same side, partially consistent with Barbieri and Levy (1999). Given the divergent theoretical expectations and lack of pre-existing empirical evidence on the matter, I prefer not to

speculate on the dynamics of intra-dyadic trade when State A joins its partner's conflict, but do offer the following hypothesis with regard to trade volume with others outside the conflict in question:

> H4: Where State A joins into an ongoing conflict involving its trade partner, State A's trade values with other partners should decline.

Section 3.5: Research Design

This chapter seeks to examine whether trade values between a pair of states fall when one of them is involved in a militarized interstate dispute, and also whether trade values between the state of interest and all of its other trade partners simultaneously increases. Finding evidence of these two phenomena would indicate that trade values between states change during times of conflict, and while this is not a direct test of the circumvention hypothesis, it does suggest that seek alternative trade options when one of their trade partners is in a dispute. In order to test the hypotheses laid out above, I generated data from the Correlates of War Militarized Interstate Disputes (v3.02) database using Bennett and Stam's (2000) EUGene software (v3.204). I produced data for all directed-dyad pairs from 1885-2001. The left censoring of the data corresponds to the dates for which the most reliable economic data are available, and the time period ends due to the availability of data for the independent and control variables. Given the structure of the data, a cross-sectional time-series approach is used, where each directed dyad constitutes its own unit over the temporal span of the data.[43] Thus, the unit of analysis is the directed-dyad year.

[43] Given the nature of my hypotheses and the construction of the necessary data to test them, I need to use a directed dyad, as opposed to a non-directed dyad, approach. Arguably, the United States-United Kingdom dyad is different than the United Kingdom-United States dyad in that my concern is with the latter's (State A) behavior when the former (State B) is involved in a MID. This cannot feasibly be captured with non-directional data or with treating each pairwise combination and its converse equally. This approach leads to the creation of 15,692 unique dyads over the span of 117 years.

Section 3.5.i: The Dependent Variables and Choice of Estimator

I use three dependent variables to capture the simultaneous changes in dyadic trade and trade with other states from one year to the next. My first dependent variable captures the difference in values of bilateral trade between the dyad in observation from the previous year to the current year. The second dependent variable measures the change in State A's trade with all other trade partners from the previous to current year of observation. To capture this value, I calculated State A's total trade flows in each year, and subtracted the raw bilateral flow used to calculate the first dependent variable. These raw values were then differenced. The final dependent variable is measured similarly to the second, but excludes any trade partner of State A's that was involved in a MID during the year of observation. Thus, the third dependent variable captures the change in trade volume with only non-disputant trade partners.[44]

The dependent variables capture the actual level, in dollars, of trade gained or lost in each year. Since these values can theoretically range from negative to positive infinity, ordinary least squares regression could be deemed appropriate. However, since the data are time-series cross-sectional, it is necessary to account for the effects of unit heterogeneity and serial correlation inherent in TSCS data. To do so, I implement a TSCS General Estimating Equation, which is appropriate for correlated or clustered data (Hardin 2005).[45] Figure 3.1 displays the kernel density estimates of the three dependent variables, and the normal distribution is included in each panel of the figure for comparison. In each panel, the distribution of the dependent variable mirrors the curve of the normal distribution, so a Gaussian specification for the GEE is appropriate for analysis. Figure 3.2 shows the general

[44] All economic values in this study are measured in fixed 1996 US millions of dollars.
[45] See also Liang and Zeger (1986)

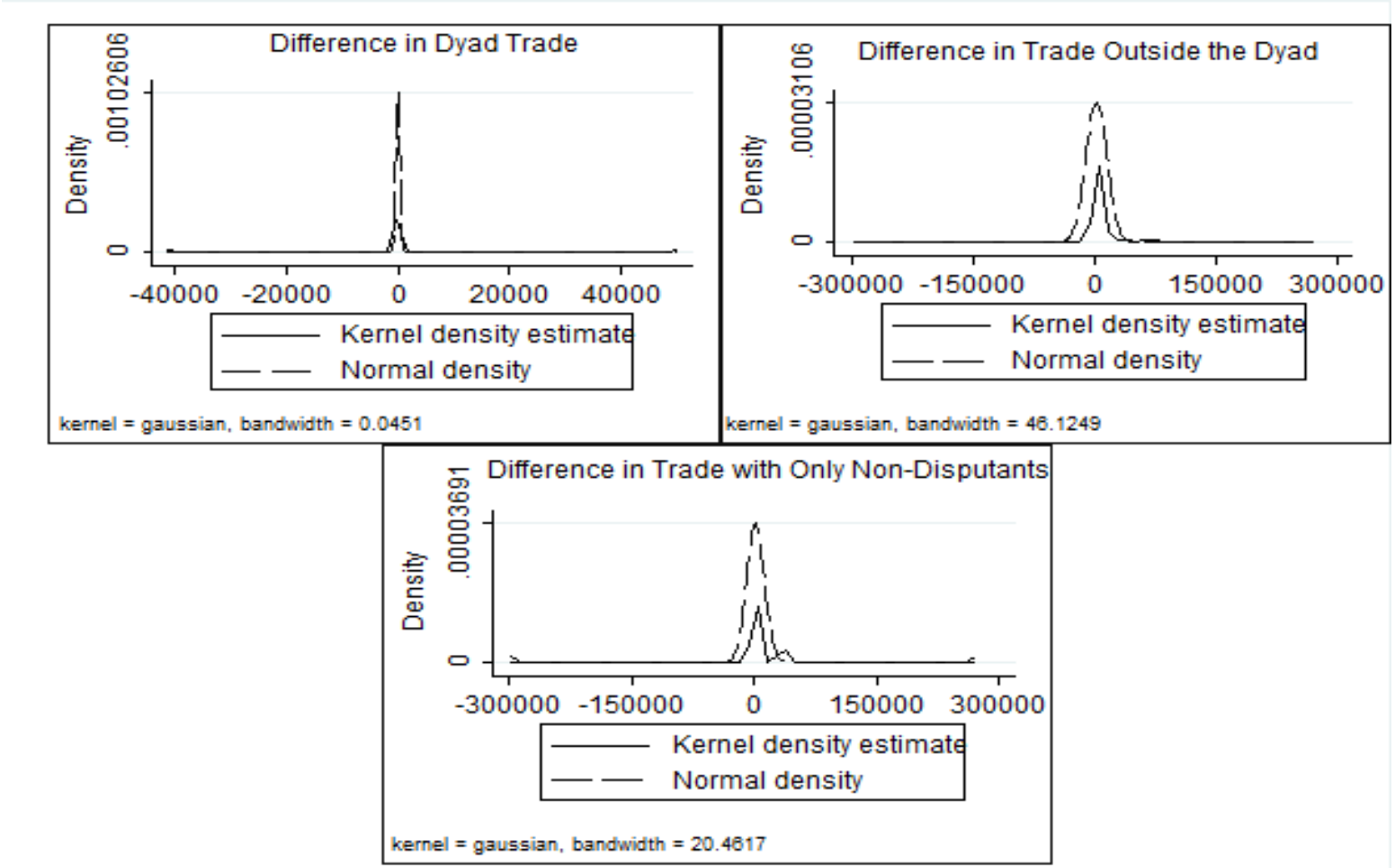

Figure 3.1 Kernel Density Estimates for Three Dependent Variables

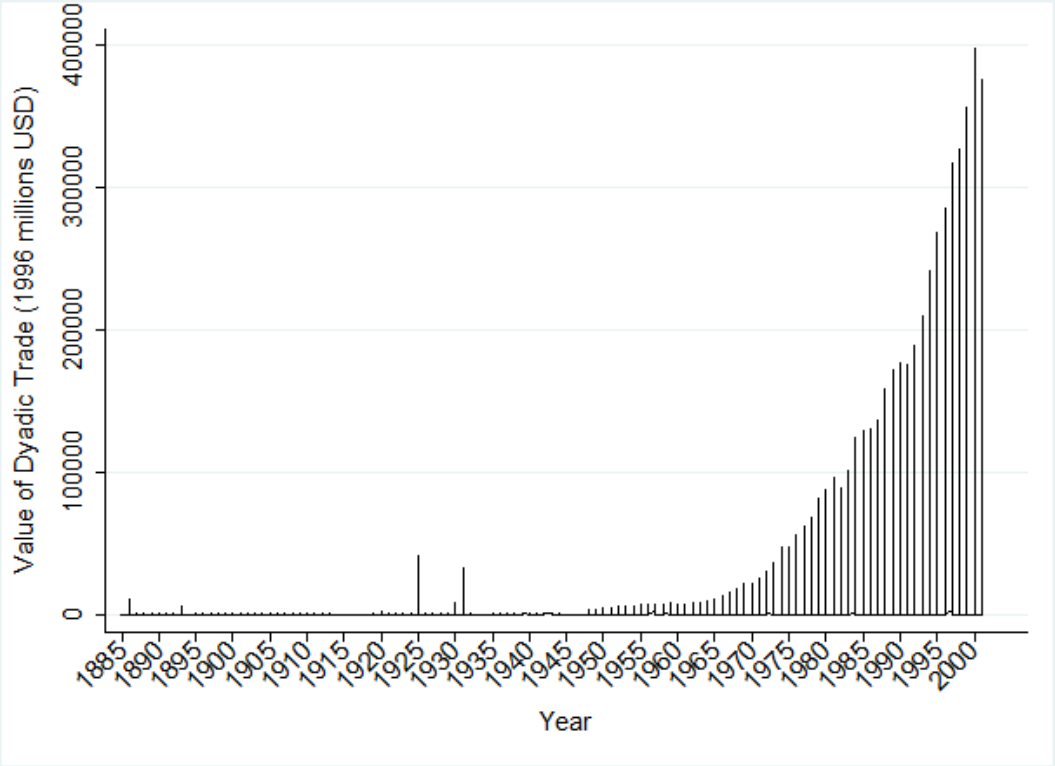

Figure 3.2 Changes in Dyadic Trade Values, 1885-2001

trend in dyadic trade values from 1885-2001. Because dyadic trade values continually increase over the span of the data, the correlation function within the data is autoregressive.[46] This specification of a time-series GEE model clusters standard errors around each dyad in the data, and accounts for expected positive changes in trade over time.

Section 3.5.ii: Independent Variables[47]

My key variable of interest concerns conflict participation by the state paired with State A in each observation. When a trade partner is involved in a MID, I expect that State

[46] Models B.1-B.9 in Appendix B implement a time-series regression with a lagged dependent variable as a sensitivity analysis, replicating each of the subsequent analyses (see Keele and Kelly 2006)
[47] All independent variables are lagged one year to ensure that the conflict predates the changes in trade values.

A's bilateral trade with this state will decline while it seeks to substitute for the lost trade. As such, my primary independent variable captures whether the state paired with State A in each dyad was involved in a MID in that year. I code this variable 1 if the state paired with State A is involved as an originator in any type of international conflict and 0 otherwise.

However, three other variables relating to MID participation must be taken into account. First, trade values can be assumed to decline when both states in the observed dyad are involved in a dispute against one another (Oneal and Russett 1997, 1999a, 1999b). I code this variable 1 if both states in the dyad are involved in the same dispute on opposite sides, and 0 otherwise.[48] Secondly, State A's conflict involvement will necessarily have an impact on its own trade values with other states, especially with those states not involved in any type of MID themselves. I code A's MID involvement the same as with the first variable, described above. Finally, since I am concerned with State A's active circumvention of a trade partner's conflict, I naturally need to account for whether State A actually joined into the conflict involving its trade partner – thus rendering the circumvention hypothesis moot. I code this variable 1 if State A joined into a MID involving the other state in the observed dyad during, and 0 otherwise.[49]

Given the measurement of each of these variables, there is some overlap in their coding. For example, in 1982 Nicaragua and Honduras were involved in a MID against one another, so each of the first three dependent variables are coded as 1 (each state is involved in a dispute in 1982, and both are pitted against one another). While it is feasible to clean the data so that there is no overlap, it would require prioritizing the dependent variables.

[48] It is not obvious that trade would decline between the states in the observed dyad if they were both involved in the same MID on the same side, but the effects of this are at least partially captured by the fourth independent variable, representing A's joining a militarized dispute involving a trade partner.

[49] Because the data communicate which side of a dispute a state joins, I only code this variable 1 if State A joins a dispute on the same side as the state with which it is paired in each dyad.

Naturally, conflict participation by State B (the partner of the state of interest in each dyad) is the most prescient, but it is not obvious in what order the other dependent variables should be coded to ensure independence. I choose to leave them overlapping, and employ caution in the interpretation of the results in the next section.

To account for the variation by fatality and hostility levels presented in Chapter II, I also create these dependent variables for being involved in/joining fatal MIDs and being involved in/joining interstate wars. Considering that the vast majority of interstate disputes never escalate beyond the threat to use force or the display of force, I expect that disputes producing fatalities and disputes that escalate to all-out war should exhibit more pronounced changes in trade values between State A and a disputant trade partner. As a caveat, however, fatality and hostility levels are only measured ex-post, so there is little way for states to know with certainty whether low-level MIDs will reach these thresholds at their outset. Low-levels disputes might still produce incentives for states to increase/decrease their trade values on the expectation of escalation, so the results presented for these secondary analyses should be viewed with some caution.

Section 3.5.iii: Control Variables

Previous research on the determinants of trade – especially during times of conflict – indicates the importance of a variety of controls. For the purposes of this chapter, I use only those relevant to the intersection of trade and conflict, excluding domestic economic determinants and many international economic indicators. This is an obvious shortcoming of the investigation that follows, but the variables I include nevertheless allow me to provide a first-cut analysis of trade patterns during times of international conflict. I leave the remaining investigations to future work.

National Material Capabilities – States that are militarily stronger have a greater capacity to endure the negative externalities of interstate disputes than do other states, whether they join or abstain from trade partners' conflicts. National capacity is operationalized here as the State A's national material capabilities score per annum according to the COW project (Singer, Bremer, and Stuckey 1972). I use the natural log of these CINC scores to avoid the bias of non-normal discrepancies between states' military power.

Major Power Status – States that attain the designation of being "major powers" are generally more advanced both militarily and economically, and are thus also more capable of weathering the storm of a trade partner's conflict, if they do not actually join in.[50] Trade relations between major power states and their trade partners are less likely to decline due to MID involvement. Major power states are coded as 1 if they belong to the list of major powers identified in Singer and Small's (1972) COW classification, and 0 otherwise.[51]

Distance – I use the log of capital-to-capital distance as an approximation for transaction costs. States that are farther apart geographically may simply have a more difficult time trading with one another, so greater distance implies lower trade volume. This is consistent with the gravity model of trade, which posits that greater distance between states results in lowered values of trade (Tinbergen 1962; Helpman and Krugman 1985; Disdier and Head 2008). This variable is only used in the estimations concerning dyadic trade levels, however, as it not obvious how the distance between the pair of states should affect State A's trade with all of its other trade partners (if it does at all).

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[50] Prior research by Altfeld and Bueno de Mesquita (1979) suggests that great powers are significantly more likely to join ongoing MIDs than are minor powers.

[51] Since there is generally a correlation between military power and major power status, the inclusion of both variables may be cause for concern. The correlation coefficient between them is actually quite small at 0.46. Models omitting one or other, however, do not substantively change the results presented here. When major power status is deleted from the models, CINC scores are significant, and when CINC scores are dropped, major power status is statistically significant.

Sanctions – Aside from the hypothesized decline in trade due to MID involvement, other instruments of conflict, such as trade sanctions and economic embargoes that are often employed during disputes, provide an obvious impediment to continued economic relations. Failing to control for these barriers to trade could result in overestimating the impact of MID involvement on bilateral trade, and as such, these are necessary controls. I coded this variable 1 if the state paired with State A was the target of one of six types of economic sanctions coded in Morgan, Krustev, and Bapat's (2006) TIES database during the previous or current year, and 0 otherwise.[52] I do not explicitly account for whether State A is a sender of these economic sanctions. Such a relationship is controlled for via this coding scheme, but it is also broad enough to capture the possibility that non-sending states may pay reputational costs for trading with sanctioned states.

Trade Dependence – If State A is dependent on the trade from its trade partner, then we are less likely to see a decline in dyadic trade values, even when a trade partner is involved in a dispute. This variable is measured as the total annual bilateral trade flow between State A and its partner as a percentage of State A's GDP.[53] As with distance above, however, it is not obvious that trade dependence on a single state should affect State A's trade values with all of its other trade partners, and so this control variable is only used in the models where the change in dyadic trade is the dependent variable.

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[52] The TIES database codes 10 different types of economic sanctions, but only six are useful for this analysis. These six are: partial or total economic embargoes, import restrictions, export restrictions, blockades, or suspensions of prior economic agreements. See Morgan, Krustev, and Bapat (2006) for a full list of those included in TIES. In addition, TIES only records data on economic sanctions beginning in 1971. Because my data necessarily covers a larger temporal domain, I coded all observations prior to 1971 as 0 to avoid losing three-fourths of otherwise useful observations. In Appendix B, Models B.10-B.12 treat the observations prior to 1971 as missing, and Models B.13-B.15 leave the sanctions variable out altogether. Neither specification in Appendix B changes the sign or significance of the primary independent variables presented herein.

[53] As with the dependent variables, the component parts of the trade dependence control – dyadic trade and GDP – are measured in constant 1996 US millions of dollars.

Number of Trade Partners – The number of partners with which State A trades is an approximation for the availability of substitutes it may seek when one of its partners is involved in a MID that threatens a trade relationship. The greater the number of trade partners, the more likely dyadic trade values are to fall. Conversely, the more trade partners that State A has, the more likely is trade with all of its other partners to increase.

Trade Concentration (Herfindahl) – The results from Chapter II indicated that the overall concentration of the global economy conditions states' conflict-joining behaviors, but we should also expect to impact the actual values of trade between states. Where trade is more concentrated, trade values between State A and its trade partner should be expected to increase. A Herfindahl index is a commonly used economic indicator that provides an estimate of a firm's expected share of a particular industry's total market (Rhoades 1993). In this context, it is used to approximate the value any given state might expect to capture of any other state's total trade market. To create this measure, I took the total nominal trade between a pair of states and divided it by the total national trade of the state of interest. These values, which range from 0 to 1, were then squared and summed, and remain constrained, but continuous, between 0 and 1. To capture the concentration of the global economy, I calculated the global average of the index for each year in the data. The yearly global mean of the index is used as the control variable here. It is not obvious whether higher values of trade concentration should positively or negatively impact the total values of trade with all of State A's other trade partners, however. This variable could theoretically be signed other way for the latter two dependent variables.

Openness – The more open State A's economy is – measured as its total national trade flows as a percent of its GDP – the more likely it is to trade with a larger number of

states and the less likely it is to need to divert when any given trade partner is involved in a conflict. While more open economies are less likely to see falling trade values during a partner's dispute, it is theoretically possible that because these economies are more open – and thus more substitutes are available to them – dyadic trade values might still decline. Trade values with all other trade partners should increase, however.

GDP Per Capita – To capture State A's individual national wealth, I use the log of its GDP per capita. I choose GDP per capita over GDP for two reasons: first, per capita GDP captures levels of national wealth spread across a population. Using GDP may mask the distribution of wealth within the state, attributing explanatory to the elite or to the national government in some cases. Secondly, because GDP per capita captures average individual wealth within a state, it gives insight into the productive and consumptive capabilities of an average member of a state's population. Such powers of production and consumption are necessary for international trade – without them, states would be unlikely to trade at all. Higher values of GDP per capita should increase trade values across all three dependent variables.

Measures of State Similarity – States that are more similar to one another in terms of international interests and regime type are more likely to trade with each other, so measures of similarity are necessary controls. I use joint democracy and Signorino and Ritter's (1999) S-scores of portfolio similarity to capture these likenesses. For joint democracy, I used Marshall, Jaggers, and Gurr's (2012) POLITY IV database to code the difference between each state's respective democracy and autocracy scores. Consistent with Gartzke (2007), I added 10 to this difference and divided by 2. Where the final score is 7 or greater, a state is considered democratic. Where both states in a dyad reach this threshold,

the dyad is coded as jointly democratic. Since joint democracy in the dyad is unlikely to impact State A's trade with all of its other trade partners, I use State A's calculated democracy score (ranging from 0-10 based on the above calculations) for the latter two dependent variables.

Signorino and Ritter's (1999) scores captures the similarity of foreign policy positions and alliance patterns, indicating whether states have conflicting or common international security interests. These values range from -1 (perfectly conflicting interests) to +1 (perfectly common interests). States with positive S Scores should be expected to have higher levels of dyadic trade. Again, however, it is not obvious how a single dyadic measure should impact State A's trade with its other trade partners, and so for the latter dependent variables, I substitute State A's S Score with the system leader, approximating its satisfaction with the overall global order. Higher values on this S Score should also leader to higher values of trade.

Section 3.6: Empirical Analysis

Section 3.6.i Impact of Any Dispute Participation on Trade Flows[54]

Table 3.1 reports the parameter estimates from the time-series general estimating equations regarding differences in international trade patterns using involvement in any type of MID as the key variables. Table 3.2 displays summary statistics for each of the three dependent variables for comparison. Model 3.1 contains the coefficient estimates for changes in dyadic trade, Model 3.2 reports changes in State A's trade with all of its other trade partners, and Model 3.3 reports changes in State A's trade with only its other trade

[54] Table B.1 in Appendix B replicates these analyses using time series regression with a lagged dependent variable.

Table 3.1 Changes in Trade Values in Response to Any Conflict Involvement, 1885-2001

	Model 3.1	Model 3.2	Model 3.3
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
B MID	5.486***	43.54	45.06
	(1.391)	(39.13)	(33.25)
AB MID	-7.343	190.6	17.48
	(20.47)	(473.9)	(417.5)
A MID	-5.474***	-198.7***	-207.2***
	(0.951)	(29.24)	(24.34)
A Joins B	3.651***	-494.6***	-407.0***
	(0.933)	(19.90)	(16.56)
CINC (A)	7.885***	1,152***	957.6***
	(0.843)	(20.58)	(16.51)
Major Power (A)	88.34***	11,707***	11,906***
	(18.68)	(372.5)	(369.7)
Distance	-24.38***		
	(3.556)		
Sanctions (B)	14.64***	1,681***	1,252***
	(1.529)	(58.02)	(47.76)
Trade Dependence	0.191		
	(3.038)		
Trade Partners (A)	-3.347	249.0***	728.2***
	(2.543)	(68.28)	(53.53)
Trade Concentration	3,320***	445,064***	431,533***
	(319.2)	(9,245)	(8,123)
Openness (A)	1.765*	927.0***	685.8***
	(0.819)	(28.01)	(20.44)
GDPpc (A)	5.170***	664.8***	648.9***
	(1.201)	(26.99)	(21.71)
Joint Democracy	35.11***		
	(4.107)		
Democracy (A)		80.21***	94.74***
		(5.154)	(4.280)
S Score	-3.836		
	(5.620)		
S with System Leader		5,715***	4,886***
		(213.4)	(188.2)
Constant	215.5***	-805.4*	-3,956***
	(35.57)	(319.9)	(250.9)

Table 3.1 cont.

	Model 3.1	Model 3.2	Model 3.3
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
N	597,230	634,301	791,765
Dyads	22,380	24,292	30,107
Wald Chi2 (df)	(15) 329.9***	(13) 11249***	(13) 12158***

Robust standard errors in parentheses.
*** p<0.001, ** p<0.01, * p<0.05

partners that are not involved in any type of dispute. From these results, we can see that the primary independent variable – a partner's MID involvement – indicates no support for the primary part of the circumvention hypothesis. B's MID participation actually positively and significantly impacts the values of dyadic trade, and its effect on State A's trade with other states is also positive, but not significant. According to these results, when a trade partner is involved in a MID, State A increases its trade with that state by around $5.5 million. This stands in direct contradiction to Hypothesis 1a, which predicted that trade values should fall under these circumstances. It is worth noting, however, that a $5.5 million increase is still well below the average change in dyadic trade from year to year, which is approximately $13.8 million. None of the coefficients on AB MID – where both states are pitted against one another in the same dispute – attain statistical significance, and the coefficient is only signed as theoretically expected for changes in dyadic trade. State A's own dispute involvement, however, substantially impacts its trade relations, as theoretically predicted. When State A is involved in any type of dispute, its trade values fall across the board, indicating support for all components of Hypothesis 2. A's dispute participation decreases its dyadic trade by approximately $5.5 billion – a perfect foil to State B's dispute involvement –

Table 3.2 Summary Statistics for Three Dependent Variables*

	Mean	Min	Max	Std. Dev
Difference in Dyad Trade	13.83	-40939.15	50075	360.41
Difference in A's Trade with All Other States	2258.44	-297249.7	271939.9	12829.05
Difference in A's Trade with All Other Non-Disputant States	1605.254	-296907.5	271106	10804.5

*All values in constant 1996 millions of USD

while its trade values decline by approximately $199 million and $207 million for its other trade partners and those not in disputes, respectively.

Hypothesis 4 did not speculate on how State A's joining behavior should impact its dyadic trade with the partner it joins, but it does appear that when State A joins its trade partner in an ongoing dispute, their dyadic trade value increases by around $3.7 million, much below the average of $13.8 million in the data. Its trade values fall by $495 million with all other trade partners, and by $407 million with those others not involved in disputes, however, supporting Hypothesis 4, and consistent with the results presented above on Hypothesis 2. This does make logical sense, however, given that State A's conflict involvement is more likely to affect its own economy than would the conflict propensities of a trade partner. It is important to remember here that these variables are coded with some degree of overlap. Particularly, any incidence where AB MID is coded 1, A MID and B MID are also coded 1. With that in mind, it is possible that this simultaneous coding creates a need to approach the coefficients in an additive fashion, and that one is driving the results on the others. If this is the case, then it is a potential explanation for the lack of significance

on the decline in dyadic trade when both states are involved in the same dispute. It is difficult, however, to explain why trade increases with a disputant trade partner, in contrast to the theory presented above. These findings do offer some support for Barbieri and Levy's (1999) arguments regarding continuing trade relations during militarized disputes. It appears that even in the wake of a trade partner's conflict, State A maintains its trade ties with the disputant, though at lower increases than the general trend. These results do not, on the other hand, offer any firm support for the circumvention hypothesis.

Most of the control variables perform as theoretically expected. Higher levels of military capabilities, major power status, trade concentration, economic openness, and GDP per capita all positively and significantly impact the level of trade across all three dependent variables. Only distance negatively and significantly impacts dyadic trade, but this variable is not included in Models 3.2 and 3.3 for reasons outlined in the previous section.

Higher numbers of states with which State A trades produces a decline in dyadic trade, but this coefficient is not significant. More trade partners does, however, lead to an increase in trade globally – with all other partners and all non-disputant partners – as theoretically expected. Trade dependence is positive in Model 3.1, but not significant.

Joint democracy produces an increase in dyadic trade, and the higher State A's individual democracy score, the greater the increases in trade with all of its other partners in Models 3.2 and 3.3. Dyadic S Scores are signed negatively, but not significant, in Model 3.1, but higher values of State A's S Score with the system leader do produce global increases in its trade values in Models 3.2 and 3.3, as predicted.

The most interesting result from the control variables is for economic sanctions. Sanctions against a trade partner were expected to cause dyadic trade levels to fall, while

increasing trade values with all of State A's other trade partners. The latter result obtains as expected, but the coefficient on sanctions in Model 3.1 is also positive and significant, in contrast to the prediction. Sanctions against a trade partner appear to produce an approximate $14.6 million increase in dyadic trade, which is slightly higher than the general trend. This is puzzling, but the result could be produced by two different phenomena – one methodological and one theoretical. Methodologically, sanctions data are only recorded from 1971 forward. In these models, I treated all pre-1971 observations as 0, which could serve to bias the estimations. To test this possibility, I replicated these analyses in Models B.10-B.12, using only the period 1971-2001 for which sanctions data are coded. These models may be found in Table B.4 in Appendix B. Excepting a few minor changes to some of the other controls, the results are identical to those from Models 3.1-3.3. I also estimate the models without the sanctions variable as a secondary analysis. Models B.13-B.15 in Table B.5 in Appendix B report the parameter estimate omitting the sanctions variable. Unfortunately, the results are still virtually identical.

This leads to the theoretical possibility. It is conceivable that because I am not directly controlling for whether State A is the sender of the sanctions against its dyadic partner, there is little impact on the way these states trade with one another. Early (2009) applied this logic directly to sanctions-busting trade, finding that where third parties employ sanctions against a state, its pre-existing trade partners are likely to circumvent them to continue trade relations. Given the robustness of the results to changes on the sanctions variable, I would conclude that a similar phenomenon is likely occurring in these data.[55]

[55] Models B.1-B.3 in Table B.1 in Appendix B replicate these analyses using time-series regression with a lagged dependent variable and random effects specification. The lagged dependent variables capture the general trend of increasing trade values over time, and are all positive and significant as would be expected. The remainder of the results are predominantly unchanged from Table 3.1.

Section 3.6.ii: Impact of Participation in Fatal Disputes on Trade Flows

Table 3.3 shows the parameter estimates from the time-series general estimating equations regarding differences in international trade patterns using involvement in fatal MIDs as the key variables. The results presented in Models 3.4-3.6 for fatal dispute involvement are not substantially different from the results presented above for involvement in any type of militarized dispute. A trade partner's fatal dispute involvement (B fatal MID) still produces an increase in dyadic trade, and also produces a significant increase in State A's trade values with its other non-disputant partners. Again, this is partially consistent with Barbieri and Levy (1999), but does not support my hypotheses.

When both states in the dyad are involved in a fatal MID against one another, trade values fall across all models, but none of the coefficients are significant. When State A is itself involved in a fatal dispute, even more anomalous results obtain. Its dyadic trade falls, but its trade values with its other partners in Models 3.5 and 3.6 both significantly increase, though still well below the general trend. State A's joining produces a similar increase in its dyadic trade with the trade partner it joins, but its values decrease with its other trade partners. This is particularly interesting because the results from A's involvement as a dispute originator and its involvement as a joiner have exactly the opposite results – trade declines dyadically when State A is an originator, but increases with its other partners while State A's trade with its partner increases when it join it in a fatal dispute, but falls with its other partners. This could theoretically be a product of State A's trade partners' decisions to decrease trade flows with State A when it joins a fatal dispute after the fact rather than State A actively decreasing its trade with them. Given the overlap in the coding scheme, however, all of these results should also be viewed cautiously.

Table 3.3 Changes in Trade Values in Response to Fatal MID Involvement, 1885-2001

	Model 3.4	Model 3.5	Model 3.6
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
B Fatal MID	6.083***	66.48	69.04*
	(1.431)	(39.16)	(33.25)
AB Fatal MID	-8.961	-38.75	-161.4
	(20.74)	(478.8)	(421.3)
A Fatal MID	-4.513***	339.1***	255.9***
	(0.963)	(27.79)	(23.13)
A Joins B (Fatal)	2.974**	-540.4***	-444.4***
	(0.905)	(20.37)	(16.92)
CINC (A)	7.763***	1,110***	921.9***
	(0.834)	(20.10)	(16.11)
Major Power (A)	88.00***	11,582***	11,798***
	(18.70)	(373.3)	(370.2)
Distance	-24.40***		
	(3.558)		
Sanctions (B)	14.46***	1,661***	1,235***
	(1.531)	(57.72)	(47.54)
Trade Dependence	0.293		
	(3.078)		
Trade Partners (A)	-3.219	271.5***	744.2***
	(2.546)	(68.13)	(53.38)
Trade Concentration	3,363***	452,174***	437,670***
	(317.3)	(9,220)	(8,108)
Openness (A)	1.764*	935.7***	694.5***
	(0.823)	(27.98)	(20.43)
GDPpc (A)	5.194***	671.7***	652.9***
	(1.202)	(27.06)	(21.77)
Joint Democracy	35.11***		
	(4.110)		
Democracy (A)		81.11***	95.22***
		(5.168)	(4.289)
S Score	-4.012		
	(5.635)		
S with System Leader		5,778***	4,947***
		(213.0)	(187.8)
Constant	213.8***	-1,431***	-4,465***
	(35.52)	(314.7)	(246.6)

Table 3.3 cont.

	Model 3.4	Model 3.5	Model 3.6
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
N	597,230	634,301	791,765
Dyads	22,380	24,292	30,107
Wald Chi2 (df)	334.1***	11276***	12171***

Robust standard errors in parentheses.
*** p<0.001, ** p<0.01, * p<0.05

The control variables in Models 3.4-3.6 perform identically to the previous models, with an almost negligible change in magnitude. Taken together, these results indicate no additional support for the circumvention hypothesis.[56]

Section 3.6.iii: Impact of Participation in Wars on Trade Flows

Table 3.4 displays the parameter estimates from the time-series general estimating equations regarding differences in international trade patterns using involvement in interstate wars as the key variables.

Models 3.7-3.9 replicate the above analyses using involvement in interstate wars as the key independent variables. The results in Table 3.4 remain unsupportive of the circumvention hypothesis. When a trade partner is involved in a war, dyadic trade between it and State A positively and significantly increases by around $12.4 million, consistent with the general trend in Table 3.2. However, it is worth noting that State's A trade with all of its other partners also increases significantly under these circumstances, rising $391.6 million for all other trade partners, $354.4 million of which is attributed to those partners not also involved in any type of dispute.

[56] Models B.4-B.6 in Table B.2 in Appendix B replicate these analyses using time-series regression with a lagged dependent variable and random effects specification. The lagged dependent variables capture the general trend of increasing trade values over time, and are all positive and significant as would be expected. The remainder of the results are predominantly unchanged from Table 3.3.

Table 3.4 Changes in Trade Values in Response to Interstate War Involvement, 1885-2001

	Model 3.7	Model 3.8	Model 3.9
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
B War	12.41***	391.6***	354.4***
	(1.432)	(43.07)	(36.34)
AB War	7.216	171.4	126.1
	(24.95)	(560.1)	(504.2)
A War	2.682**	1,141***	933.9***
	(1.021)	(36.15)	(29.84)
A Joins B (War)	-0.154	-1,103***	-915.8***
	(0.989)	(25.62)	(20.87)
CINC (A)	7.408***	1,080***	893.6***
	(0.837)	(19.62)	(15.70)
Major Power (A)	86.42***	11,473***	11,707***
	(18.64)	(373.8)	(370.6)
Distance	-24.22***		
	(3.572)		
Sanctions (B)	14.15***	1,666***	1,241***
	(1.544)	(57.61)	(47.49)
Trade Dependence	-1.483		
	(3.052)		
Trade Partners (A)	-5.009	153.3*	646.5***
	(2.587)	(69.55)	(54.20)
Trade Concentration	3,753***	377,521***	374,139***
	(350.7)	(8,619)	(7,698)
Openness (A)	2.189**	960.2***	714.0***
	(0.821)	(28.14)	(20.58)
GDPpc (A)	5.383***	677.9***	657.9***
	(1.202)	(27.17)	(21.85)
Joint Democracy	35.24***		
	(4.122)		
Democracy (A)		84.97***	97.82***
		(5.161)	(4.290)
S Score	-4.746		
	(5.694)		
S with System Leader		5,741***	4,923***
		(212.9)	(187.7)
Constant	215.3***	-965.9**	-4,101***
	(36.03)	(306.2)	(238.0)

Table 3.4 cont.

	Model 3.7	Model 3.8	Model 3.9
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
N	597,230	634,301	791,765
Dyads	22,380	24,292	30,107
Wald Chi2 (df)	349.2***	11397***	12233***

Robust standard errors in parentheses.
*** p<0.001, ** p<0.01, * p<0.05

When both states in the dyad are involved in a war against one another, trade values increase across the board, but none of the results are significant. This is again partially supportive of Barbieri and Levy's (1999) contention that states continue to trade even in the midst of international conflict. State A's dispute involvement as an originator unexpectedly increases its trade values across the board, standing in stark contrast to the major assertions of the liberal peace (Oneal and Russett 1997, 1999a, 1999b). As with joining fatal disputes in the previous section, when State A joins its dyadic partner in a war, its trade values with all other partners decrease. The results for dyadic trade are negative, but not significant.

The control variables in Models 3.7-3.9 also perform identically to the previous models, with an equally negligible change in magnitude. These results, altogether, offer no additional support for the circumvention hypothesis.[57]

Section 3.7: Conclusion and Discussion

Does a trade partner's involvement in a militarized interstate dispute impact a state's value of dyadic trade with the disputant? Does it also change the way that the state in

[57] Models B.7-B.9 in Table B.3 in Appendix B replicate these analyses using time-series regression with a lagged dependent variable and random effects specification. The lagged dependent variables capture the general trend of increasing trade values over time, and are all positive and significant as would be expected. The remainder of the results are predominantly unchanged from Table 3.4.

question trades with all of its other trade partners? These questions are important if decreasing values of dyadic trade are timed simultaneously with increases in trade with other partners because this could be a manifestation of a state's wariness over its economic health when one trade partner becomes involved in conflict. These twin phenomena could be considered evidence that states adapt their trade patterns to circumvent trade partners' conflicts and avoid having to join to protect their overall economic health.

Unfortunately, the results presented in this chapter do not provide such evidence. In fact, they indicate the opposite: when a trade partner is involved in any type of militarized interstate dispute – from low-level conflicts to all-out wars – dyadic trade continues to increase. These results partially contradict the liberal's conventional wisdom that trade is disrupted by periods of international conflict (Oneal and Russett 1997, 1999a, 1999b), lending credence to some of the realist claims about trade and conflict. While the results do not test whether trade partners are less likely to fight, they do indicate that disputatious trade partners are still capable of maintaining trade ties with third parties. Barbieri and Levy (1999) argue that beneficial trade ties may not be enough to prevent states from fighting each other, and from these results we can conclude that conflict may not be enough to deter states from continued economic exchanges. Kastner (2007) also finds evidence that trade can continue to flourish during hostile political relations, and these results are reason to draw similar conclusions. Even in a much more liberalized economic setting – where states have a variety of options for substituting trade or altering trade patterns – it is apparent that an environment that may be conducive to circumvention is no guarantee that it occurs.

While this chapter does not find any evidence for the central hypothesis, it does find evidence for some of its corollaries. With the exceptions of the two models in this chapter

and its appendix that examine dyadic trade during wartime (Models 3.7 and B.7), dyadic trade falls when both states in a dyad are involved in a militarized dispute against one another. While none of these coefficients attain statistical significance, they are signed correctly according to the conventional wisdom in the liberal peace literature. More importantly, State A's trade values do increase – and significantly during fatal MIDs and wars – with its other trade partners when its trade partner in observation is involved in a dispute. This lends some support to Hypotheses 1b and 1c, which served as the secondary components of the circumvention hypothesis. While this does not provide any concrete evidence that states actively alter their trade patterns to avoid joining conflicts, it does suggest that states may be wary enough of a trade partner's dispute to pursue alternatives should their trade relationship with a disputant be legitimately threatened or jeopardized. Since hostility is information that is only measured ex post in conflict data, it is difficult for states to know at the outset of dispute whether it will escalate, and if does, to what level and with what likely effects. This partial evidence could indicate that states take caution when a trade partner is involved in a MID, even if they do not take direct action with or against their partner.

The most obvious conclusion from these results is that State A's own conflict involvement has the greatest impact on its overall economic health. When the state of interest in these analyses is involved in a dispute itself, its trade values – within the dyad and outside of if – are affected more than by any other conflict variable, though the results are not consistent across the models in the chapter or its appendix. When State A is an originator of any type of dispute (Table 3.1), its trade values fall across the board, but when it is an originator in a fatal dispute or an interstate war, its trade values actually increase with

its other trade partners. This is interesting and unexpected, but it may be accounted for by states making greater efforts to maintain their trade patterns when they find themselves involved in disputes that seriously threaten their own economic well-being. Such is pure speculation from the results presented here, but it merits further investigation in future to understand such unconventional findings.

Also interesting is the result on State A's joining behavior, which is directly pertinent to Chapter II and the investigation that follows in Chapter IV. When State A joins into a dispute on the side of its trade partner, dyadic trade with that state increases significantly across almost all models. This lends further support to Chapter II's conclusion that states intervene into ongoing disputes to protect their trade relationships with disputant states, but it also calls into question what secondary effects that decision to join might have with its trade relations with other trade partners. In all models, trade values fall significantly between State A and all of its other partners (collectively) when it joins into a MID. Considering that trade values increase in many cases when State A is an originator, joining a conflict after it has begun might send a signal that a state is willing to accept too much risk and cause other states to become wary of their trade partner. Such is, again, mere speculation without a direct test, but these results do suggest that the impact that conflict participation itself has on global trade relations is incredibly complex and dynamic.

There are several limitations inherent in the research design of this chapter that merit revisiting in future research. First, I do not control for domestic or international economic determinants of trade flows. I focus exclusively here on the national attributes of a particular state (major power status, trade openness, etc.) that may impact its relations with other states in the international system, as well as on dyadic variables that draw on conflict participation

and state similarity (joint democracy and alliance portfolio similarity, e.g.). This is the most obvious shortcoming of this research design, as it ignores internal or domestic components that impact states decisions to trade in the first place. Any future extensions of this chapter must incorporate these considerations to draw meaningful conclusions about how trade and trade patterns change over time.

Secondly, the overlap in the coding scheme on the key independent variables renders interpretation difficult. Because any time two states are involved as originators in a dispute against one another, their individual conflict participation variables are also coded 1, the coefficients in the tables must be viewed with caution. It is not enough, however, to simply say that these coefficients can be added together to come to a direct conclusion, since there are times when one or both states in a dyad are also involved in disputes that do not involve the other. Therefore, in some cases they can be treated additively, but in other cases, they cannot. It is difficult, however, to create a coding scheme that prioritizes one state's conflict participation over another's to ensure the independence of the variables when information on all of them is important to understand the relationship between conflict participation and trade dynamics.

In addition, this is not necessarily a direct test on the way a trade partner's conflict affects a non-combatant third party, as would be necessary to directly test the circumvention hypothesis. To do so, a triadic dataset would need to be employed to ensure that State A is actually a third party and not involved in a militarized dispute itself. This is a major shortcoming of this research design, and one which I intend to correct in a revision of this work. More importantly, what I present in this chapter is far from a direct test of circumvention. I demonstrate empirically that dyadic trade flows sometimes change during

times of international conflict, but there are methodological and theoretical shortcomings in merely showing that this phenomenon occurs. The results indicate that something interesting is indeed happening with international trade patterns during times of conflict, but a more specific test of willful trade diversion needs to be devised before the circumvention hypothesis can be confirmed or fully rejected.

Finally, the circumvention hypothesis implicitly assumes that states are willing to substitute trade markets when one of their trade partners becomes involved in a militarized dispute, but it never actually questions whether they *can*. Since opportunity and willingness are jointly necessary for state action, merely having a desire to avoid conflict by changing trade patterns in no way means that states are afforded the ability to, even under incredibly liberalized economic conditions with a multitude of trade partners. Certain types of commodities are simply less amenable to trade substitution than others, and this question will be taken up in Chapter IV.

Chapter IV
Trade Substitution and Conflict Expansion: Does What States Trade Matter for Joining Ongoing Disputes?

Section 4.1 Introduction

What motivates states to intervene militarily into disputes that do not originally or directly concern their own security? Many would suggest the answer is no different than the answers we have gleaned from decades of concern over the causes of dispute initiation. The inherent problem with this suggestion, however, is that the choices available to third parties – those who are neither initiators nor direct targets of the dispute – are quite different than those available to originators (Bremer 1995; Bennett and Stam 2000b). Initiators choose to begin an interstate dispute because they perceive that some other state threatens their national or economic security, because they find some policy morally or legally objectionable, or simply because they want to embark on some imperialistic conquest for territory or treasure. Targets, however, only choose to defend or acquiesce in the face of aggression.

Joiners seldom experience the direct effects of dispute initiation against another, though negative externalities can easily spill across shared borders, impact economic relationships, and threaten the regional and/or global balance of power. Since these effects are often indirect and marginal, it is difficult to conclude that the same causal forces are at work in motivating conflict initiation and conflict intervention. The latter is always a choice a state must make – diverting its own resources, sacrificing its own blood and treasure, and risking its own political and economic security – for the sake of another.

It goes without saying that a third party must have some interest in one or more of the disputants to inject itself militarily into their conflict. By assumption, states have two

primary goals: security and prosperity. The perception that an outside dispute may threaten security is an obvious motivator for joining, since security is a means to ensure survival, whereas prosperity may be garnered through endeavors void of international economic relations.[58] The questions surrounding economic security, however, are decidedly more complex and to boldly declare it, more interesting.

Theoretically, conflicts increase in severity by one of two primary mechanisms. First, a dispute can deepen vertically, through an escalation of hostilities between the original combatants. Second, disputes can spread horizontally through the accumulation of new disputants after the conflict has begun. There has been no shortage of empirical work concerned with the former, but the literature largely fails to distinguish the processes that may be unique to the latter.[59]

It is important to understand the underlying causal processes that motivate third parties to intervene into ongoing militarized interstate disputes (MIDs). Ultimately, "we know very little about the decision-making process that leads some nations to remain neutral while others join ongoing wars" (Altfeld and Bueno de Mesquita 1979: 87). I focus on a specific set of motivators – those that are economic in nature – and broaden my analysis to include all types of militarized interstate disputes, and the investigation I undertake in this chapter will serve to enhance our understanding of what induces some states to take up arms while others abstain. Given present data limitations, my analysis centers exclusively on bilateral trade dependence.[60] While the expansion subset of the conflict literature focuses primarily on the role of alliances and on the negative security externalities outside conflicts

[58] Shoring up domestic productive capacities, e.g. See Schelling (1958) and Dorussen (2006).
[59] But see Valeriano and Vasquez (2010) and Vasquez and Valeriano (2010).
[60] Foreign direct investment would be a much better indicator of economic interest in a disputant state, but currently, directed dyadic FDI data do not exist.

may present – especially if neighbors or rivals are involved – there is an obvious limitation regarding the remaining correlates of war. Few scholars have examined the potential economic incentives to intervene, but given the revival of interest in the conflict processes undergirding complex, multiparty disputes, it is fruitful to explore all drivers of conflict expansion (Valeriano and Vasquez 2010; Vasquez and Valeriano 2010). This tripartite interaction between militarized conflict, conflict expansion, and economic interdependence is only partially understood, and in its nascence, it is ripe for further review.

In this chapter, I build upon the analyses from Chapter II, and specifically assess whether the varied components of international trade – namely, those based on primary commodities and consumer durable manufactured goods – condition the probability of military intervention, arguing that the unique nature of the former renders these goods virtually non-substitutable. Because of this, third parties whose economies rely heavily on trade in primary goods are more likely to intervene to protect their own lifeline of resources.

This chapter is organized as follows: the first section surveys existing literature relevant to the interaction of economic interdependence, conflict onset, and conflict expansion, and also briefly reviews arguments for decomposing aggregate trade statistics. The second section outlines the theoretical arguments linking primary commodities to conflict-joining propensities. The next two sections describe the research design and present the empirical findings, respectively. A final section presents the conclusions, highlights some shortcomings of this study, and offers suggestions for both future iterations of this investigation and future work in this research program.

Section 4.2 International Conflict and International Trade

Section 4.2.i International Trade and Militarized Disputes: From Onset to Expansion

The existing literature on economic interdependence and interstate conflict centers primarily on the divergent arguments between liberals and realists over the nature of bilateral trade's ability to pacify dyadic relations.[61] A large body of research focuses on the hypotheses of the liberal peace – a Kantian argument that the linkage of international economies in a mutually interdependent framework is one of the three elements of perpetual peace. The empirical record suggests that states that engage in bilateral trade relations are much less likely to fight one another than states that do not enjoy beneficial economic ties (Oneal and Russett 1997, 1999a, 1999b; Gartzke 2007).[62]

Beyond the scope of purely economic considerations, however, scholars have also suggested that other shared interests and state similarities are often highly correlated with economic interdependence, and serve to deepen trade cooperation, and in conjunction, dampen the probability of armed conflict. Dyads with similar foreign policy portfolios (Pollins 1989a), dyads that are jointly democratic or participate in the same network of international organizations (Oneal and Russett 1997, 1999a; Morrow, Siverson, and Tabares 1998), or dyads that enjoy a formal alliance (Gowa and Mansfield 1993) tend to trade more with one another than states that do not share these traits.[63] Other work has examined the benefits of joint political and economic cooperation – specifically free trade areas and

[61] See Mansfield and Pollins (2001) for a broader assessment of the literature on international trade and conflict.

[62] See McDonald (2004) for an argument that only "free trade" promotes peace, rather than the existence of bilateral trade

[63] See also Savage and Deutsch (1960), Nagy (1983), and Kunimoto (1997) and for further studies on cooperative political arrangements.

preferential trade agreements – on pacifying dyadic relations (Mansfield, Pevehouse and Bearce 1999).[64]

A subset of this literature broadens the analysis of the trade-conflict linkage to extra-dyadic relations. Dorussen and Ward (2010) find that indirect trade ties – where two states have a mutual trade partner – can pacify dyadic relations because of the increased interaction and connectivity these trade ties represent. Huth and Russett (1984) also contend that trade ties can serve as a deterrent to outside states because states with mutually beneficial trade ties are likely to band together to avoid loss. Their "friend of a friend" phenomenon suggests that third parties are likely to join conflicts on the side of their trade partners when their gains from trade may be jeopardized, and in awareness of this, states may refrain from challenging other states with embedded in widespread trade networks.

These studies largely examine the likelihood of dispute initiation within a dyad, even with regard to third-party considerations, but this begs the first fundamental question: is there a difference between conflict onset and conflict expansion? Solely relying on prior studies of conflict expansion, the answer would likely be "no"; they are primarily extensions of studies of MID onset, centering on traditional realist indicators of power and interest. There are, however, reasons to believe that a substantive difference exists between originating a conflict and joining a conflict once it has begun (Bremer 1995; Bennett and Stam 2000b). The latter is always a choice a state must consciously – and often conscientiously – make, and we must be concerned with the factors that motivate a state to become involved in a conflict that did not originally concern it.

[64] See also Aitken (1973), Pelzman (1977), Brada and Mendez (1983), and Pollins (1989)

Existing studies of conflict expansion primarily focus on traditional conflict indicators, such as the role of shared borders, alliances, and major power status (Siverson and Starr 1990; Gartner and Siverson 1996; Smith 1996) in studies of conflict diffusion. Because of their prominence in the traditional inquiries of conflict studies, these variables provide the most plausible explanations for conflict expansion as well. Geographic proximity increases the probability of conflict between states because it is simply easier to fight in one's own backyard and mobilize resources over shorter distances (Siverson and Starr 1990; Senese and Vasquez 2003, 2005), but it also may increase the probability that a state will join an ongoing interstate dispute if one or more of its neighbors is involved, especially if the conflict in question might produce negative consequences across national borders (Most and Starr 1980).

Alliances have been used to explain the decreased likelihood of war between states by many theorists, but they also contribute to the field of conflict expansion by linking states formally to one another in the event of a conflict (Leeds, Long and Mitchell 2000). Defense pacts merit particular attention here, as these are the alliances that explicitly bind states together should one become embroiled in a MID (Gibler and Sarkees 2004). Moreover, major power states and states with larger militaries simply have a greater ability – and thus opportunity – to display their power on a global stage, either through originating conflicts or through joining them once underway (Altfeld and Bueno de Mesquita 1979; Bremer 1992; Huth 1998).

Neoliberal indicators receive less attention in the conflict expansion literature. Perhaps the most robust literature that exists in conflict studies centers on the phenomenon of the democratic peace, and its core findings need hardly be addressed in explicit detail

here. Suffice it to say that democracies are significantly less likely to fight with one another (Doyle 1986; Levy 1988; Bremer 1992; Maoz and Russett 1993; Bueno de Mesquita et al 1999; Russett and Oneal 2001). We are, however, decidedly less sure about whether democratic states are more willing to fight *for* one another. While some scholars argue that democratic regimes will theoretically seek to defend other democracies (Chan 1984; Doyle 1986), others demonstrate empirically that joint democracy makes little difference when deciding to join an ongoing conflict (Reiter and Stam 2002). Shared membership in international institutions – another measure of state similarity – has also been shown to dramatically reduce the likelihood of conflict onset because, like measures of joint democracy, shared membership in a complex set of overlapping institutions produces mutual interests between states (Hafner-Burton and Montgomery 2006). The extension of the argument applies here: similar states should be more likely to come to one another's defense, though this has yet to be examined empirically.

The final of these indicators is economic interdependence. Conflict, as argued above, may disrupt a mutually beneficial economic exchange, and interdependence tends to pacify dyadic relations. We have, however, seen very few attempts to directly test economic arguments from conflict onset in the realm of conflict expansion, as has been done with the more traditional conflict indicators. One particular study of note in this area is Aydin's (2008) article on economic interdependence and conflict expansion.[65] Aydin's study marks one of the first attempts to integrate economic variables with traditional realist and neoliberal indicators and assess the factors that motivate states to join ongoing MIDs. She examines the impact of bilateral trade on conflict joining propensities and finds that states

[65] See also her book published on the same topic in 2012.

are more likely to intervene on behalf of their trade partners, supporting the conjectures of Huth and Russett (1984) and Dorussen and Ward (2010).Chapter II of this dissertation refined her analysis and found similar conclusions.

Section 4.2.ii The Components of International Trade and International Conflict

In a refinement to traditional liberal peace arguments, Dorussen (2006) examines the components of international trade in the context of dispute initiation, arguing that the actual relationship between trade and conflict should vary over the types of goods traded due to the opportunity costs presented by each. Few studies add these "foregone gains from trade" to the cost-benefit analysis of conflict, though these costs are a necessary consideration (Polachek 1980: 56). These opportunity costs arise from the difficulty states face when trying to substitute trade lost in the midst of an interstate dispute. Certain goods are more costly – and thus more difficult to replace by alternating trade patterns (importing from or exporting to new markets, e.g.) – and these types of commodities should exhibit a greater pacifying effect (Gasiorowski and Polachek 1982; Polachek and McDonald 1992; Reuveny and Kang 1998). Among these commodities are those whose factors of production are relatively immobile (Hirschman 1980), whose demand is relatively inelastic to supply (Reuveny 2003), and whose assets are specific to particular states or geographic regions (Williamson 1996). Together, these characteristics point largely to agricultural commodities and primary resources as being the more difficult types of goods to substitute in the event their exchange is threatened by a militarized dispute (Reuveny 2003). Using aggregated measures of "total trade" between states cannot capture the nuances inherent in the various goods traded. The present chapter seeks to contribute to these interconnected literatures, while refining Aydin's (2008) analysis and the results from Chapter II by disaggregating the components of

international trade. As she extended liberal peace arguments to the realm of expansion, so this investigation seeks to build upon her analysis while simultaneously extending Dorussen's.

Section 4.3 Disaggregated Trade and the Possibility of Trade Substitution

While militarized conflicts often only involve two states, they are not isolated events. When a MID breaks out, it certainly affects the disputants themselves, but negative externalities may also spill over to other states in the international system (Aydin 2008). Some of these negative consequences are likely to be economic, and interstate conflict has the potential to seriously disrupt international trade and sever mutually beneficial trade ties (Oneal and Russett 1999a; Barbieri and Levy 1999). This is one of the primary reasons that states that are economically interdependent are much less likely to fight one another, (Oneal and Russett 1999a, 1999b), but disputes that do occur present potential economic problems for third parties that have trade ties with one or more of them. In addition, militarized conflict creates a risky market scenario for business interests, traders, and investors who stand to lose returns when their markets are threatened. While states are not often the actors making these international trading decisions, they are the ones make the conflict decisions, and representatives of business and industry often pressure their governments to take action when their interests are threatened (see De La Pedraja 2006).

According to Oneal and Russett (1997), states have a large stake in the economic well-being of their trade partners. Where states are caught in potentially disastrous disputes, trade partners have an incentive to step in to protect their own interests. In addition, the outcome of violence can have devastating consequences for third parties should essential trade partners be defeated and beneficial trade ties permanently severed (Huth 1988;

Organski and Kugler 1977). As such, states are more likely to intervene in ongoing militarized interstate disputes involving their trade partners, as Aydin (2008, 2012) and the results from Chapter II suggest.

This logic is perfectly intuitive, but it fails to account for two important considerations that explicitly inform one another. First, the network of economic interdependence has simultaneously widened and become less concentrated over time, as described in Chapter I. Most states trade with a large number of others and have increasingly open economies. From the global average Herfindahl index, we also see that while economies have become much open to trade – and to trade with a multitude of trade partners – their overall dependence on any particular one of them has declined over time. In conjunction, these empirical realities suggest that states theoretically have a variety of market substitutes available should they decide to abstain from joining a trade partner's dispute and that the marginal impact of any trade partner in conflict should not substantially affect their overall economic well-being. As such, it is conceivable that states can consciously choose to abstain from a trade partner's conflict and divert their trade relations where they deem it worthy and/or less costly. Doing so simultaneously avoids paying the costs of conflict intervention while maintaining pre-conflict economic health, thus dampening the probability of conflict-joining, rather than increasing it.[66]

Secondly, the argument that economic interdependence among states creates an incentive for them to intervene to protect their trade ties fails also to consider differences in the types of goods that are traded. Such a sweeping suggestion assumes that all trade

[66] The results for circumvention in Chapter III, however, do not directly support this possibility as states continue to trade with their trade partners while they are involved in disputes, though third parties do increase their overall trade with their other trade partners, and particularly, their non-disputant trade partners.

relationships are uniform. This is not just an intuitive reach, but also a factual one. Because of the idiosyncratic nature of geography, climate, and productive capacity, certain states may be the sole (or one of few) suppliers of particular tradable commodities. These primary goods – extracted resources, foodstuffs, and other agricultural commodities – may be specific to certain environments. Where the dependence on goods traded tips in favor of primary commodities (as opposed to consumer durable manufactures) it may not be possible to substitute these relationships by diverting trade, even in an economic environment conducive to conflict circumvention. These primary goods may be more precious, more scarce, and more valuable to economic survival than other types, thus making them more worth the costs of a military response.

This second consideration forms the basis for the present chapter. As alluded to above, states are rarely reliant on any one trade partner exclusively. Should Vietnam become embroiled in an interstate dispute, for example, a state like the United States – whose primary trade relationship with Vietnam is in textile imports – may decide to pursue similar textile imports from some of its other trade partners like Egypt, China, Italy, or Mexico. Textiles are produced by numerous countries across a variety of regions, so substituting one for another – though not a costless venture itself – is less disadvantageous as the possibility of losing a commodity less widely produced. If the disputant were Ecuador, the picture painted is quite different. The United States alone served as an export market for almost 25 percent of Ecuadorian bananas from 2002-2006, making Ecuador the US's primary partner for this commodity (UNCTAD).[67] If this relationship becomes imperiled, the United States is presented with a more momentous choice: it could potentially lose the banana trade with

[67] Ecuador was also the major supplier for all states during this time, producing 29 percent of the world's bananas (UNCTAD)

Ecuador, causing banana prices to rise as they become a more scarce resource; it could pursue an increase in supply from its other banana markets, though these are far fewer in number than textile partners and may not be able to produce more given export commitments to other markets like the European Union; or it could take a firmer stance in the conflict, hoping to preserve the flow of bananas directly from Ecuador to the United States.

Though trade in bananas seems like a silly example, cases from history abound to testify to the importance of produce imports. From 1898 to 1934, the United States became involved in a large number of Caribbean and Latin American disputes collectively known as the "Banana Wars". Chiefly, this was because the American-owned-and-operated United Fruit Company (most well-known for Chiquita bananas) was threatened by disputes in banana-exporting countries. The Coto War between Panama and Costa Rica in 1921 is a prime example. This was a border dispute over a relatively small piece of Panamanian territory, but the Costa Rican invasion of Panama threatened the operation of the United Fruit Company, and thus threatened both business interests for an American-owned company and exports of bananas, prompting a U.S. intervention (De La Pedraja 2006). Similar examples can be found for interventions where disputes threatened the sugar industry (Rutter 1963; Aydin 2008), and more popularly, the oil industry (Stoessinger 2011). Suffice it to say that primary resources have been the cause of – or at least a contributing factor to – more interstate conflicts than trade in manufactured goods like textiles, electronics, or machinery. Likewise, they have produced more military interventions.

Naturally, there are a host of variables that determine the ultimate choice[68], but the key difference between these two scenarios – trade in textiles and trade in bananas – is the product that forms the crux of bilateral trade between a disputant and a third party. The former – textiles – are mass produced and can be made virtually anywhere, assuming enough cheap labor and capital exist to facilitate production; the latter, however, is beyond the dictates of human ingenuity. Like as not, certain resources are available at the behest of the natural environment. Primary commodities – foodstuffs and mineral resources e.g. – are not as readily substitutable as manufactured goods that may be produced globally. This necessarily limits states' abilities to circumvent conflicts where these scarcer resources may be at stake because it limits the availability of alternatives. As such, we must consider the basis of the trade relationship before we can definitively conclude that an economic incentive for military intervention exists.

Here, I examine whether the dependence on these separate commodities affects the likelihood of conflict joining. In theory, it should matter little whether the potential joiner is the importer or exporter of the goods in question. If the third party is the importer, it will have to substitute loss by seeking new suppliers; if it is the exporter, it must seek new markets in which to sell its product. In either case, the state must alter its trade patterns, imposing costs on the domestic economy. For this reason and for simplicity's sake in this analysis, I do not separate imports from exports with regard to primary commodities or manufactured goods. I believe that the higher the dependence on trade in primary goods, the greater is the likelihood that this state will intervene to protect its access to resources. The relationship between bilateral trade dependence and conflict joining propensities is thus

[68] A few relevant considerations include who a state faces in the MID and the severity of the conflict.

driven not only by the changing nature of the international economy, but also by the ease of substituting manufactured goods. I offer the following two hypotheses based on these considerations:

> H1: The greater the dependence on trade in primary commodities, the *more* likely is a potential joiner to intervene in an ongoing MID.
>
> H2: The greater the dependence on trade in manufactured goods, the *less* likely is a potential joiner to intervene in an ongoing MID.

Section 4.4 Research Design

This chapter seeks to examine the likelihood that third-party states will join ongoing interstate disputes based on vested economic interests in the disputant states, paying particular attention to the components of bilateral trade ties. In order to test the above hypotheses, I used the same data that I collected for the analyses in Chapter II. I generated data from the Correlates of War Militarized Interstate Disputes (v3.02) database using Bennett and Stam's (2000a) EUGene software (v3.204). I produced data for each militarized interstate dispute that occurred between 1962 and 2000.[69] Conflicts that were ongoing at the beginning of 1962 are excluded from the dataset, and only the first year of conflict is used for those beginning in 2000. Disaggregated trade data are unfortunately only available for this period of time. I then matched each original participant in these disputes with all non-originators, which serve as the subset of potential joiners.

Using these parameters, I constructed a directed-dyads framework where every original conflict participant was matched with every potential joiner (hereafter State A) in

[69] Chapter II used the entire temporal domain, 1885-2001, but limitations in the independent variables for this chapter force me to restrict the data used to test my hypotheses on disaggregated trade.

each dispute year.[70] The unit of analysis is thus the "directed-dyad MID year". I include all MIDs – rather than just the first onset in a year or the most severe in a year – and I also choose to include ongoing dispute years in the analysis. Because a state can join at any time during a militarized dispute, so long as the dispute does not terminate, coding joining only in the first year of a conflict's duration may miss actual instances of joining, especially where conflicts begin quite late in a year and carry on to the next. For example, one of the many Japanese campaigns in Mongolia in the 1930s began in December 1935. This dispute was joined by the Soviet Union, but not until March 1936. Coding only the first year of a MID would miss this case.

There are, of course, limitations to this data structure. Because my data include repeat observations where a state is engaged in more than one MID in a year, it is impossible to treat the data as true time-series cross-sectional data because observations are not necessarily unique and because I do not evaluate all dyad pairs over all relevant years. This increases the difficulty of correcting for both spatial and serial correlation, known to afflict TSCS data in conflict studies. In partial correction for these maladies, I cluster standard errors around each MID to control for unit effects particular to each conflict. I also incorporate peace years and polynomial approximations to smooth temporal dependence (Carter and Signorino 2010).

Section 4.4.i The Dependent Variable and Choice of Estimator

The dependent variable used here is whether State A joins an ongoing dispute, and on which side. Join Side takes the value of 1 if State A enters the dispute on the side of the

[70] To account for the possibility that potential joiners in a politically relevant dyad with a disputant might be more likely *a priori* to join into an ongoing dispute, I restrict the same to only those potential joiners who are either major powers or contiguous to at least one of the dispute members. These results may be found in Table C.3 in Appendix C.

conflict initiator, and remains at "1" until the state withdraws from the conflict or until the conflict terminates. Join Side is coded 2 if the third party joins the dispute on the side of the target, and remains at 2 unless it withdraws or the dispute ends. The dependent variable is coded "0" otherwise.[71] Joining is operationalized as whether the state participates in the conflict on the first day. First-day participants are coded as originators; all other dispute participants are coded as having joined the conflict, and make up the subset of states designated "State A".

Because of the discrete nature of the dependent variable, linear regression is infeasible. The estimations that follow examine the relationship between the key causal variables and relevant controls on the multiple category dependent variable using multinomial logistic regression. After estimation, I present the substantive effects of the significant covariates produced from post-estimation predictions using Tomz, Wittenberg, and King's (2003) CLARIFY package for STATA.

Section 4.4.ii Bilateral Trade and Its Components

I begin with a standard model of trade and conflict, using Oneal and Russett's (1997, 1999a, 1999b) traditional operationalization of bilateral trade dependence. Trade Dependence measures the total bilateral trade flow between the originator and State A during each year as a percentage of State A's GDP. This measure is a commonly adopted indicator of economic openness in the conflict and liberal peace literatures, but when utilized in a directed-dyadic framework, it provides a snapshot of each potential joiner's dependence on a disputant state. To ensure the consistency of measures, I use Feenstra et al's (2005)

[71] In many instances in the data, the initiating state is actually the "status quo" state in the dispute. For example, Poland is considered to have initiated World War II against Germany, though we know that Germany was the aggressor. To account for possible misappropriations such as these by using only joining initiators and targets, I estimate the first series of multinomial logit regressions coding the dependent variable 1 if a third party joins the revisionist side, and 2 if it joins the status quo side. These results may be found in Table C.4 in Appendix C.

international trade dataset to create all economic measures used in this chapter, except for GDP, which is not recorded in Feenstra's data. I take GDP measures from the Penn World Tables v.6.1 (Heston et al 2002).[72] The measure is logged to normalize discrepancies.

Further estimations break down aggregate trade, described above, into its component parts. I use Feenstra et al's (2005) data from 1962-2000, derived from the United Nations Statistical Office's measures of Standard International Trade Classification, Revision 4. These data are coded directionally for all countries, and break down types of trade into 10 large categories. Each of these 10 categories are further broken down into 4-digit codes beginning with the general category code, which makes this data incredibly specific. For example, all commodities traded in the Food and Live Animals category begin with 0. All commodities in that category that begin with 01 are meat and meat preparations. Another step down, 011 refers to meat from bovine animals, and 0111 refers to fresh meat from bovine animals, while 0112 means that this meat was frozen.

Feenstra et al (2005) code all trade between all states based on the most specific 4-digit in the SITC data. To collapse the categories and determine total value within each, I summed together all of the separate values for each directed dyad that correspond to each of the 10 categories and then summed together these totals corresponding to the two larger categories I use in this chapter – primary goods and manufactured goods. The sum total of all imports and exports in all categories is used to calculate Total Trade between a dyad in a given year, and I use this value to calculate Trade Dependence above. Table 4.1 displays the components of international trade used in this chapter, reporting the general SITC4 code, a description of the types of goods in that category, and the way that I divide them into either

[72] All economic variables – including trade flows, GDP, dual interdependence and openness – are fixed in thousands of constant 1996 U.S. dollars, because of the standard in Feenstra et al's (2005) data.

primary goods or manufactured goods.[73] In this analysis, the measure for each of these two variables is the total value of trade in primary goods and manufactured goods as a share of the potential joiner's (State A) GDP, respectively. All values are logged to normalize discrepancies.[74]

Table 4.1 United Nations Statistics Division, SITC Rev. 4 Category Codes

SITC4 Code	Component of Trade	Category
0	Food and Live Animals	Primary
1	Beverages and Tobacco	Primary
2	Crude Materials (Inedible, Except Fuels)	Primary
3	Mineral Fuels, Lubricants, and Related Materials	Primary
4	Animal and Vegetable Oils, Fats, and Waxes	Primary
5	Chemical and Related Products	Primary
6	Manufactured Goods (By Material)	Manufactures
7	Machinery and Transport Equipment	Manufactures
8	Miscellaneous Manufactured Goods	Manufactures
9	Commodities Not Classified Elsewhere*	Manufactures

*These include postal packaging and other consumer commodities not classified according to kind

Section 4.4.iii Control Variables

The following are control variables identified by the conflict and liberal peace literatures as affecting both MID onset and expansion, and are also used elsewhere in this dissertation:

[73] For a full list of all SITC4 codes, see the United Nations Statistics Office website at https://unstats.un.org/unsd/cr/registry/.

[74] In Appendix C, I also replicate the analysis using Dorussen's (2006) disaggregated trade data, discussed in a previous section. Dorussen's data cover the period 1970-1997, and also derive from the United Nations' Standard International Trade Classification, but use Bureau of Economic Analysis codes instead of the true SITC4 codes, and are nowhere near as specific as Feenstra's data. Table C.1 reports the classification scheme for Dorussen's data, collapsing Non-Manufacturing, Food and Kindred Products, and Primary Chemical and Metal Products into the Primary Goods category, and using Consumer Goods as the Manufactures category. All other economic variables, including Trade Dependence, Interdependence with the Other Side, GDP, and Openness are all taken from Dorussen's dataset for consistency. All other variables remain the same as the primary analyses in this chapter, and the results may be found in Table C.2.

Distance – Prior work has shown that countries within the same geographic space are more likely to intervene in ongoing conflicts (Most and Starr 1980; Siverson and Starr 1990). States in close proximity to one another share an external security environment, and because of this, they are more likely to be affected by externalities – both positive and negative – from their neighbors. States that are closer to one another are more likely to trade with one another, reaping benefits from their geographic positioning (Tinbergen 1962; Helpman and Krugman 1985; Disdier and Head 2008), but they are also more likely to witness cross-border negative externalities when one of their neighbors becomes involved in a militarized dispute. States have a much easier time mobilizing resources over shorter distances, so their military capabilities can be used much more efficiently (Siverson and Starr 1990; Senese and Vasquez 2003, 2005). I use the natural log of capital-to-capital distance, which should be negatively related to joining behavior since larger values imply longer distances.

Major Power Status – Prior research by Altfeld and Bueno de Mesquita (1979) suggests that powerful states are significantly more likely to join ongoing disputes than minor powers or smaller, weaker states. Major powers tend to have significant military capabilities, which creates greater opportunity for conflict participation – as either originators or joiners – and their entry into ongoing disputes may serve to prevent intervention by a larger number of smaller states. Moreover, major powers also tend to have significant diplomatic influence. A major power joining a conflict can send a signal that it does not want the dispute to become further inflamed, but rather seeks to resolve the dispute quickly. Major power states should thus be more likely to intervene in ongoing

conflicts, and potential joiners are coded 1 if they belong to the list of major powers identified in Singer and Small's (1972) COW classification, and 0 otherwise.

National Material Capabilities (CINC) – States that have strong militaries have a greater ability to become additional belligerents in ongoing interstate disputes than do weaker states. Countries with powerful militaries can finance adventures abroad more easily, are not as subject to the loss-of-strength gradient, and can exercise greater influence on conflict resolution than weaker states. Material capabilities is operationalized here as State A's CINC score per annum according to the COW project (Singer, Bremer, and Stuckey 1972). I use the natural log of these scores to avoid the bias of non-normal discrepancies between states' military power.[75]

Trade Concentration (Herfindahl) – The results presented in Chapter II – which this chapter partially replicates and refines – indicated that the overall concentration of the global economy conditions positively states' conflict-joining behaviors. As such, including a measure for trade concentration is necessary in these analyses as well. A Herfindahl index typically provides an estimate of a firm's expected share of an industry's total market (Rhoades 1993), but in an international trade context, it approximates the value that any particular state might expect to capture of a trade partner's total trade market. The index typically ranges from 0 to 1, with lower values indicating a more liberalized, open global economy. Unlike in Chapter II, however, I do not interact Trade Concentration with either of the causal variables, but rather treat each separately to see its unique effect. The period of time under investigation is the most liberalized market time in the full dataset (which covers

[75] Since there is generally a correlation between military power and major power status, the inclusion of both variables may be cause for concern. The correlation coefficient between them for this period of time is actually quite moderate at 0.41. Models omitting one or other, however, do not substantively change the results presented in this chapter and are not reported.

1885-2001), so examining marginal effects for Trade Concentration at values higher than .01 or .02 would give us some statistical inference about the conditioning effects of trade saturation, but would not provide any substantive results.

Economic Openness – The extent to which a potential joiner's economy is subject to changes brought on by a trade partner's MID participation hinges in part on its own openness to the exigencies of the international economy. Hence, the more open State A's economy, the more likely it is to engage in trade with a variety of partners and thus have access to a greater number of markets from which to seek substitutes, potentially obviating the need to intervene militarily to protect its investments with any particular partner. Openness is here measured as proportion of State A's GDP accounted for by its total international trade (measured from Feenstra et al 2005), and is also logged.

Defense Pacts – Formal alliances have been shown to not only reduce the likelihood of a dispute arising between states, but also to increase the probability that states will becomes involved in their ally's disputes as non-originating parties (Siverson and Starr 1990; Leeds, Long, and Mitchell 2000). Defense pacts are particular important here, as these are the alliances that specify particular military commitments and actions (Smith 1996; Gibler and Sarkees 2004). A potential joiner who has a formal defense pact with a disputant should be more likely to join an ongoing dispute than states without these alliances. Alliance data are taken from the COW database, and are coded 1 if formal defense pact exists between an originator and a joiner in the year(s) of conflict, and 0 otherwise.

Number of Participants – To account for a potential contagion effect in conflict expansion (Valeriano and Vasquez 2010; Vasquez and Valeriano 2010), wherein a state may be more likely to join if other states have joined before it, I control for the number of states

on each side of a dispute, using a count of the total number of states on each side at the time of intervention.[76] Both of these controls are expected to have a positive relationship to third-party joining behavior, though the impact should be different for joining targets and initiators. A higher number of states participating on the initiating side should increase the probability of joining the initiating side, while decreasing the probability of joining the targets. The converse should hold true for targets. I also include a variable that captures whether there are more states participating on the initiating side relative to the target's side. Given that states are more likely to initiate conflicts that they believe they will win, potential joiners might be more likely to participate with the initiators, as the ex ante probability of victory is perceived as high (Bennett and Stam 1998; Gartner and Siverson 1996). This should be negatively correlated to joining targets.

Democracy – The democratic peace literature suggests that states that are jointly democratic are much less likely to fight one another. The evidence is less conclusive for the role that democracy plays in conflict expansion. While Chan (1984) and Doyle (1986) argue democratic states are more likely to intervene to defend or fight with other democracies, Reiter and Stam (2002) contend that democratic states are no more likely to join alongside democracies than non-democracies. I use three measures to account for the effects of regime type on conflict-joining propensities. First, I used Marshall, Jaggers and Gurr's (2012) Polity IV database to calculate a potential joiner's actual democracy score. I took the difference between each state's respective democracy and autocracy scores, and consistent with Gartzke's (2007) measure, I added 10 to this difference and divided by 2. These re-scaled values serve as a state's Democracy score. Where the final score is 7 or greater, the country is

[76] Including original participants and other, previous joiners

coded as democratic. Where both states in the dyad reach this threshold, the dyad is coded as jointly democratic. Theoretically, Joint Democracy could be signed in either direction.[77]

Finally, when third parties join an ongoing dispute, they must choose a side. Though there are theoretical reasons why a state might choose to join democracies or join against democracies, it is less clear how a democratic potential joiner might behave when confronting a dispute that involves democracies on both sides. It is reasonable to believe that democracies facing this scenario should be unlikely to enter such a dispute – not for fear of the dispute escalating to a democratic war – but because democracies can be confident that other democracies are likely to resolve their disputes peacefully (Bueno de Mesquita et al 1999). All Democracies is coded 1 where at least one state on each side of a dispute, as well as the potential joiner, all meet the democracy threshold described above. It is coded 0 otherwise.

Economic Interdependence with the Other Side – Aydin's (2008) study also incorporated a measure to capture a potential joiner's trade dependence on the state on the *other* side of the conflict from the state with which it is matched in each observation. I created this variable here as well, using trade data from Feenstra et al (2005). This measure – the logged value of bilateral trade dependence on the other side – is interacted with a dummy variable measuring 1 if the value of trade dependence on the state in the observation is at least one-half standard deviation above the mean for the entire sample. This captures the

[77] I elected to use the measures that directly reflect the trade dependence, economic openness, CINC scores, and democracy level of the potential joiner, State A, rather than conforming to the "weak-link" assumption prevalent in many conflict studies. I do this because these studies examine the likelihood of conflict onset, in essence, the probability of a dyadic dispute between the pair of states in each observation. I am, however, investigating the probability of the second state in the dyad joining the other, and as such, cannot use the "weak-link" measures because these might incorrectly capture attributes of the disputant rather than the joiner. For example, the weak-link measure of trade dependence may in fact capture the dependence of the originator on the joiner, rather than vice versa. As such, I find these measures inappropriate for this analysis.

possibility of concurrent interdependence with states on both sides of dispute. Effectively, it is interpreted as the impact of State A's trade dependence on one disputant, given that it is highly dependent on that disputant's adversary.[78]

Section 4.5 Empirical Analysis

Section 4.5.i Multinomial Logistic Regression: All MIDs, 1962-2000[79]

Table 4.2 presents the results from multinomial logit regression over all MIDs from 1962-2000. Model 4.1 displays the results from a baseline model, using only Trade Dependence and the polynomial splines, and Model 4.2 displays the results from disaggregated trade values, incorporating all of the control variables described above. Substantive effects from the significant covariates from Model 4.2 are displayed in Table 4.3.

From Model 4.1, we see that higher values of bilateral trade dependence significantly increase the probability of joining an initiators, while they significantly decrease the probability of joining a target. A one standard deviation increase in the value of Trade Dependence increases the likelihood of joining an initiator by approximately 53 percent, while the probability drops by about 40 percent for joining targets. These results parallel Aydin's (2008) findings, suggesting that in the latter half of the 20th century at least, states are more likely to join initiators when their overall trade relations are jeopardized. This is potentially because of the perceived probability of victory, given that initiators often emerge victorious from the MIDs they begin.

[78] Because there can be multiple states participating on either side during a dispute, I use the value of trade dependence from the state that the potential joiner is most dependent on from the other side.

[79] Replications of these models with alternate specifications may be found in Appendix C. Table C.2 presents the results using Dorussen's (2006) data, Table C.3 considers only politically relevant joiners, and Table C.4 treats the sides of a dispute as revisionists and status quo states rather than initiators and targets.

Table 4.2 Joining All MIDs, 1962-2000

	Model 4.1		Model 4.2	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	0.125*	-0.196***		
	(0.0599)	(0.0537)		
Dependence on Primary Goods (log)			0.0608	0.179*
			(0.0353)	(0.0909)
Dependence on Manufactures (log)			0.0245	-0.277***
			(0.0364)	(0.0724)
Distance (log)			-0.646***	-0.597**
			(0.0655)	(0.203)
Major Power			1.431***	2.435***
			(0.257)	(0.475)
CINC (log)			0.156**	0.518**
			(0.0517)	(0.190)
Defense Pact			0.947***	0.195
			(0.230)	(0.429)
Number Initiators			0.128***	0.0893
			(0.00833)	(0.0537)
Number Targets			-0.100	0.0379*
			(0.0803)	(0.0157)
More Initiators			1.277***	-2.281
			(0.297)	(1.900)
Trade Concentration			-237.5	129.6
			(245.2)	(140.2)
Openness (log)			0.594***	-0.235
			(0.0916)	(0.302)
Democracy Score			0.0267	0.269***
			(0.0335)	(0.0810)
Joint Democracy			0.407	0.819*
			(0.281)	(0.352)
All Democracies			0.00691	-0.941
			(0.256)	(0.597)
Interdependence Other Side			0.168***	-0.0845*
			(0.0336)	(0.0431)
Constant			0.296	-6.932**
			(1.041)	(2.371)

Table 4.2 cont.

	Model 4.1		Model 4.2	
	Join Initiator	Join Target	Join Initiator	Join Target
N	207,117	207,117	141,499	141,499
Pseudo R2	0.0146	0.0146	0.455	0.455
Wald Chi2 (df)	(8)129.5***	(8)129.5***	(36)2411***	(36)2411***
Log Likelihood	-3531	-3531	-1472	-1472

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

The results in Model 4.2 partially support the hypotheses concerning disaggregated trade values. While both Dependence on Primary Goods and Manufactures are signed positively for joining initiators, neither coefficient attains statistical significance. Both, however, are significant and signed in the expected direction for joining target states. All else equal, a one standard deviation increase in dependence on primary goods increases the probability that a state will join a target trade partner by around 58 percent. At a one standard deviation increase in a third party's dependence on a disputant for manufactured goods, the probability declines by around 50 percent. These results seem to indicate that the components of bilateral trade weigh more heavily in a third party's decision to join an ongoing dispute when its partner is a target. Because initiators tend to begin disputes that they believe they will win, these situations may represent those cases where a third party's trade dependence on a target is truly threatened – as it is ex ante more likely to lose the conflict – and so serve as a greater incentive to join when resources that are less amenable to trade substitution are legitimately at risk.[80]

[80] The results from Models C.2 and C.2, using Dorussen's (2006) trade data, offer similar conclusions. While Trade Dependence is signed oppositely for both initiators and targets, neither is statistically significant. Also insignificant are a third party's dependence on either primary goods or manufactured goods, though both

The majority of control variables in Model 4.2 behave as theoretically expected, with the exception of trade concentration and democracies on all sides of a dispute, which do not attain statistical significance for joining either targets or initiators. Greater capital-to-capital distance decreases the probability that a third party will join either side in a militarized dispute. Third parties are approximately 43 percent less likely to join initiators at one standard deviation above the mean of distance, and are also around 38 percent less likely to join targets. Given the consensus in the literature that contiguity creates a greater opportunity for states to fight, and also for negative externalities to spill cross international boundaries into surrounding states, these results are unsurprising. It does appear from the magnitude of the substantive impacts, however, that targeted states at a greater distance from the potential joiner are still more likely to garner sympathy than initiators, all else equal.

Third parties that are major powers or have more powerful militaries are significantly more likely to join either side in ongoing MIDs, which is also not surprising given their greater capacity to project their power globally. Major powers are more than 300 percent more likely to join initiators than are minor powers, and they are approximately 114 percent more likely to join targeted states. States with greater than average CINC scores are around 18 more likely to join initiators, but more than 70 percent more likely to take up arms in defense of targets. The coefficients for the alliance variable are positive for both initiators and targets, but only attain statistical significance for the former. When a third party has a defense pact with an initiator, it is around 163 percent more likely to join into the dispute. While it is curious that alliances do not significantly increase the probability of

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variables are signed correctly – primary goods are positively related to joining, while manufactured goods are negatively correlated with joining behavior. With a few minor exceptions, the remaining control variables conform to the results of Model 4.2. Substantive effects for Models C.1 and C.2 are not reported.

joining targets – as defense pacts are intended for defense – it does lend credence to Leeds, Long, and Mitchell's (2000) contention that alliances – and defense pacts in particular – are overwhelmingly reliable.

To capture the possibility that third parties might bandwagon with other states in complex disputes, as suggested by Valeriano and Vasquez (2010) and Vasquez and Valeriano (2010), I incorporated controls for the number of disputants on each side. To account also for the possibility that states might choose to coalesce under the perception that initiators tend to emerge victorious, I also included whether the initiator's side had more belligerents. Higher numbers of states on the initiating side increase the probability of joining either side, but is only significantly related to joining initiators. Higher numbers of targets increase the probability of joining the target's side, and negatively – but not significantly – impact the probability of joining initiators. The substantive effects for these two variables are quite interesting. When there is only state on the initiator's side, a third party is actually 10 percent *less* likely to join the dispute. Similarly, when there is only one target, a third party is a little more than 3 percent less likely to join the dispute, all else equal.[81] However, when disputes begin accumulating more participants, the probability of joining increases substantially. When there are 5 states on the initiating side, a third party is almost 50 percent more likely to join the initiating side, and when there are 5 states participating on the target's side, a third party is around 13 percent more likely to join the targets. Having more initiators is signed correctly for both sides – positively for joining initiators and negatively for joining targets – though it is only significant for the former. When the number of initiators is greater than the number of targets, a third party is more than 262 percent more likely to join the initiating

[81] The mean number of initiators is 1.7, and the mean number of targets is 1.8.

Table 4.3 Substantive Effects from Model 4.2, 1962-2000

	Model 4.2					
	Join Initiator			Join Target		
	Base Probability 0.000122			Base Probability 0.00003		
Variables	Value	Prob	Change	Value	Prob	Change
Primary Goods				-1 sd	0.000018	-40
				+1 sd	0.0000476	58.67
Manufactures	-1 sd	0.0001133	-6.75	-1 sd	0.0000738	146
	+1 sd	0.0001299	6.91	+1 sd	0.0000151	-49.67
Distance	-1 sd	0.0001894	55.88	-1 sd	0.0000443	47.67
	+1 sd	0.0000684	-43.7	+1 sd	0.0000185	-38.33
Major Power	1	0.0005191	327.24	1	0.0003721	114.03
CINC	-1 sd	0.000072	-40.74	-1 sd	0.00000718	-76.07
	+1 sd	0.0001443	18.77	+1 sd	0.0000518	72.67
Defense Pact	1	0.00032	163.37			
Number Initiators	1	0.0001084	-10.78			
	5	0.0001816	49.47			
	10	0.0003468	185.43			
Number Targets				1	0.0000289	-3.67
				5	0.000034	13.33
				10	0.0000421	40.33
More Initiators	1	0.0004404	262.47			
Openness	-1 sd	0.0000598	-50.78			
	+1 sd	0.0002097	72.59			
Democracy Score				0	0.00000658	-78.07
				2	0.0000104	-65.33
				7	0.0000362	20.67
				10	0.0000824	174.67
Joint Democracy				1	0.0000686	128.67
Interdependence	-1 sd	0.0000556	-54.24	-1 sd	0.0000457	52.33
Other Side	+1 sd	0.0001737	42.96	+1 sd	0.0000252	-16

side. These results directly support Valeriano and Vasquez's (2010) and Vasquez and Valeriano's (2010)arguments that complex, multiparty disputes tend to evolve from smaller, dyadic disputes through a process of contagion. Given the results on the more initiators variable, they also suggest that states are more likely to join with the side that has a higher *a priori* probability of victory, all else equal.

Third party states with more open economies only appear more likely to join initiators, as the results for joining targets are insignificant. At one standard deviation above the mean of openness, third parties are approximately 72 percent more likely to join an ongoing dispute on the side of the initiator. These results are consistent with those reported for economic openness in Chapter II.

Democratic states – achieving a score of 7 or greater on the democracy index described above – are more likely to intervene than non-democracies, but the results are only significant for joining targets. At the minimum score classifying a state as a democracy, a third party is around 20 percent more likely to join a target, and the most democratic third parties (with a democracy score of 10) are almost 175 percent more likely to join with the targeted state(s). The results on joint democracy partially support Doyle's (1986) democratic diffusion hypothesis, as democratic third parties are almost 130 more likely to join democratic targets. Joint democracy is also positive for joining initiators, though the results are insignificant. The results for democracies on all sides of a dispute were not significant for either side.

As suggested by Aydin (2008), joining a conflict is an exercise in strategic decision-making, even when it comes to trade dependence. Third parties that simultaneously have higher levels of trade dependence on both sides of a dispute are significantly more likely to

join initiators, and significantly less likely to join targets, all else equal. At one standard deviation above the mean for this dual trade dependence, third parties are about 43 percent more likely to join initiators and 16 percent less likely to join targets. While this seems to contradict the above results on dependence on primary goods (which was positively related to joining targets), it does suggest that where a third party is highly dependent on states on both sides of a dispute, it is more likely to choose the side with the higher ex ante probability of victory.[82]

Section 4.5.ii Multinomial Logistic Regression: Fatal MIDs, 1962-2000

As a refinement to the above analyses, I replicate them over only the subset of militarized interstate disputes that can be classified as fatal MIDs. These disputes produce at least one fatality during their duration, and represent a greater level of hostility than those MIDs that never escape a mere threat to use force or a display of force. As such, they represent conflicts that have escalated – at least slightly – and may be cases that are more likely to witness expansion. We may expect, for example, that disputes that arise only briefly or those that remain at low hostility levels (or both) are unlikely to receive joiners because of

[82] Models C.3 and C.4 in Appendix C alter the specification of Models 4.1 and 4.2 by using only politically relevant states to each dispute as potential joiners. Models C.5 and C.6 treat the sides of a conflict as revisionists and status quo states rather than the initiator/target dichotomy, respectively. The results from the PRDs models are identical to those in Model 4.1 for aggregate trade dependence, though the results are only significant for joining targets. The results for disaggregated trade dependence also support my hypotheses for politically relevant potential joiners. Dependence on primary goods is positively related to joining both sides, but only significantly for initiators. Dependence on manufactured goods is negatively related to joining both sides, and significant for both. When the sides of dispute are considered as revisionists and status quo states, aggregate trade dependence is negatively related to joining revisionists and positively related to joining status quo states, though neither is significant. Dependence on primary goods is negatively related to joining initiators and positively related to joining targets, though neither is significant. Conversely, dependence on manufactured goods is positively related to joining revisionist states and negatively related to joining status quo states, though again, neither is significant. The majority of control variables in all four of these appendix models are signed and significant as theoretically expected. In Model C.6, however, the number of revisionists and status quo states participating on each side bear similar results to Model 4.2, and under similar bandwagoning/contagion logic. With regard to a higher number of revisionists than status quo states, however, third parties are significantly more likely to join the status quo side, indicating a greater desire to defend the status quo than to participate in altering it.

their low degree of severity and lower potential to disrupt the global order or the international economy. Disputes that become fatal, however, may represent cases where severe disruption is a possibility and merit intervention. Of the 1,169 MIDs that occurred between 1962-2000, only 225 of them produced fatalities. This indicates – as was also the case in Chapter II – that minor disputes occur with much greater frequency than those that produce fatalities. Of the total unique instances of joining in these data, only 46 occurred during fatal MIDs.[83]

Table 4.4 presents the results from multinomial logit regression over only fatal MIDs from 1962-2000. Model 4.3 displays the results from a baseline model, using only Trade Dependence and the polynomial splines, and Model 4.4 displays the results from disaggregated trade values, incorporating all of the control variables described above. Substantive effects from the significant covariates are displayed in Table 4.5.

The results presented in Table 4.4 mirror those for all militarized interstate disputes, shown above, though most of the variables are only significant for joining targets. Aggregate trade dependence in Model 4.3 is negatively related to joining both sides of a dispute, but neither coefficient is significant. The results for disaggregated trade values are only significant for targets, as before. A one standard deviation increase in dependence on primary goods increases the probability that a third party will join a target by about 192 percent. Where a third party has greater than average dependence on manufactured goods, however, the probability of joining a target decreases by around 58 percent. The magnitude of the impact for primary goods is substantially higher than it was for joining all militarized disputes, which indicates that fatal disputes are indeed much more of a concern for third

[83] Unique instances are only first instances of joining, and do not include ongoing dispute years.

Table 4.4 Joining Fatal MIDs, 1962-2000

	Model 4.3		Model 4.4	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	-0.0290	-0.0350		
	(0.0416)	(0.0781)		
Dependence on Primary Goods (log)			-0.0680	0.339**
			(0.101)	(0.111)
Dependence on Manufactures (log)			0.0977	-0.306***
			(0.117)	(0.0895)
Distance (log)			-0.256	-0.724**
			(0.203)	(0.272)
Major Power			0.413	1.904***
			(0.583)	(0.449)
CINC (log)			0.320	0.386*
			(0.171)	(0.162)
Defense Pact			1.901***	0.926
			(0.430)	(0.635)
Number Initiators			-0.0531	0.211*
			(0.0441)	(0.0961)
Number Targets			0.227	0.714***
			(0.242)	(0.109)
More Initiators			1.185	-2.263
			(0.630)	(2.243)
Trade Concentration			-2,371*	-1,022
			(1,113)	(544.4)
Openness (log)			0.216	0.0546
			(0.205)	(0.235)
Democracy Score			-0.0254	0.330
			(0.0479)	(0.172)
Joint Democracy			0.104	1.122*
			(0.668)	(0.466)
All Democracies			-1.009	-0.357
			(0.948)	(0.575)
Interdependence Other Side			0.403	-0.132**
			(0.286)	(0.0453)
Constant			6.038*	-2.105
			(2.628)	(3.312)

Table 4.4 cont.

	Model 4.3		Model 4.4	
	Join Initiator	Join Target	Join Initiator	Join Target
N	56,889	56,889	36,871	36,871
Pseudo R2	0.0694	0.0694	0.309	0.309
Wald Chi2 (df)	(8) 52.19***	(8) 52.19***	(36) 1075***	(36)1075***
Log Likelihood	-773.6	-773.6	-370.2	-370.2

Clustered standard errors in parentheses, polynomial splines not reported
*** p<0.001, ** p<0.01, * p<0.05

parties that are dependent on a disputant target for trade in primary commodities.

The majority of the controls are again signed correctly, though they primarily only attain statistical significance for joining targets. Distance again decreases the likelihood of joining, while major power status and military capabilities increase the probability of joining. Defense pacts are again positive, but only significantly related to joining initiators. The number of participants on both sides are positively related to joining targets, while a greater number of initiators is negative (but not significantly) related to joining initiators, and a greater number of targets is positively (but not significantly) related to joining targets. This seems to suggest that during fatal disputes, targeted states are much more likely to garner sympathy from third parties than initiators are. The variable capturing the relative difference between the number of initiators and targets is signed correctly (positive for initiators and negative for targets), but it is not statistically significant.

Trade concentration presents a slightly anomalous finding. It is negatively related to joining – and significant for joining initiators – but the substantive effects remain positive at both a standard deviation below and a standard deviation above the mean. The probabilities are smaller at higher values, which does indicate a decline in the probability of joining initiators

Table 4.5 Substantive Effects from Model 4.4, 1962-2000

	Join Initiator			Join Target		
	Base Probability 0.0000887			Base Probability 0.0000621		
Variables	Value	Prob	Change	Value	Prob	Change
Primary Goods				-1 sd	0.0000316	-49.11
				+1 sd	0.0001812	191.79
Manufactures				-1 sd	0.0001294	108.37
				+1 sd	0.0000261	-57.97
Distance				-1 sd	0.0000972	56.52
				+1 sd	0.000037	-40.42
Major Power				1	0.0004172	571.82
CINC				-1 sd	0.0000157	-74.72
				+1 sd	0.000094	51.37
Defense Pact	1	0.0006716	657.17			
Number Initiators				1	0.00006	-3.38
				5	0.0001377	121.74
				10	0.0004895	688.24
Number Targets				1	0.0000567	-8.7
				5	0.0010649	1614.82
				10	0.0457971	73647.34
Trade Concentration	-1 sd	0.8251717	930195			
	+1 sd	0.003505	3851.52			
Joint Democracy				1	0.0002217	257
Interdependence Other				-1 sd	0.0001161	86.96
Side				+1 sd	0.0000496	-20.13

at higher values of trade concentration, but at mean levels, this coefficient should then be positive.[84] Trade openness is positive for both sides, but neither is significant.

Joint democracy is positively related to joining targets, which is again consistent with Doyle's (1986) democratic diffusion hypothesis, though democracy itself and democracy on all sides do not attain statistical significance.

Finally, interdependence with both sides simultaneously produces similar results to Model 4.2. States that are jointly interdependent with states on both sides of a dispute are significantly less likely to join the target(s), indicating again that where choosing a side based on interdependence may be difficult, third parties are more likely to join the side with the higher ex ante probability of victory.

Section 4.5.iii Multinomial Logistic Regression: Interstate Wars, 1962-2000

To the extent that fatal disputes are more severe and potentially more disruptive globally, interstate wars represent the greatest possible disruption of international relations. An interstate war is classified as a militarized dispute wherein there are greater than 1,000 battlefield deaths on one side in a given year (Jones, Bremer, and Singer 1996). Of the 1,169 disputes in these analyses, only 22 of them reached this threshold, indicating that interstate war is a fairly rare phenomenon. Of the total unique instances of joining from, only 27 of them occurred during an interstate war, and these are also included in the class of fatal MIDs described above.[85] Given the paucity of cases, and the rarity of joining during wars, the results below must be viewed cautiously, and this is a potential reason for many of the anomalies in these models.

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[84] Dropping trade concentration and re-estimating the models did not change the results presented on the other variables. The results are nevertheless puzzling, but not detrimental to the remaining conclusions from these models.

[85] Unique instances are only first instances of joining, and do not include ongoing dispute years.

Table 4.6 presents the results from multinomial logit regression over only interstate wars from 1962-2000. Model 4.5 displays the results from a baseline model, using only Trade Dependence and the polynomial splines, and Model 4.6 displays the results from disaggregated trade values, incorporating all of the control variables described above. Substantive effects from the significant covariates are displayed in Table 4.7.

The results presented in Table 4.6 are similar to those for fatal disputes, shown above, though there are several anomalies with some of the control variables. The first problem to note is that two variables from the previous models are absent from Model 4.6. Democracy on all sides is not applicable for interstate wars, as there was no instance of a war involving democracies on both sides in these data. While this is not a cause for concern, the absence of interdependence with both sides is. This variables was omitted from the model because it was a perfect predictor of failure. In other words, mutual interdependence with both sides during interstate wars is a perfect predictor of abstention.

As with fatal disputes, aggregate trade dependence in Model 4.5 is negative for both sides, but not significant. The results in Model 4.6 are signed correctly for primary goods – both are positive – but not significant for either. Dependence on manufactured goods, however, renders third parties about 20 percent less likely to join targeted states during interstate wars. Overall, this is consistent with all of the previous models.

Again, the majority of control variables are only significant for joining targets, though they are mostly signed appropriately. It is likely that most of the anomalies in the results can be attributed to the smaller N and fewer instances of joining that render these

Table 4.6 Joining Interstate Wars, 1962-2000

	Model 4.5		Model 4.6	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	-0.181	-0.123		
	(0.0956)	(0.0637)		
Dependence on Primary			0.103	0.410
Goods (log)			(0.128)	(0.304)
Dependence on Manufactures (log)			0.0179	-0.514*
			(0.112)	(0.200)
Distance (log)			-0.330	-2.644***
			(0.477)	(0.726)
Major Power			0.290	2.175**
			(0.800)	(0.743)
CINC (log)			0.551	1.784**
			(0.416)	(0.598)
Defense Pact			3.247*	-15.57***
			(1.447)	(2.288)
Number Initiators			-1.837	-26.56***
			(1.046)	(1.895)
Number Targets			-0.0304	-19.13***
			(0.0630)	(0.967)
More Initiators			-16.90***	-141.7***
			(1.412)	(12.54)
Trade Concentration			-8,763*	-4,728
			(3,929)	(3,567)
Openness (log)			0.213	0.525
			(0.322)	(0.485)
Democracy Score			-0.0331	0.124
			(0.173)	(0.0676)
Joint Democracy			-0.0353	-18.37***
			(1.230)	(0.762)
Constant			29.32**	22.09
			(9.905)	(13.06)
N	6,721	6,721	4,811	4,811
Pseudo R2	.2459	.2459	0.700	0.700
Wald Chi2 (df)	(8) 775.9***	(8) 775.9***	(30)620.53***	(30)620.53***
Log Likelihood	-209.9	-209.9	-53.06	-53.06

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

models less well-specified than those in the previous section. [86]

Greater distance reduces the probability of joining, while major power status and greater military capabilities increase the probability that a third party will join an ongoing war. The substantive effects, however, are much smaller than for either models over all MIDs or fatal MIDs.

The remainder of the results are somewhat puzzling. Defense pacts here are positively related to joining initiators – as before – but are actually negatively and significantly related to joining targets. This makes very little theoretical sense, as the purpose of a defense pact is to ensure that allies come to a state's defense, and while alliances do appear overwhelmingly reliable for joining initiators, this is the only instance in any of the models where the defense pact variable is negatively signed.

A greater number of initiators decreases the probability of joining targets, but so do a greater number of targets. This could potentially occur when a third party feels that a target is being "ganged up on" by a large number of initiators, but feels less compelled to defend targets in a war when there are a larger number of them. However, the more initiators variable is also negatively related to joining either side, so these results are quite suspect.

Trade concentration behaves as it did in the fatal MIDs model, indicating a negative relationship between joining initiators under periods of greater trade concentration, though the substantive probabilities are again both positive. At one standard deviation above the mean, however, the probability is still lower than when trade concentration is lower, but the coefficients and the probabilities themselves are astronomically high. As with fatal MIDs above, I believe this is likely due to specification errors and potentially the fact that trade

[86] A rare-events logit model would be more appropriate, but currently, there is no procedure for implementing this specification in a multinomial logit regression.

Table 4.7 Substantive Effects from Model 4.6, 1962-2000

	Join Initiator			Join Target		
	Base Probability 3.13E-12			Base Probability 0.016023		
Variables	Value	Prob	Change	Value	Prob	Change
Manufactures				-1 sd	0.019341	20.71
				+1 sd	0.0127677	-20.32
Distance				-1 sd	0.0171596	7.09
				+1 sd	0.0145014	-9.5
Major Power				1	0.0194928	21.66
CINC				-1 sd	0.008073	-49.62
				+1 sd	0.0197795	23.44
Defense Pact	1	7.28E-10	23158.79	1	1.06E-14	-100
Number Initiators				1	0.0163725	2.18
				5	0.0118872	-25.81
				10	0.0074289	-53.64
Number Targets				1	0.0160979	0.46
				5	0.0149362	-6.78
				10	0.0130134	-18.78
More Initiators	1	0.0003555	11357827376	1	0.0001386	-99.13
Trade Concentration	-1 sd	0.4396399	1.40E+13			
	+1 sd	1.74E-06	55590954			
Joint Democracy				1	6.93E-15	-100

concentration only takes on 39 different values over the entire temporal domain.[87] Trade openness is again positive for both sides, but not significant.

Joint democracy is actually negatively signed for both initiators and targets for joining interstate wars, though it is only positive for targets. While this result is quite different from Models 4.2 and 4.4, it is possible that democracies are less likely to become involved in wars involving democracies simply because of some confidence that democracies are likely to win the wars they do fight (Bueno de Mesquita et al 1999). Democracy itself, however, is signed negatively for joining initiators and positively for joining targets, though neither is significant.

Section 4.6 Conclusion and Discussion

Does trade dependence affect third party states' decision to intervene militarily in the MIDs of their trade partners? More importantly, is there a difference in this effect if we disaggregate the components of bilateral trade? The findings presented in this chapter cannot affirmatively answer the first question, but do suggest that what states trade matters, particularly when a trade partner is the target in an international dispute. Particularly, trade dependence was often negatively – or positively, but insignificantly – related to the probability of dispute intervention by a third party, but this is likely because the analyses undertaken in this chapter only cover the period 1962-2000. This time period is the most economically liberal of the entire temporal domain for which aggregate trade data are available, and there are two reasons to be suspicious of these results. First, the results from Chapter II, which covered the entire temporal domain, suggest that trade dependence is indeed an incentive for joining ongoing disputes. Second, the conclusions concerning

[87] Again, dropping it from the estimations makes no difference for the other results.

aggregate trade dependence derive from models that do no incorporate any control variables. Naturally, it is difficult to draw definitive conclusions where confounding factors are not taken into account.

To the second question, however, I can conclude that the effects of disaggregated trade are indeed important for a third party's decision to join an ongoing militarized dispute, and especially when a trade partner is a target of conflict. Since conflict can disrupt trade ties not only between the disputants themselves (Oneal and Russett 1997, 1999a, 1999b; Gartzke 2007), but also may interrupt trade relationships with third parties (Huth and Russett 1984; Dorussen and Ward 2010), outside states with vested economic interests in one of the disputants have a valid reason to insert themselves into the dispute. However, not all "vested economic interests" can be treated equally.

Previous studies of disaggregated trade components and the relationship to MID onset suggest that what states trade matters for the likelihood of dispute initiation between them (Dorussen 2006). It is no large leap to carry this argument one step further, similar to Aydin's (2008) logic as an extension of the liberal peace. If certain commodities affect the probability of dispute initiation, with primary commodities being more likely to pacify dyadic relations than manufactured goods, as Dorussen (2006) demonstrates, then these same commodities ought to be more precious to third parties, and thus serve as resources worth fighting for should a trade partner find itself embroiled in a militarized dispute.

The results presented in this chapter partially confirm this theoretical logic. While signed correctly overall, dependence on primary goods and dependence on manufactured goods are only significant for joining states that are the target of militarized interstate disputes, and these results hold for models over all disputes and those limited to fatal

disputes. Where trade is predominantly composed of manufactures, third parties may not feel compelled to intervene given the relative ease of substituting these imports, or finding new export markets. Given the unique nature of primary resources – the production of which is subject to the dictates of nature more than human ingenuity – they are not so amenable to substitution. States may potentially circumvent joining a dispute in the former case, but the possibility of such action is severely diminished in the latter.

While this does not confirm Hypotheses 1 and 2 outright, it does make some intuitive sense. Given that initiators of MIDs are ex ante more likely to emerge victorious, it forces us to question whether third parties' trade relationships with initiating states were ever really threatened in the first place. Where trade partners are the targets of disputes, however, the risk is greater that trade with these states could be permanently severed if they are indeed defeated (Huth1988; Organski and Kugler 1977). Where resources that are difficult to substitute are at stake in these disputes, the incentive to join in their defense is only strengthened.

Though the results are supportive of the theoretical expectations, they should be viewed with some degree of caution. First, the availability of reliable disaggregated trade data reduces the span of this investigation to only 39 years, though aggregate trade data exist for a much more expansive temporal domain. The conclusions drawn here are thus only applicable to the latter half of the 20th century, and cannot be generalized to earlier periods of time.

Second, the unique unit of analysis I use here prevents the implementation of traditional controls for unit effects and temporal dependence commonly found in panel data. The clustering of standard errors around each particular dispute and the inclusion of

polynomial approximations for temporal dependence partially correct for these maladies, they are worth highlighting as limitations and caveats on these findings.

Most importantly, the results cannot at this point be generalized to interstate wars. Given the paucity of disaggregated trade data – mentioned above – and the relative infrequency of interstate wars and the joining of interstate wars in this temporal domain, the results presented in Section 4.5.iii are likely inefficient due to model specification errors. Particularly, the anomalous findings on trade concentration are worth further investigation, though omitting this variable from either Model 4.4 or Model 4.6 did not statistically – or substantively – change the major conclusions regarding trade dependence or dependence on particular commodities. Nevertheless, further investigation is required to determine whether the effects of dependence on primary goods and manufactured goods can be extended to interstate wars.

Chapter V
Conclusion

Section 5.1 Introduction

The purpose of this dissertation is to assess the impact that bilateral trade dependence has on third-party states' conflict-joining propensities. While there are numerous studies that examine the link between trade dependence a militarized dispute onsets, there are far fewer examinations of the role that these mutually beneficial economic relationships have on third parties' decisions to intervene in their trade partners' conflicts (Aydin 2008, 2012; Polachek 1980). While studies examining the effects of shared borders (Siverson and Starr 1990), alliances (Gibler and Sarkees 2004; Leeds, Long, and Mitchell 2000), major power status (Huth 1998), and democracy (Chan 1984; Doyle 1986; Reiter and Stam 2002) on conflict expansion abound, only recently has the literature witnessed a revival in understanding the causal processes that undergird the evolution of dyadic disputes to complex, multiparty conflicts (Valeriano and Vasquez 2010; Vasquez and Valeriano 2010).

By assumption, states have two primary goals: security and prosperity. While it is uncontroversial to claim that a third party would be more likely to join an ongoing dispute if that dispute threatened its own national security in some way, it is less obvious how third parties should behave when their economic relationships are threatened. Aydin (2008, 2012) suggested that threat that international conflict plays to trade ties also gives states an incentive to intervene to protect their economic investments with disputant states. This dissertation takes up this conclusion, and argues that while trade dependence should have a positive effect on third-party conflict-joining propensities, so should the state of the global economy itself. As the world has become globalized – and thus more interconnected – over

time, states trade with a large number of other states (see Figure 1.4), have become more open to international trade (see Chapter I) and have simultaneously become less dependent on any particular trade partner (see Chapter I). The concentration of the international economy thus ought to condition the relationship between trade dependence and joining, and even at higher levels of trade dependence, lower levels of trade concentration should produce a reduced incentive to intervene.

Where this is the case, states have a variety of trade partners to turn to when one finds itself in a militarized dispute. It is conceivable, then, that states might seek to alter their trade patterns – substituting either their import or export markets – in order to avoid having to fight for their economic relationships. If states do engage in this circumventionist behavior, then we might see trade levels fall between a third party and disputant trade partner, while trade values simultaneously increase with their other trade partners, particularly those who are not involved in a MID themselves. While this is not direct evidence that states willfully circumvent conflict-joining, it is evidence at least that states are wary enough of their trade partners' disputes to pursue alternatives.

However, the above scenario assumes that trade markets are, in fact, substitutable, and this assumption is patently false. Certain types of tradable goods – namely, primary and natural resources – are much less amenable to substitution than others. Where the trade dependence between a third party and a dispute derives from an exchange of these primary commodities, states have an even greater incentive to join into an ongoing dispute because they cannot simply seek these types of resources from just anywhere. The analyses performed in this dissertation take up these important research questions, and in so doing, shed new light on third-party motivations to join ongoing militarized interstate disputes.

Section 5.2 Important Findings in The Dissertation

The analyses in this dissertation have produced some important results that not only help us to have a better understanding of the role that economic relationships play in facilitating conflict expansion, but also help us to begin toward creating an integrated framework for understanding the causal processes that separate militarized interstate dispute onset from third party military interventions.

Section 5.2.i Conclusions from Chapter II

Do states join ongoing militarized interstate disputes based on a desire to preserve economic relationships? The results presented in this chapter do offer some support for the claim that an economic calculus is vital when it comes to joining into other disputes, as higher values of trade dependence do increase the probability that a third party will intervene. It also suggests, however, that the economic environment in which states find themselves matters for their decisions to join ongoing militarized interstate disputes.

While the results from all models support Aydin's (2008, 2012) conclusions, as even in a perfectly liberalized global economy, levels of trade dependence have a positive impact on joining propensities, they offer a more robust specification of the relationship. This chapter claimed that while bilateral trade dependence and global trade concentration should both exhibit independent positive effects on the probability of a third party joining an ongoing dispute – and that the interaction between them should likewise be positive – the probability of joining at low levels of trade concentration with high levels of trade dependence should be significantly lower than where dependence and concentration are both high. While the results in Model 2.2 (over all militarized disputes) only partially supported this claim, and the results in Model 2.6 (over interstate wars) were largely

insignificant, militarized interstate disputes that produce fatalities are particularly important. This makes theoretical sense, as disputes at the threat stage may not present any necessity for joining, and wars represent a situation where economic ties may not be the most important interstate relationships that third parties consider. Those disputes that fall somewhere in the middle of this spectrum – representing actual armed conflict between belligerents short of all-out war – appear to be the drivers of the results in this chapter. While it is impossible to know ex ante, fatal disputes are those that have already evolved from a mere threat to use force or a display of force. These disputes have the possibility of further evolving into interstate wars, and third parties may feel the need to intervene in these types of disputes to prevent them from becoming further inflamed and jeopardizing trade relationships.

Section 5.2.ii Conclusions from Chapter III

Does a trade partner's involvement in a militarized interstate dispute negatively impact a state's value of dyadic trade with the disputant? Does it also positively change the way that the state in question trades with all of its other trade partners? If the answers to both questions are affirmative, then this could be evidence that a state is wary of its own economic well-being when a trade partner is involved in a militarized dispute. While not perfect evidence of circumvention, this would suggest that states take caution by adapting their trade patterns to partner's disputes to potentially obviate having to join them in defense of their benefits from trade.

Unfortunately, the results presented in this chapter do not provide such evidence. In fact, the results suggest quite the opposite: when a trade partner is involved in any type of militarized interstate dispute – from low-level conflicts to all-out wars – dyadic trade continues to increase. These results partially contradict the traditional belief that trade is

disrupted by periods of international conflict (Oneal and Russett 1997, 1999a, 1999b), lending support instead to some of the realist claims about trade and conflict. While the estimations contained in Chapter III do not test whether trade partners are less likely to fight one another, they do indicate that disputatious trade partners are still capable of maintaining trade ties with third parties (see Barbieri and Levy 1999; Kastner 2007). Even in a much more liberalized economic setting – where states have a variety of options for substituting trade or altering trade patterns – it is apparent that an environment that may be conducive to circumvention is no guarantee that it occurs.

While I do not find any evidence for the central hypothesis, I do find evidence for some of its corollaries. Excepting a few models, dyadic trade falls when both states in a dyad are involved in a dispute against one another. While none of these coefficients attain statistical significance, they are signed negatively as expected. More importantly, State A's trade values do increase – and significantly during fatal MIDs and interstate wars – with its other trade partners when its trade partner in observation is involved in a dispute. While this does not provide any real evidence that states intentionally change their trade patterns to avoid joining conflicts, it does suggest that states may be wary enough of a trade partner's dispute to consider alternatives in case a trade relationship were legitimately threatened. It is during fatal MIDs and wars where we are most likely to see these relationships truly jeopardized. This partial evidence suggests that states take caution when a trade partner is involved in a MID, even if they do not take any type of direct action against them.

Perhaps the most obvious conclusion to draw from Chapter II is that State A's own conflict participation has the greatest impact on changing trade values. When involved in a dispute itself, its trade is affected more than by any other conflict variable, though the results

are not consistent across all models. More interesting are the results on State A's joining behavior. When State A joins into a dispute on the side of its trade partner, dyadic trade with that state increases significantly across almost all models. This furthers supports Chapter II's conclusion that states join ongoing disputes to protect their trade relationships with disputant states, but it also calls into question what secondary effects that decision to join might have on its trade relations with other trade partners. In all models, trade values fall significantly between State A and all of its other partners (collectively) when it joins into a MID. Considering that trade values increase with these same states in many cases when State A is an originator, joining a conflict after it has begun might send a signal that a state is willing to incur too much risk.

Section 5.2.iii Conclusions from Chapter IV

Do the varying components of trade have different effects on the probability of a third party joining an ongoing dispute? Previous research suggests that different types of trade matter for the probability of dispute initiation between trade partners (Dorussen 2006). It is no large leap to carry this argument to conflict expansion. If primary commodities are more likely to pacify dyadic relations than manufactured goods, as Dorussen (2006) demonstrates, then these types of goods ought to be more precious to third parties, and they should thus be more willing to fight to continue their access to these resources.

The results presented in this chapter partially confirm this theoretical logic. While signed correctly overall, dependence on primary goods and dependence on manufactured goods are significant only for joining states that are the target of militarized interstate disputes, and these results hold for models over all disputes and those limited to fatal disputes. Given the specificities of primary resources – the production of which is subject to

the dictates of nature more than human ingenuity – they are not so amenable to substitution, and we see third parties' decisions to join ongoing disputes positively affected by higher trade dependence on these types of goods. Where trade is predominantly composed of manufactures, however, third parties may not feel compelled to intervene given the relative ease of substituting these imports, or finding new export markets.

While this does not confirm my hypotheses outright, it does make intuitive sense. Given that initiators of disputes are ex ante more likely to win them (Bennett and Stam 1998; Gartner and Siverson 1996), it may be that third parties' trade relationships with initiating states were ever really threatened in the first place. Where trade partners are the targets of disputes, however, the risk is greater that trade with these states could be permanently severed if they are indeed defeated (Huth1988; Organski and Kugler 1977). Where resources that are difficult to substitute are at stake in these disputes, the incentive to join in their defense is only strengthened.

Section 5.2.iv Overall Conclusions and Implications of the Dissertation

The findings presented in Chapters II-IV lead to a set of important and heretofore unacknowledged conclusions. First, as much as trade dependence matters for third parties' decisions to join into ongoing militarized interstate disputes, this relationship is conditioned by the overall openness and concentration of the global economy itself. The interaction between trade dependence and the international economy included in this dissertation is both novel and warranted. Without accounting for the larger context of international trade relations, estimating the relationship between trade dependence and third parties' conflict joining propensities essentially assumes that the decision-making calculus that leads to joining is identical across the breadth of the temporal domain. Such an assumption is flawed,

as the economy has evolved over this large span of time, and states find themselves in a situation where a greater number of "options" are available to them in terms of their trade patterns and trade partners. This dissertation indicates the need to interact bilateral trade dependence with a variable capturing this economic evolution to fully conclude that trade dependence has such a conventionally conceived positive effect on joining behavior.

Secondly, an economic environment that is simultaneously more open and less concentrated should give states an opportunity to circumvent joining disputes by substituting their import and export markets. Doing so simultaneously avoids paying the costs of participating in international conflict, while giving states the ability to continue beneficial trade relationships with their other trade partners. Even though such an environment of "options" certainly exists, it does not seem that states seriously amend their trade patterns to avoid international conflict. It does, however, appear that where these trade relationships are primarily dependent on trade in consumer durable manufactured goods, third parties are in fact must less likely to join into ongoing disputes, all else equal. Trade dependence on primary commodities, however, significantly increases the likelihood that disputes will expand based on economic considerations.

These findings have important implications for scholarly research in the liberal peace and conflict expansion literatures. The recognition that the state of the international economy conditions the impact of trade dependence on joining behavior – even though trade dependence and trade concentration both still exhibit a positive relationship with joining – broadens our ability to understand even the nature of trade relations with regard to conflict onset. As the international economy continues to widen and become less shallow, it is conceivable that fewer interstate conflicts – and fewer instances of conflict expansion –

might occur as states are able to consider a larger variety of policy options in pursuit of their security and prosperity.

In addition, recognizing that not all trade relationships are considered equally valuable when deciding to intervene in ongoing militarized interstate disputes calls into question the conventional wisdom that trade dependence represents some type of "sunk cost" over which states would be willing to fight. While Dorussen (2006) has already challenged this notion regarding conflict onset, the extension to conflict expansion further grounds this theory of substitutability and suggests that certain types of commodities' simultaneously have the ability to pacify dyadic relations, but inflame third parties. If dependence on primary resources is what is actually driving the positive relationship between trade and joining, then this creates an issue for the future of international conflict. It suggests that disputes that begin over natural resources are much more likely to expand than other types of disputes, as these are the ones that threaten the lifeline of precious and scarce resources flowing into the international economy.

Section 5.3 Limitations of This Research

The results presented in this dissertation are not without their shortcomings, for all of the new insight they provide about the relationship between trade and conflict diffusion. Perhaps most importantly, these analyses in this dissertation separate disputes into all MIDs, fatal MIDs, and interstate wars. The problem is that the data only record the highest action and highest hostility level for the dispute as a whole, and do not measure the exact level of hostility or number of fatalities present in the dispute at the time that a third party enters. This means that we cannot ascertain whether there is a meaningful difference between these

types of disputes in terms of third parties' choices to join them at varying levels of hostility, though it does appear that there is a statistical difference between them.

In addition, it may be difficult to truly generalize these results across the entire temporal domain. While reliable trade data exist as far back as 1885, the level of reliability varies with regard to countries and even specific regions of the world. Even after performing multiple imputation on the raw data, there are still enough missing observations to warrant caution in interpreting the results beyond more modern periods of the twentieth century, for which the most reliable data exist. Moreover, data on economic sanctions and disaggregated trade only exist for a small portion of this temporal domain, and so conclusions drawn with regard to the variables can only be generalized to the latter half of the twentieth century.

Moreover, the results that I present in Chapter III are not necessarily produced from a direct test of the circumvention hypothesis. To do so, a triadic dataset would need to be employed to ensure that State A is actually a third party and not involved in a militarized dispute itself. This is a major shortcoming of this particular research design. I demonstrate empirically that dyadic trade flows sometimes change during times of international conflict, but there are methodological and theoretical shortcomings in merely showing that this phenomenon occurs. The results indicate that something interesting is indeed happening with international trade patterns during times of conflict, but a more specific test of willful trade diversion needs to be devised before the circumvention hypothesis can be confirmed or fully rejected.

Finally, the unique unit of analysis I use in Chapter II and IV precludes the implementation of traditional time-series controls for unit heterogeneity and serial correlation commonly found in panel data. The clustering of standard errors around each

particular conflict, and the incorporation of polynomial approximations partially correct for these maladies, but they are worth highlighting here as minor limitations.

The research in this dissertation can, however, be used as a foundation for other research on both economic dependence and conflict diffusion generally. First, the circumvention hypothesis rested on the assumption that trade diversion is less costly and therefore more attractive than conflict intervention where states have the opportunity to substitute markets that may be in jeopardy. Such an assumption – and the expected utility calculations on which it rests – would benefit from being modelled formally. This might suggest novel, and perhaps more specific, testable hypotheses than those presented in this dissertation. Moreover, future work would profit greatly from a specification that included controls for domestic-level factors that impact international dynamics.

Second, trade relationships are fairly liquid in comparison to other types of economic exchanges. For example, foreign direct investment in another state represents a much more "sunk" cost. Investments such as these are not so easily withdrawn, not so easily substitutable, and not as prolific as bilateral trade relationships. To the extent that economic loss could result from international conflict, states should be much more likely to intervene when the investments at stake are less fluid, less substitutable, and investment partners fewer in number. Future work in this research program should strive toward retesting these hypotheses using measures of dyadic foreign direct investment. At present, directed dyadic data on FDI do not exist, but this dissertation suggests the need for such a dataset.

Section 5.4 Concluding Remarks

This dissertation is designed to assess the impact that bilateral trade dependence has on third parties' decisions to join ongoing militarized interstate disputes. What this

dissertation uncovers is that trade dependence is indeed positively related to conflict expansion, but that this relationship is affected by two other phenomena: the level of trade concentration in the international economy, as well as the portion of dependence that rests on trade in primary resources. These are interesting empirical findings that have important implications for our scholarly understanding of international trade, international conflict, and conflict diffusion. Particularly, this dissertation contributes to the revival of interest in the processes that undergird the expansion of international disputes from dyadic conflicts to complex, multiparty disputes (Valeriano and Vasquez 2010; Vasquez and Valeriano 2010). While the investigations undertaken in this dissertation focus only on the role of economic interdependence in explaining the horizontal growth of international conflicts, the efforts undertaken here facilitate a greater knowledge of conflict processes as they apply to expansion.

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Appendices

Appendix A: Supplemental Materials for Chapter II

Table A.1 Oneal and Russett Trade Dependence over All MIDS, 1885-1992

	Model A.1	
	Initiator	Target
ONR Trade Dependence (log)	0.129	0.00216
	(0.0774)	(0.0598)
Trade Concentration	2.287	-102.9*
	(4.494)	(41.29)
Dependence*Concentration	-7.010	14.43
	(13.39)	(10.58)
Distance (log)	-0.231*	-0.367**
	(0.114)	(0.132)
Major Power	1.421***	1.453***
	(0.337)	(0.233)
CINC (log)	0.437***	0.387***
	(0.0688)	(0.0525)
Defense Pact	1.883***	1.791***
	(0.273)	(0.226)
Number Initiators	0.0488	0.485
	(0.0341)	(0.755)
Number Targets	0.162***	0.237**
	(0.0286)	(0.0744)
More Initiators	1.462***	-8.645
	(0.324)	(20.38)
Openness (log)	0.396***	0.272**
	(0.120)	(0.105)
Democracy Score	-0.0442	0.137***
	(0.0325)	(0.0266)
Joint Democracy	-0.259	-0.380
	(0.376)	(0.273)
All Democracies	-15.48***	-16.12***
	(0.268)	(0.257)
Interdependence Other Side	-0.0191	-0.106***
	(0.0168)	(0.0131)
Constant	-1.968*	-4.279***
	(0.943)	(1.268)

Table A.1 cont.

	Model A.1	
	Initiator	Target
N	316,736	316,736
Pseudo R2	0.215	0.215
Wald Chi2 (df)	(36) 38940***	(36) 38940***
Log Likelihood	-1705	-1705

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

Table A.2 Gleditsch Trade Data over All MIDs 1948-2000

	Model A.2	
	Initiator	Target
Gled Trade Dependence (log)	-0.0769	0.112
	(0.280)	(0.299)
Trade Concentration	19.20***	-28.43
	(2.698)	(18.23)
Dependence*Concentration	-44.47	6.060
	(27.96)	(26.57)
Distance (log)	-0.790***	-0.409***
	(0.0527)	(0.0963)
Major Power	1.461***	1.323***
	(0.190)	(0.182)
CINC (log)	0.332***	0.459***
	(0.0332)	(0.0497)
Defense Pact	0.275	1.348***
	(0.206)	(0.215)
Number Initiators	0.122***	0.113*
	(0.00611)	(0.0484)
Number Targets	-0.0109	0.0392***
	(0.0127)	(0.00730)
More Initiators	1.406***	-2.835
	(0.190)	(1.733)
Openness (log)	0.882***	-0.00215
	(0.228)	(0.299)

Table A.2 cont.

	Model A.2	
	Initiator	Target
Democracy Score	0.0477*	0.128***
	(0.0209)	(0.0233)
Joint Democracy	0.0998	-0.254
	(0.208)	(0.253)
All Democracies	0.164	-1.188*
	(0.217)	(0.465)
Interdependence Other Side	-0.123***	-0.0816***
	(0.00832)	(0.0101)
Constant	-0.930*	-3.594***
	(0.445)	(0.848)
N	466,552	466,552
Pseudo R2	0.357	0.357
Wald Chi2 (df)	(36) 5127***	(36) 5127***
Log Likelihood	-3546	-3546

Clustered standard errors in parentheses, polynomial splines not reported
*** p<0.001, ** p<0.01, * p<0.05

Table A.3 Politically Relevant Dyads over All MIDs, 1885-2001

	Model A.3	
	Initiator	Target
Trade Dependence (log)	-0.00866	0.0763
	(0.0987)	(0.107)
Trade Concentration	8.023	-30.83
	(4.763)	(24.02)
Dependence*Concentration	-5.641	-2.671
	(6.340)	(5.327)
Distance (log)	-0.505***	-0.0989
	(0.120)	(0.144)
Major Power	1.175**	0.139
	(0.374)	(0.321)
CINC (log)	0.240	0.466*
	(0.137)	(0.187)

Table A.3 cont.

	Model A.3	
	Initiator	Target
Defense Pact	0.456	1.067***
	(0.276)	(0.263)
Number Initiators	0.111***	0.144*
	(0.0111)	(0.0573)
Number Targets	0.0135	0.0589***
	(0.0162)	(0.0103)
More Initiators	1.119***	-2.824
	(0.277)	(2.051)
Openness (log)	0.506***	0.0672
	(0.148)	(0.225)
Democracy Score	0.0425	0.104**
	(0.0325)	(0.0384)
Joint Democracy	0.368	0.0452
	(0.285)	(0.312)
All Democracies	-0.775*	-3.076**
	(0.364)	(1.081)
Interdependence Other Side	-0.0846***	-0.0575***
	(0.0128)	(0.0150)
Constant	-2.889	-4.212
	(2.395)	(2.945)
N	36,256	36,256
Pseudo R2	0.187	0.187
Wald Chi2 (df)	(36) 1148***	(36) 1148***
Log Likelihood	-1405	-1405

Clustered standard errors in parentheses, polynomial splines not reported
*** p<0.001, ** p<0.01, * p<0.05

Table A.4 Joining Revisionists or Status Quo States over All MIDs, 1885-2001

	Model A.4	
	Revisionist	Status Quo
Trade Dependence (log)	-0.123	0.171***
	(0.116)	(0.0518)
Trade Concentration	-0.608	10.73**
	(7.234)	(3.294)
Dependence*Concentration	11.39	-1.011
	(14.23)	(3.825)
Distance (log)	-0.179	-0.751***
	(0.179)	(0.0442)
Major Power	1.025*	1.545***
	(0.417)	(0.138)
CINC (log)	0.295	0.505***
	(0.158)	(0.0606)
Defense Pact	1.648***	0.467**
	(0.347)	(0.163)
Number Revisionists	0.135**	0.128***
	(0.0450)	(0.00595)
Number Status Quo States	-0.417	0.0226***
	(0.377)	(0.00621)
More Revisionists	-2.196	0.628***
	(1.457)	(0.181)
Openness (log)	0.395*	0.499***
	(0.181)	(0.0577)
Democracy Score	0.0781*	0.107***
	(0.0392)	(0.0192)
Joint Democracy	-2.362*	-0.0357
	(1.056)	(0.168)
All Democracies	1.403	0.0425
	(1.154)	(0.176)
Interdependence Other Side	-0.0335	-0.120***
	(0.0195)	(0.00667)
Constant	-4.695	2.001
	(3.094)	(1.137)
N	468,720	468,720
Pseudo R2	0.352	0.352
Wald Chi2 (df)	(36) 4775***	(36) 4775***
Log Likelihood	-3530	-3530

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

Appendix B: Supplemental Materials for Chapter III

Table B.1 Changes in Trade Values in Response to All MIDs, 1885-2001

	Model B.1	Model B.2	Model B.3
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
Lag Dyadic Trade	0.394***		
	(0.0380)		
Lag Non-Dyad Trade		0.169***	
		(0.00449)	
Lag Non-MID Trade			0.169***
			(0.00438)
B MID	7.489***	46.85	49.53
	(1.243)	(37.06)	(31.09)
AB MID	-5.447	-103.5	-381.6
	(13.47)	(474.2)	(450.9)
A MID	-5.186***	-180.4***	-180.6***
	(0.952)	(24.88)	(20.43)
A Joins B	3.469***	-504.5***	-406.8***
	(0.984)	(19.33)	(15.80)
CINC (A)	5.258***	830.8***	667.9***
	(0.519)	(22.36)	(17.93)
Major Power (A)	55.85***	9,697***	9,922***
	(10.78)	(358.8)	(355.7)
Distance	-15.66***		
	(1.907)		
Sanctions	8.664***	1,135***	893.8***
	(0.977)	(41.95)	(34.84)
Trade Dependence	-3.393		
	(2.241)		
Trade Partners (A)	-0.846	-891.4***	-535.1***
	(1.940)	(65.61)	(51.53)
H	1,991***	253,284***	252,024***
	(304.4)	(7,360)	(6,357)
Openness (A)	1.592*	674.5***	477.9***
	(0.789)	(18.44)	(13.18)
GDPpc (A)	2.752***	1,119***	1,051***
	(0.763)	(30.62)	(25.81)
Joint Democracy	24.86***		
	(2.705)		
Democracy (A)		31.86***	33.70***
		(4.055)	(3.367)

Table B.1 cont.

	Model B.1	Model B.2	Model B.3
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
S Score	-2.896		
	(3.724)		
S with System Leader		4,570***	4,175***
		(168.1)	(145.8)
Constant	138.1***	150.0	-2,085***
	(20.12)	(348.7)	(284.3)
N	581,059	615,848	774,857
Dyads	22,378	24,291	30,119
R2	0.152	0.200	0.196
Wald Chi2 (df)	(16) 961.1***	(14) 13973***	(14) 15119***
Rho	0	0.0728	0.0762

Models using time-series regression with a lagged dependent variable and random effects specification
Robust standard errors in parentheses. All variables lagged one period. *** p<0.001, ** p<0.01, * p<0.05

Table B.2 Changes in Trade Values in Response to Fatal MIDs, 1885-2001

	Model B.4	Model B.5	Model B.6
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
Lag Dyadic Trade	0.394***		
	(0.0380)		
Lag Non-Dyad Trade		0.168***	
		(0.00449)	
Lag Non-MID Trade			0.169***
			(0.00437)
B Fatal MID	7.703***	63.78	67.48*
	(1.279)	(37.00)	(31.04)
AB Fatal MID	-6.405	-310.8	-549.5
	(13.59)	(480.1)	(456.0)
A Fatal MID	-4.955***	259.0***	209.6***
	(0.928)	(25.15)	(20.98)

Table B.2 cont.

	Model B.4	Model B.5	Model B.6
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
A Joins B (Fatal)	3.774***	-536.0***	-433.7***
	(0.985)	(19.69)	(16.06)
CINC (A)	5.188***	801.1***	642.3***
	(0.510)	(22.24)	(17.83)
Major Power (A)	55.70***	9,601***	9,837***
	(10.80)	(359.2)	(356.0)
Distance	-15.68***		
	(1.908)		
Sanctions	8.557***	1,133***	891.3***
	(0.973)	(41.75)	(34.66)
Trade Dependence	-3.446		
	(2.234)		
Trade Partners (A)	-0.761	-887.0***	-533.3***
	(1.939)	(65.62)	(51.47)
H	2,003***	256,118***	254,575***
	(299.7)	(7,346)	(6,350)
Openness (A)	1.573*	686.4***	490.9***
	(0.790)	(18.31)	(13.07)
GDPpc (A)	2.762***	1,119***	1,050***
	(0.760)	(30.65)	(25.84)
Joint Democracy	24.88***		
	(2.706)		
Democracy (A)		32.82***	34.37***
		(4.039)	(3.353)
S Score	-2.939		
	(3.735)		
S with System Leader		4,589***	4,194***
		(167.7)	(145.5)
Constant	137.1***	-204.4	-2,378***
	(20.01)	(347.3)	(282.8)
N	581,059	615,848	774,857
Dyads	22,378	24,291	30,119
R2	0.152	0.200	0.196
Wald Chi2 (df)	(16) 966.6***	(14) 14667***	(14) 15809***
Rho	0	0.0727	0.0762

Models using time-series regression with a lagged dependent variable and random effects specification
Robust standard errors in parentheses. All variables lagged one period. *** p<0.001, ** p<0.01, * p<0.05

Table B.3 Changes in Trade Values in Response to Interstate Wars, 1885-2001

	Model B.7	Model B.8	Model B.9
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
Lag Dyadic Trade	0.393***		
	(0.0380)		
Lag Non-Dyad Trade		0.166***	
		(0.00447)	
Lag Non-MID Trade			0.167***
			(0.00436)
B War	12.97***	399.5***	370.1***
	(1.421)	(40.28)	(33.66)
AB War	1.531	-36.04	-123.3
	(15.81)	(519.2)	(505.2)
A War	1.500	1,242***	1,065***
	(1.061)	(37.19)	(31.01)
A Joins B (War)	1.898	-1,061***	-877.7***
	(1.156)	(25.93)	(20.89)
CINC (A)	4.890***	770.8***	613.6***
	(0.508)	(22.47)	(18.03)
Major Power (A)	54.32***	9,446***	9,708***
	(10.72)	(361.2)	(357.7)
Distance	-15.58***		
	(1.919)		
Sanctions	8.835***	1,232***	976.2***
	(0.979)	(43.20)	(35.80)
Trade Dependence	-4.793*		
	(2.266)		
Trade Partners (A)	-2.910	-1,079***	-704.0***
	(1.928)	(67.65)	(52.94)
H	2,741***	202,235***	210,389***
	(352.5)	(6,926)	(6,061)
Openness (A)	1.984*	735.0***	534.3***
	(0.791)	(18.26)	(13.09)
GDPpc (A)	2.903***	1,110***	1,043***
	(0.763)	(30.52)	(25.73)
Joint Democracy	25.13***		
	(2.720)		
Democracy (A)		39.13***	39.43***
		(3.955)	(3.284)

Table B.3 cont.

	Model B.7	Model B.8	Model B.9
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
S Score	-3.606		
	(3.777)		
S with System Leader		4,433***	4,056***
		(166.7)	(144.5)
Constant	140.1***	591.6	-1,689***
	(20.18)	(341.6)	(275.5)
N	581,059	615,848	774,857
Dyads	22,378	24,291	30,119
R2	0.152	0.201	0.197
Wald Chi2	(16) 1058***	(14) 14127***	(14) 15362***
Rho	0	0.0730	0.0764

Models using time-series regression with a lagged dependent variable and random effects specification
Robust standard errors in parentheses. All variable lagged one period. *** p<0.001, ** p<0.01, * p<0.05

Table B.4 Changes in Trade Values in Response to Any Conflict Involvement, 1971-2001

	Model B.10	Model B.11	Model B.12
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
B MID	6.676***	82.13	59.73
	(1.767)	(49.80)	(42.00)
AB MID	-6.003	739.6	736.9
	(28.90)	(638.2)	(610.5)
A MID	-7.654***	-343.5***	-336.5***
	(1.233)	(33.78)	(27.90)
A Joins B	4.694***	-704.6***	-573.8***
	(1.197)	(23.52)	(19.33)
CINC (A)	10.88***	1,464***	1,195***
	(1.166)	(27.50)	(21.69)
Major Power (A)	118.5***	15,654***	15,984***
	(24.67)	(497.5)	(500.7)

Table B.4 cont.

	Model B.10	Model B.11	Model B.12
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
Distance	-31.93***		
	(4.568)		
Sanctions (1971 -)	8.659***	195.4***	44.64
	(1.263)	(32.93)	(27.17)
Trade Dependence	1.685		
	(3.089)		
Trade Partners (A)	-7.738	2,312***	2,721***
	(5.644)	(116.9)	(91.52)
H	5,946***	701,601***	659,150***
	(538.8)	(14,800)	(12,480)
Openness (A)	2.246*	1,202***	893.9***
	(1.135)	(35.89)	(26.30)
GDPpc (A)	4.097**	402.0***	429.7***
	(1.421)	(31.58)	(24.39)
Joint Democracy	45.15***		
	(5.296)		
Democracy (A)		113.9***	127.3***
		(8.475)	(6.748)
S Score	-14.93		
	(8.279)		
S with System Leader		7,705***	6,394***
		(332.6)	(284.8)
Constant	330.3***	-6,810***	-10,425***
	(56.83)	(647.5)	(506.4)
N	451,324	487,349	619,934
Dyads	22,352	24,271	30,107
Wald Chi2 (df)	(15) 299.8***	(13) 11851***	(13) 12857***

Models using Gaussian general estimating equation with AR(1) specification, treating sanctions before 1971 as missing. Robust standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05

Table B.5 Changes in Trade Values in Response to Any Conflict Involvement (Omitting Sanctions), 1885-2001

	Model B.13	Model B.14	Model B.15
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
B MID	5.577***	47.10	42.68
	(1.396)	(39.20)	(33.27)
AB MID	-7.381	177.1	2.442
	(20.47)	(475.1)	(418.3)
A MID	-5.163***	-164.2***	-182.9***
	(0.940)	(29.19)	(24.30)
A Joins B	3.489***	-488.4***	-401.9***
	(0.926)	(19.87)	(16.51)
CINC (A)	7.105***	1,066***	899.1***
	(0.793)	(19.01)	(15.44)
Major Power (A)	87.45***	11,629***	11,835***
	(18.64)	(372.9)	(369.3)
Distance	-24.23***		
	(3.547)		
Trade Dependence	-1.252		
	(3.059)		
Trade Partners (A)	8.555***	1,576***	1,724***
	(2.256)	(52.44)	(43.45)
H	2,865***	377,871***	381,954***
	(304.5)	(8,231)	(7,294)
Openness (A)	1.440	864.5***	656.5***
	(0.827)	(28.03)	(20.42)
GDPpc (A)	6.112***	803.9***	743.0***
	(1.236)	(29.81)	(23.83)
Joint Democracy	34.21***		
	(4.049)		
Democracy (A)		48.07***	72.47***
		(5.594)	(4.581)
S Score	-3.809		
	(5.622)		
S with System Leader		5,671***	4,856***
		(212.5)	(187.4)
Constant	157.3***	-7,210***	-8,628***
	(32.43)	(340.7)	(287.9)

Table B.5 cont.

	Model B.13	Model B.14	Model B.15
	Dyadic Trade	Non-Dyad Trade	Non-Dyad, No MIDs
N	597,230	634,301	791,765
Dyads	22,380	24,292	30,107
Wald Chi2 (df)	(14) 326.3***	(12) 9908***	(12) 10756***

Models using Gaussian general estimating equation with AR(1) specification, omitting sanctions

Robust standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05

Appendix C: Supplemental Materials for Chapter IV

Table C.1 Industrial Sectors from Bureau of Economic Analysis (BEA) Industry Codes

BEA Code		Version 3	Code
35	Non-manufacturing (Raw Materials)	S1	Non-manufacturing
1	Grain, Mill, & Bakery Products	S2	Food & Kindred Products
2	Beverages	S2	Food & Kindred Products
3	Tobacco Products	S2	Food & Kindred Products
4	Other Food & Kindred Products	S2	Food & Kindred Products
12	Agricultural Chemicals	V1S1	Primary Chemicals & Metals
13	Industrial Chemicals & Synthetics	V1S1	Primary Chemicals & Metals
14	Other Chemicals	V1S1	Primary Chemicals & Metals
15	Rubber Products	V1S1	Primary Chemicals & Metals
16	Miscellaneous Plastic Products	V1S1	Primary Chemicals & Metals
17	Primary Metal Industries, Ferrous	V1S1	Primary Chemicals & Metals
18	Primary Metal Industries, Nonferrous	V1S1	Primary Chemicals & Metals
7	Pulp, Paper, & Board Mills	V1S2	Consumer Goods
30	Lumber, Wood, Furniture, etc	V2S2	Consumer Goods
31	Glass Products	V2S2	Consumer Goods
32	Stone, Clay, Concrete, Gypsum, etc	V2S2	Consumer Goods
5	Apparel & Other Textile Products	V2S2	Consumer Goods
6	Leather & Leather Products	V2S2	Consumer Goods
8	Other Paper & Allied Products	V2S2	Consumer Goods
9	Printing & Publishing	V2S2	Consumer Goods
10	Drugs	V2S2	Consumer Goods
11	Soaps, Cleansers, & Toilet Goods	V2S2	Consumer Goods
19	Fabricated Metal Products	V2S2	Consumer Goods
20	Farm and Garden Machinery	V2S2	Consumer Goods
21	Construction, Mining, etc	V2S2	Consumer Goods
22	Computer & Office Equipment	V2S2	Consumer Goods
23	Other Nonelectric Machinery	V2S2	Consumer Goods
24	Household Appliances	V2S2	Consumer Goods
25	Household Audio & Video, etc	V2S2	Consumer Goods
26	Electronic Components	V2S2	Consumer Goods
27	Other Electrical Machinery	V2S2	Consumer Goods
28	Motor Vehicles & Equipment	V2S2	Consumer Goods
29	Other Transportation Equipment	V2S2	Consumer Goods
33	Instruments & Apparatus	V2S2	Consumer Goods
34	Other Manufacturing	V2S2	Consumer Goods

Table C.2 Joining All MIDs using Dorussen's Trade Data, 1970-1997

	Model C.1		Model C.2	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	-0.169	0.00788		
	(0.0906)	(0.108)		
Dependence on Primary Goods (log)			4.56e-07	2.72e-07
			(2.75e-07)	(3.43e-07)
Dependence on Manufactures (log)			-1.79e-06	-3.67e-07
			(1.16e-06)	(2.86e-07)
Distance (log)			-0.298	-0.856**
			(0.409)	(0.321)
Major Power			1.137	2.162
			(1.071)	(1.124)
CINC (log)			0.757*	1.496*
			(0.349)	(0.645)
Defense Pact			1.934*	1.208**
			(0.804)	(0.459)
Number Initiators			-0.00145	-0.850
			(0.0311)	(1.168)
Number Targets			1.303***	2.318*
			(0.242)	(0.954)
More Initiators			0.951	-14.88***
			(0.765)	(1.492)
Trade Concentration			519.1	351.7
			(277.1)	(291.3)
Openness (log)			1.313**	0.560
			(0.438)	(0.522)
Democracy Score			-0.0474	0.0718
			(0.103)	(0.123)
Joint Democracy			1.248	1.520
			(0.858)	(0.788)
All Democracies			-18.46***	-18.50***
			(0.713)	(0.438)
Interdependence Other Side			6.369	1.743
			(3.970)	(1.364)
Constant			-3.091	-2.483
			(4.149)	(3.581)

Table C.2 cont.

	Model C.1		Model C.2	
	Join Initiator	Join Target	Join Initiator	Join Target
N	59,605	59,605	44,576	44,576
Pseudo R2	.0466	.0466	0.503	0.503
Wald Chi2 (df)	(8) 42.14***	(8) 42.14***	(36) 5907***	(36) 5907***
Log Likelihood	-209.5	-209.5	-97.59	-97.59

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

Table C.3 Politically Relevant Dyads over All MIDs, 1962-2000

	Model C.3		Model C.4	
	Initiator	Target	Initiator	Target
Trade Dependence (log)	0.141	-0.201***		
	(0.118)	(0.0563)		
Dependence on Primary Goods (log)			0.246**	0.109
			(0.0803)	(0.118)
Dependence on Manufactures (log)			-0.161*	-0.253*
			(0.0647)	(0.100)
Distance (log)			-0.0613	-0.287
			(0.194)	(0.282)
Major Power			0.358	16.36***
			(0.447)	(1.049)
CINC (log)			0.154	0.382
			(0.144)	(0.484)
Defense Pact			0.785*	0.832
			(0.322)	(0.482)
Number Initiators			0.117***	0.132*
			(0.0137)	(0.0630)
Number Targets			-0.0235	0.0777***
			(0.0416)	(0.0199)
More Initiators			1.241***	-2.116
			(0.375)	(1.898)

Table C.3 cont.

	Model C.3		Model C.4	
	Initiator	Target	Initiator	Target
Trade Concentration			-100.7	200.1
			(209.3)	(136.2)
Openness (log)			0.524**	-0.422
			(0.186)	(0.682)
Democracy Score			0.0975	0.236*
			(0.0530)	(0.0999)
Joint Democracy			0.470	0.583
			(0.360)	(0.406)
All Democracies			-0.619	-17.95***
			(0.368)	(0.424)
Interdependence Other			0.0446	-0.0940
Side			(0.0535)	(0.0488)
Constant			-3.997*	-24.49***
			(1.957)	(4.916)
N	21,968	21,968	18,374	18,374
Pseudo R2	.0237	.0237	0.272	0.272
Wald Chi2 (df)	(8) 100.8***	(8) 100.8***	(36)12345***	(36)12345***
Log Likelihood	-1048	-1048	-640.7	-640.7

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

Table C.4 Joining Revisionist or Status Quo States over All MIDs, 1962-2000

	Model C.5		Model C.6	
	Revisionist	Status Quo	Revisionist	Status Quo
Trade Dependence (log)	-0.0653	0.0713		
	(0.0535)	(0.0867)		
Dependence on Primary Goods (log)			-0.0622	0.0577
			(0.0938)	(0.0345)
Dependence on Manufactures (log)			0.0666	-0.0626
			(0.0963)	(0.0355)
Distance (log)			-0.0890	-0.694***
			(0.224)	(0.0642)
Major Power			1.100	1.850***
			(0.601)	(0.209)
CINC (log)			0.291	0.139**
			(0.202)	(0.0481)
Defense Pact			1.990***	0.542*
			(0.431)	(0.217)
Number Revisionists			1.129***	0.139***
			(0.0382)	(0.00944)
Number Status Quo			-13.82***	0.00923
			(0.288)	(0.0101)
More Revisionists			-38.76***	0.957***
			(1.493)	(0.290)
Trade Concentration			-1,184	174.7
			(1,513)	(109.8)
Openness (log)			0.474	0.465***
			(0.303)	(0.0949)
Democracy Score			0.0567	0.0468
			(0.0497)	(0.0351)
Joint Democracy			-1.624	1.163***
			(1.126)	(0.258)
All Democracies			0.687	-0.643**
			(1.203)	(0.247)
Interdependence Other Side			0.146	0.0892**
			(0.145)	(0.0328)
Constant			12.57***	-2.450**
			(3.771)	(0.787)

Table C.4 Joining Revisionist or Status Quo States, 1962-2000 continued

	Model C.5		Model C.6	
	Revisionist	Status Quo	Revisionist	Status Quo
N	207,117	207,117	141,499	141,499
Pseudo R2	.0245	.0245	0.447	0.447
Wald Chi2 (df)	(8) 115.5***	(8) 115.5***	(36) 6331.06***	(36) 6331.06***
Log Likelihood	-3415	-3415	-1474	-1474

Clustered standard errors in parentheses, polynomial splines not reported.
*** p<0.001, ** p<0.01, * p<0.05

Vita

Amanda Sanford was born in Winston-Salem, North Carolina on November 1, 1983. As the daughter of a military father, she grew up in a variety of cities around the United States, but spent the largest part of her life in Lebanon, Tennessee, her father's home town. Growing up around the military fostered a passion for government, politics, and war. After graduating from Lebanon High School in 2002, Amanda attended the University of Tennessee, graduating summa cum laude in 2006 with a bachelor's degree in political science and philosophy. She was also an active member in a variety of honors societies, including the Chancellor's Honors Program, Pi Sigma Alpha, and Mortar Board. Amanda also worked for three years at *The Daily Beacon*, the university's student newspaper, where she would eventually become the managing editor her senior year.

Following graduation from UT, she worked as an intern at an international law firm specializing in European Union law and civil liberties in Dublin, Ireland. She returned to UT for graduate school in 2008, finishing her master's degree in international relations in 2010 and her PhD in 2014. During graduate school, Amanda served as the international relations representative in the Political Science Graduate Student Association, as well as vice president and later president of this organization. During her time as president of the PSGSA, Amanda became the political science representative in the Graduate Student Senate and was subsequently elected by that body to serve as the chair of the GSS Travel Awards Committee. In 2012, Amanda was elected by the graduate student body to serve as the GSS President, representing 6,000 graduate and professional students. In 2013, she was recognized by the Dean of Students for Outstanding Contributions to Student Life, and was invited to deliver the commencement address at the Spring 2013 Graduate Hooding Ceremony

In 2011, Amanda won the David Mock Award for Outstanding Performance by a Graduate Teaching Associate from the Political Science Department. In 2012, she won the William G. McCall Award for Dissertation Research Assistance, and in both 2013 and 2014, she won awards for the Best Graduate Student Conference Paper for her co-authored projects on mediation and conflict diffusion and chemical weapons acquisition, respectively.

Amanda will be begin a tenure-track faculty position as an Assistant Professor of Political Science at Louisiana Tech University in September 2014.