Chapter 5

ALTERNATIVE LEVELS OF ANALYSIS: THE NATION-STATE AND THE SYSTEM

Throughout this study, I have focused on the impact of trade on dyadic relationships in order to look within the international system to determine whether variations in the trade-conflict relationship exist. However, people tend to portray discussions about trade as equally applicable to all relationships, including those between people, classes, communities, and the global community as a whole. Liberals have spent a considerable amount of time focusing on the impact that commerce has on transforming states. For this reason, it is important to consider whether states that engage more heavily in trade are more peaceful than others. In addition, while it is difficult to draw close linkages between global forces and the actions of individual states within any given relationship, some consideration of systemwide interdependence is useful. Thus, in this chapter, I seek to look beyond trade's impact on dyadic relationships to assess its impact on states and the system.

Conflict researchers provide a valuable lesson in revealing that factors associated with conflict may vary at different levels of analysis. For example, researchers investigating the "democratic peace" proposition (that increased democracy promotes peace) have identified different relationships between democracy and conflict at the monadic, dyadic, and system levels of analysis (Gleditsch and Hegre 1997; Ray and Wang 1998). The same may be true with respect to commerce, where the impact may vary at alternative levels of analysis. In this chapter, I examine the extent to which the trade-promotes-peace hypothesis enjoys empirical support at the state and system levels of analysis.

A major difficulty in assessing trade's impact across different levels of analysis arises from the ambiguity about the conditions that define trade dependence or interdependence. As I discussed previously, scholars disagree about the meaning and operationalization of interdependence at the dyadic level. That problem is compounded when I expand my domain of inquiry beyond the dyadic level of analysis. Rather than

definitively resolving the issue of the most appropriate measure of trade dependence, I explore a number of ways in which we might conceive of trade's impact on conflict behavior at the monadic and system levels.

DOES COMMERCE TRANSFORM STATES?

The review of theoretical literature presented in chapter 2 showed that classical liberals assumed that trade would have an impact on the conflict behavior of states. Liberals assume that trading states are more peaceful than those states that refrain from trade. They assume that this pacifying effect on state behavior arises from both the economic motivations to refrain from conflict and the positive social transformations, including, for some, moral elevation, presumed to be associated with participating in commerce. Despite the wealth of literature outlining trade's positive effect, scholars have provided little investigative research into the question of whether trading states are more peaceful than other states. In fact, Domke (1988) provides the only comprehensive empirical study of the impact of trade dependence on war involvement. Domke finds that states that depend on trade relative to national production are less likely to become involved in wars than are other states. Scholars seem content to accept Domke's monadic-level findings without further exploration, despite some obvious limitations in his research design. For example, Domke focuses exclusively on years in which wars occur, a research strategy that may be biased for not considering all years (nonwar years, as well as war years). That is, years in which wars occur may be different, with respect to trading relationships, than years in which no war occurs. In addition, Domke considers only the bivariate relationship between trade dependence and war involvement and fails to control for other factors believed to be associated with both trade and conflict. Whether or not one accepts Domke's basic research design, his monadic-level findings deserve further consideration to determine whether trading states are more peaceful than other states. In this study, I extend his analysis by considering whether trading states are less likely than others to participate in other forms of militarized conflict, including, but not limited to wars.

Research Design

I wish to examine whether the liberal proposition that trade promotes peace applies to a state's participation in international trade. Does increased trade reduce a state's conflict proneness? To examine this ques-

tion in a manner consistent with my dyadic analyses, I consider the relationship between a state's total trade and its propensity to engage in militarized interstate disputes. Here, my unit of observation is the individual state at each year in the sample, rather than the dyad. I examine the period 1870–1992 in my initial analysis, but must confine the analyses to the post–World War II period, when measures of GDP are introduced.

The Dependent Variable: Militarized Interstate Disputes

Once again, the MID data set is used to measure the dependent variable—conflict. Here I examine the total number of disputes in which a state participates in a given year. Given the nature of the dependent variable, it is necessary that I use a method of statistical analysis appropriate for analyzing count variables. Thus, I use negative binomial analysis to estimate the rate at which disputes occur per year. Negative binomial regression is used, rather than the more commonly used Poisson regression, when the sample may be heterogeneous—when the rate of event occurrence varies. Poisson regression analysis, on the other hand, assumes homogeneity of the sample (see King 1989, esp. 122). The negative binomial regression provides an estimate of an alpha coefficient to determine whether heterogeneity is present in the sample. When estimating a negative binomial model, a Poisson regression model is first estimated. When the alpha coefficient is statistically significant, the results from the negative binomial model should be used; otherwise, the Poisson regression estimates are used.

Independent Variables: Trade Dependence

First, I consider whether states with extensive foreign trade are more peaceful than states with limited trade and measure a state's total trade as the sum of its imports and exports. This assumes that the benefits of trade and the potential threat of trade losses are similar across states and vary only according to the absolute value of trade. But a given value of total trade may be more important for states with smaller economies, who are less able than large states to substitute domestic production for foreign trade. Therefore, I introduce a control for economic size (measured by GDP) into the estimated model specification in the second analysis. Since GDP figures are not readily available for most states in the pre–World War II period, the analyses that include this variable must be confined to the post–World War II era. In my third analysis, I employ a

ratio measure of trade dependence that is similar to Domke's (1988), whose measure of trade dependence evaluates total exports relative to GDP. However, I evaluate total trade relative to GDP. I include both imports and exports in my measure of trade dependence, because I believe that an exclusive focus on exports reflects the mercantilist bias of favoring export over import flows, rather than the liberal recognition that each flow is important to the overall economy.

The trade-dependence ratio is similar in some respects to controlling for GDP by including it as a separate variable. Yet, the approaches do differ. The ratio variable may mask the separate independent influence of trade and GDP. Similarly, it might mask the separate effects of trade dependence and GDP alone. For this reason, I include a control for GDP in my third analysis. Controlling for GDP in the trade-dependence model is also important, since trade dependence is negatively associated with GDP. States with large economies are less dependent on foreign trade relative to national production than are states with small economies.

My first measure, total trade, is reported in current U.S. dollars. It is necessary to control for the purchasing power of the dollar over time, since the value of a dollar in 1950 is higher than a dollar in 1992. To convert current to real U.S. dollars, I employ the U.S. Consumer Price Index with 1967 as the base year.[1] Despite the prevalent tendency to apply the U.S. CPI Index to other states, there are limitations to this approach. Price variations in other countries might be very different than in the United States, so the CPI Index is only a rough estimate of price variations for other states. Unfortunately, there are few viable options for standardizing global trade figures over space and time. Thus, the trade values must be considered an estimated trade index. Hence, Total Trade in the models that follow is defined as (Imports + Exports)/$CPI_{US.}$ The same procedure is applied to convert GDP in current dollars to constant dollars.

Control Variables

I control for those factors that I previously argued were associated with both trade and conflict, including contiguity, regime type, alliances, and power, but here I transform these variables to their monadic level. We can imagine several ways in which these control variables might be applicable to a monadic-level analysis. With respect to contiguity at the

dyadic level, I argued that contiguous states are more likely to trade and more likely to get involved in conflict. At the national level, those states with numerous bordering states may have a greater opportunity to engage in trade and may also have more opportunities to engage in conflict. Thus, the number of bordering states a given state has should be positively associated with trade and conflict. For this reason, I introduce a control variable for contiguity that I measure as the total number of states that border a given state (i.e., how many states are directly contiguous to it).

My previous discussion about the democratic peace suggested that theories about the peacefulness of democracies are generally cast at all levels of analysis, although empirical findings may not bear that out. Since wealthy, more industrialized states tend to be more democratic than developing states and also tend to participate more in foreign trade, it is important to control for regime type. To measure regime type, I use the *Polity III* democracy score minus the Autocracy score, plus ten.

As discussed previously, alliance ties may affect conflict and trade patterns. States tend to trade with allies and refrain from trade with adversaries. One might reason that the more allies a state has, the more opportunities it has to trade with those states. To measure alliance ties, I include a count of the number of alliances a given state has in a given year. Power is also relevant for a monadic-level analysis, since powerful states play an active role in international trade and also are more likely to participate in conflict. Thus, it is important to control for the power of a nation. To do so, I use the COW CINC score for the nation in a given year. Similar to my approach in my dyadic-level analyses, here I employ a one-year lag for all of the independent variables.

EMPIRICAL FINDINGS

The results for the first analysis of the peacefulness of trading states are reported in table 9, which examines whether states that conduct a large amount of foreign trade are more peaceful than those that refrain from trade. The findings reveal a statistically significant positive relationship between total trade and conflict. Within the context of the negative binomial analysis, a positive coefficient means that states with high levels of trade have a higher rate of dispute involvement than those with lower levels of trade. Clearly, this finding contradicts the notion that trading states are more peaceful than other states. One might easily argue that the total-

trade variable simply highlights the fact that powerful states trade a lot and are also more likely to engage in conflicts. The control for capabilities should account for the impact of power among nations in the sample and should allow me to estimate the independent contributions of power and trade to the rate of conflict involvement. Not surprisingly, the findings reveal that more powerful states, as indicated by the capability variable, have higher rates of dispute involvement.

The other control variables provide few surprises. States that share many borders have higher rates of dispute involvement than those that have fewer bordering countries, supporting the general view that contiguity provides more opportunities for disputes to arise. I find support for the argument that democratic states are more peaceful than other states. The negative coefficient for democracy reveals that states with higher levels of democratic characteristics have lower rates of dispute involvement than those states that are less democratic. Although alliance ties were found to increase the likelihood of conflict in dyadic relationships, alliance ties at the monadic level appear to be associated with lower rates of conflict involvement.

As discussed previously, total trade is not only positively correlated with power, it is also positively associated with economic size and wealth. Economically strong states play a very active role in international trade and have higher volumes of trade than poor states. It is, therefore, useful to determine whether the relationship between total trade and conflict

TABLE 9. Total Trade and Dispute Participation, 1870–1992

Variable	Coefficient	*Robust SE*	*z*	*p*
Total trade$_{t-1}$	0.000007	0.000001	6.591	0.000
Contiguity$_{t-1}$	0.105878	0.007582	13.965	0.000
Democracy$_{t-1}$	–0.013258	0.003310	–4.005	0.000
Alliances$_{t-1}$	–0.007618	0.001923	–3.961	0.000
Capabilities$_{t-1}$	0.086485	0.004026	21.484	0.000
Constant	–1.430376	0.056014	–25.536	0.000
lnalpha constant[a]	0.212311	0.072721	2.920	0.004
alpha	1.236533	0.089922	1.072	1.426

[a]lnalpha constant = ln(alpha)
N = 8,210
Log likelihood = –7,034.37, $\chi^2(5)$ = 1,117.43, p = 0.0000
Pseudo R^2 = 0.07

involvement persists when I introduce a statistical control for economic strength or a proxy for wealth. It is true that wealth may be considered a central component of power, and I have controlled for power. But the capability indicator used here incorporates other sources of power (military, demographic, and economic) and is not identical to a measure of economic strength. Wealth can affect total trade, and it might also affect conflict (Bremer 1992b). Two equally plausible propositions emerge about the relationship between wealth and conflict. One could argue that wealthy states are less likely to engage in conflict, since they are more likely to be satisfied with the status quo that maintains their economic position. On the other hand, if we assume that conflicts of interest are a natural part of international relations, we might assume that wealthy states are better equipped with the resources to engage in disputes when conflicts of interest cannot be resolved through other means. According to this argument, states with high GDPs should have a higher rate of conflict involvement.

In the analysis presented in table 10, I introduce a control for GDP when analyzing the relationship between total trade and national conflict involvement. Once I control for economic size, the impact of total trade on conflict involvement becomes statistically insignificant. What does this mean? We see from the statistically significant

TABLE 10. Total Trade and Dispute Participation, 1948–92

Variable	Coefficient	*Robust SE*	*z*	*p*
Total trade$_{t-1}$	–0.000003	0.000003	–1.152	0.249
GDP$_{t-1}$	0.000002	0.000001	2.786	0.005
Contiguity$_{t-1}$	0.115130	0.011970	9.619	0.000
Democracy$_{t-1}$	–0.007374	0.003821	–1.930	0.054
Alliances$_{t-1}$	–0.016743	0.002621	–6.388	0.000
Capabilities$_{t-1}$	0.075062	0.012255	6.125	0.000
Constant	–1.337631	0.072216	–18.523	0.000
lnalpha constant[a]	0.092353	0.098600	0.937	0.349
alpha	1.096752	0.108140	0.904	1.331

[a]lnalpha constant = ln(alpha)
N = 4,794
Log likelihood = –4,190.8, $\chi^2(6)$ = 679.35, p = 0.0000
Pseudo R^2 = 0.08

coefficient for GDP that states with larger GDPs have a higher rate of conflict involvement than those with smaller GDPs. The fact that the total trade indicator is no longer significant means that the relationship observed previously can be explained largely by the different rates of conflict involvement between wealthy and poor states, rather than by large and small trading volumes of states. This finding provides little support to the view that trading states are more peaceful, but it also does not directly support the argument that they are more conflictual. If, on the other hand, we consider the liberal arguments that trade contributes to wealth and economic efficiency, and then consider the fact that economic power increases the rate of conflict involvement, we may view trade as having an indirect effect on conflict involvement. The control variables in this analysis continue to reveal the same predictions found previously.

Finally, I argued that trade might serve as a more effective deterrent to conflict when states are heavily dependent on trade relative to domestic production. Thus, I estimate the influence of trade dependence when evaluated as the ratio of total trade to GDP. Trade dependence conceived in this manner tends to be inversely associated with GDP. That is, states with large economies are less reliant on foreign trade and are better able to substitute domestic production for foreign resources and markets. It is useful to consider the separate effects on conflict involvement of trade dependence and GDP, so the following analysis includes measures of each of these variables.

Table 11 presents the results of my analysis of trade dependence and national conflict. Here is evidence that trade dependence at the national level may have a pacifying effect on national conflict involvement. The statistically significant negative coefficient for trade dependence reveals that states that are heavily dependent on foreign trade have lower rates of conflict involvement than those who are less dependent. This suggests that *it is the importance of trade for a country's economy, rather than the mere volume of trade, that determines whether trade is an effective deterrent to conflict.* The finding that states with a high trade dependence are more peaceful may not appear surprising if we consider the fact that such states tend to be the less powerful ones in the system. However, the controls for wealth and power should account for such variations across nations and allow us to observe the independent influence of trade dependence on conflict involvement. The GDP and capabilities variables tell us that

TABLE 11. TRADE DEPENDENCE AND DISPUTE PARTICIPATION, 1948–92

Variable	Coefficient	*Robust SE*	*z*	*p*
Trade dependence$_{t-1}$	–0.503827	0.089586	–5.624	0.000
GDP$_{t-1}$	0.000001	0.000000	5.110	0.000
Contiguity$_{t-1}$	0.104862	0.009625	10.895	0.000
Democracy$_{t-1}$	–0.007855	0.003801	–2.067	0.039
Alliances$_{t-1}$	–0.017585	0.002536	–6.935	0.000
Capabilities$_{t-1}$	0.070782	0.008850	7.998	0.000
Constant lnalpha[a]	–1.028776	0.083553	–12.313	0.000
Constant	0.051370	0.099101	0.518	0.604
alpha	1.052712	0.104325	0.867	1.278

[a]lnalpha constant = ln(alpha)
N = 4794
Log likelihood = –4173.04, $\chi^2(6) = 701.57$, $p = 0.0000$
Pseudo $R^2 = 0.08$

wealthy and powerful states have higher rates of conflict involvement than other states.

In sum, this analysis provides the first sign that the liberal hypothesis may enjoy support at the monadic level of analysis. Of course, if I combine this finding with the previous dyadic-level analysis, I might conclude that countries that are more dependent upon trade have lower rates of conflict involvement, but when they do choose to engage in conflict, they are more likely to do so with their most important trading partners. Moreover, the finding that wealthy states have higher rates of conflict involvement suggests that trade may have an indirect effect on increasing the conflict proneness of nations. If liberals are correct in their assumption that trade contributes to wealth, then increased trade may eventually lead to a state's increased ability to engage in conflict.

SYSTEM LEVEL

Having found evidence that trade's impact on conflict may vary at the monadic and dyadic levels of analysis, depending upon how one measures trade dependence, I consider what this means for the global system as a whole. An extensive analysis of the system level factors affecting conflict is beyond the scope of this study, but a few comments are in order with respect to the applicability of the trade-promotes-peace hypothesis to the

system level. Anyone with regular exposure to news media would find it difficult to ignore the constant references to globalization and expressions of the opinion that we live in an increasingly interdependent world. Clichés about the shrinking world have been common for several decades, but appear to be taking on added importance in the popular press. References to globalization imply more than the expansion of world trade. When we think about what is meant by the process of globalization, it becomes clear that focusing exclusively on trade ties underplays the many ways in which the global economy has become more integrated over time. Discussions of global interdependence tend to be identified with the weakening of national borders; the rapid movement of capital, goods, services, and people; and the ripple effects throughout the system of actions or events in one area of the globe.

Still, trade remains a key element in the process of globalization. Moreover, classical liberals advocated the creation of a global economy through trade as means to promote peace in the international system. Thus, it is important to consider whether the expansion of global trade has brought greater peace to the international system. People react to the idea of globalization with the same diversity of opinions and passion of sentiments as they do to the notions of interdependence discussed at the dyadic level. Globalization is credited with contributing to global wealth, integration, and world peace. On the other hand, it is blamed for problems such as unemployment, inequality between and within nations, cultural imperialism, environmental degradation, and conflict.

Since foreign trade is an important dimension of the globalization process, we might ask what the expansion of world trade has meant for international conflict on a global scale. Data availability on the world's total trade figures are difficult to obtain, but Maddison (1995, 239) provides a comprehensive series of global exports for most of the period analyzed in this study. Figure 3 illustrates the growth of global exports during the period 1881–1992, excluding the years surrounding World War I and World War II (Maddison 1995, 239).

Does the expansion of trade correspond to the creation of a more peaceful world? Scholars remain divided on the relative peace or conflict in the international system today compared to previous periods in history. In part, a scholar's assessment about the state of the world centers on the manner in which she or he defines the most dangerous forms of conflict. Forbes provides an interesting response to the anticipated criticisms of Montesquieu's notion that commerce will lead to peace:

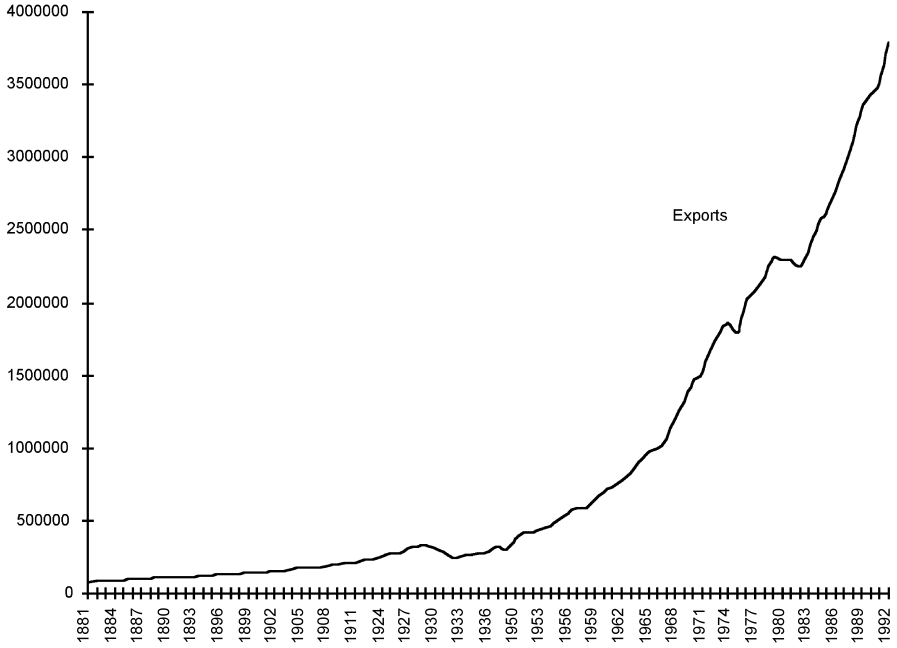

FIG. 3. World exports (in 1990 U.S. dollars)

> Hasn't Montesquieu's theory been disproved by events? Commerce has grown enormously since the eighteenth century, but the world has become more violent. Indeed, the twentieth century has probably witnessed more suffering from nationalist wars and other eruptions of ethnic violence than any previous century, and not just because technology has made war more destructive. Since the eighteenth century, aggressive nationalism and racism closely akin to it have been added to the older causes of war. The new factors seem to have grown with commerce, and they have generated conflicts within as well as between states. (1997, 3)

There are undoubtedly many systemic factors that contribute to the variations in conflict found within the international system. It would be difficult to argue that the variations in conflict within the system are primarily determined by the growth of commerce. Waltz (1979), for example, argues that the concentration of power in the system remains the

central determinant of peace or conflict within the international system. Still, it is interesting to consider how the incidence of militarized interstate disputes, the type of conflict I have considered thus far, has changed over time at the system level, given the general growth in commerce.

Several scholars have recently provided extensive analyses of the general trends in militarized conflict within the system over time (Jones, Bremer, and Singer 1996; Maoz 1996). Each reveals an upward trend in militarized disputes over time that, in part, corresponds to the increase in the number of states within the system. Estimates of trends in disputes and wars systemwide will vary, depending upon whether one looks at the onset of new conflicts or participation in ongoing conflicts and whether one controls for the number of states in the international system. Figure 4 illustrates the number of new disputes and wars beginning each year during the period 1870–1992.

There appears to be an upward trend in the frequency of new disputes, but there is no apparent trend in their severity and magnitude, as indicated by the war measure. In figure 5, I control for the total number of states in the system, and the upward trend in disputes disappears. We might assume that having more states in the system leads to more disputes, since disputes require the participation of states. However, a small number of states account for the majority of disputes, which means that having more states in the system need not entail more disputes (Maoz 1996).

Reaching definitive conclusions about trends in the frequency of conflict over time is difficult, since disputes and wars are relatively rare events. It is difficult to say that the world has become a much more peaceful place over time, as a result of the expansion of commerce. Yet, it is equally difficult to argue that militarized conflict has become more pervasive with the growth of trade. If anything, civil wars have become a greater threat than interstate wars over time (Hughes 1997, 111). Although domestic conflict is not the focus of this investigation, it is important to consider the fact that groups within nations, which are assumed to be more interdependent than interstate groups, continue to face increasing threats of armed conflict. The optimistic reader could interpret the infrequency of war as a sign that the growth of the global economy has produced a more peaceful world. The more pessimistic reader might note that militarized conflict continues to plague the international community, despite the growth of systemwide interdependence.

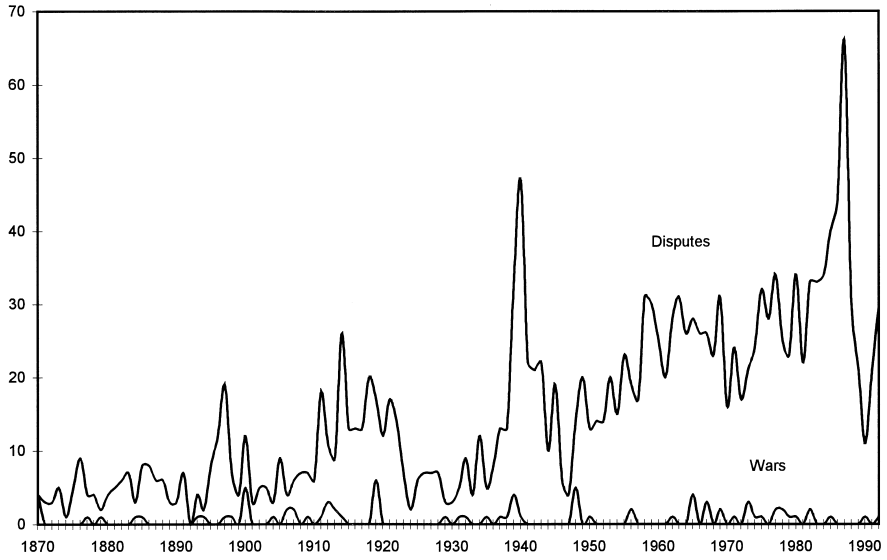

FIG. 4. Number of new militarized disputes and wars per year, 1870–1992

Of course, just as scholars disagree about world peace, scholars also disagree about systemic interdependence.

As mentioned, Kenneth Waltz (1979) argues that the world is less interdependent in the post–World War II period than it was in previous periods in history. Furthermore, he maintains that decreased interdependence has a pacifying effect, since the extensive contacts associated with high interdependence increase the opportunities for conflicts to arise. Waltz's conception of systemic interdependence differs from that discussed previously and is worth considering here, given the prominence that some international relations scholars accord to his work. He explains:

> When I say that interdependence is tighter or looser, I am saying something about the international system, with systems-level characteristics defined, as ever, by the situation of the great powers. In any international-political system some of the major and minor states are

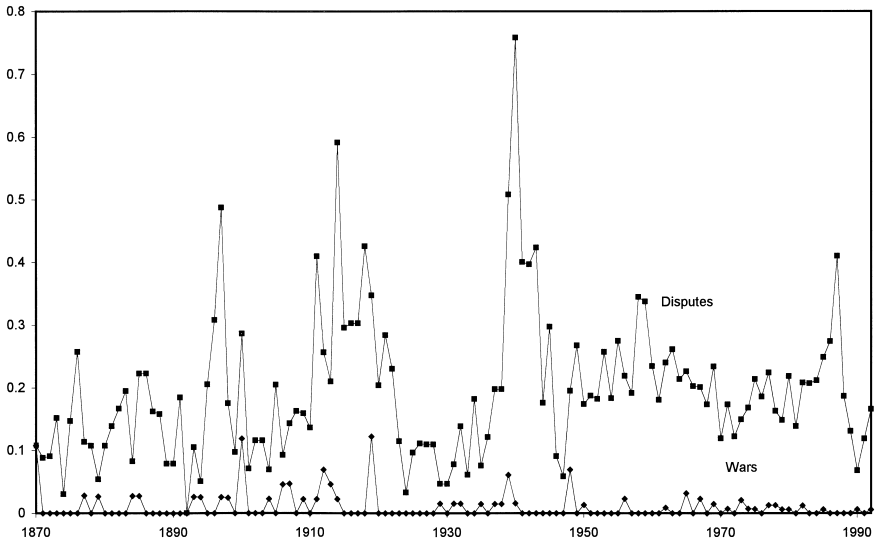

FIG. 5. Frequency of new conflicts per year, controlling for system size, 1870–1992

closely interdependent; others are heavily dependent. The system, however, is tightly or loosely interdependent according to the relatively high or low dependence of the great powers. Interdependence is therefore looser now than it was before and between the two world wars of this century. (144–45)

Waltz argues that we cannot talk about interdependence without recognizing the inequalities in power that exist in the world (1979, 152–53).

The common conception of interdependence is appropriate only if the inequalities of nations are fast lessening and losing their political significance. If the inequality of nations is still the dominant political fact of international life, then interdependence remains low. (152)

Seldom has the discrepancy been wider between the homogeneity suggested by 'interdependence' and the heterogeneity of the world

> we live in. A world composed of greatly unequal units is scarcely an interdependent one. A world in which a few states can take care of themselves quite well and most states cannot hope to do so is scarcely an interdependent one. (159)

> Today the myth of interdependence both obscures the realities of international politics and asserts a false belief about the conditions that promote peace, as World War I conclusively showed. (158)

We see that Waltz's notion of systemic interdependence is tied to the relationships between the major powers. At the same time, he recognizes that the notion of an "interdependent" world is illusory, when such inequalities exist as those between rich and poor states. While Waltz looks beyond trade ties and considers other forms of economic interdependence, such as investment ties, his analysis is still telling.[2] In fact, his analysis underscores the importance of looking beyond trade ties when evaluating global interdependence. Here, my intent in focusing on trade ties is to shed light on the prominent theories about trading relationships. At the same time, when we talk about interdependence, particularly on a global scale, it is difficult to ignore the many factors that give rise to such relationships. Still, we can consider Waltz's proposition with respect to trade relations. In fact, his approach offers a medium between my dyadic approach and a system level perspective, since Waltz's definition of systemic interdependence is tied to dyadic relationships between major powers. My intent here is descriptive, examining whether Waltz's concept of interdependence explains the patterns of trade and conflict over time and to determine what this has meant for major power conflicts.

In general, major powers were more dependent on their major power partners in the pre–World War I period than in any period since that time. Here, I mean that major power states conducted a much higher share of their total trade with each other; major powers were more reliant on their major power trading partners than they are reliant on any states today. The question remains whether dependence between major power states was significant prior to the outbreak of the major wars. Liberals claim that it is the absence of trade ties that results in war, rather than the presence of such ties. If we consider the periods before the major world wars of the twentieth century, we see that both patterns occurred—states were dependent upon those states that became allies and adversaries in

war. Is one pattern more prevalent? Does Waltz's notion of systemic interdependence tell us anything about the outbreak of war in different eras?

In this descriptive analysis, I look at trade dependence for each of the major powers in turn during the period 1870 until 1913 (see appendix B for displays of these data). These figures are rough estimates of the extent to which major powers relied upon each other before and after a major power war. Trade statistics for earlier periods in history, as well as exchange rate data, are less exact than in later periods.[3] Nevertheless, we can still see whether the patterns of trade appear to mirror the alliances formed around the periods of the world wars.

Let's first consider the case of Germany and those states we consider Germany's chief allies and adversaries in the period surrounding World War I. Prior to World War I, Germany depended most heavily on Russia and Britain. In 1913, Germany's most important trading partner in terms of share of total trade was Russia, who accounted for more than 13 percent of Germany's total trade. Britain and the United States followed, with both states accounting for approximately 12 percent of Germany's total trade. France's dyadic trade with Germany accounted for approximately 7 percent of the total trade. Clearly, the importance of these trade relationships did little to stem the tide of war. Germany also conducted significant trade with its allies. Austria-Hungary accounted for approximately 9 percent of Germany's total trade, and Italy accounted for approximately 4 percent. There is some variation in Germany's level of trade dependence during the period 1870–1913, but no sharp divergence in the basic composition of trade partners. In general, it would be difficult to look at Germany's trade patterns and argue that trade dependence prevented war between allied or adversarial states.

Were other major powers equally dependent upon those states whom they would engage in war or beside whom they would fight? Do the patterns of dependence appear to reflect the major alliances of the period? Austria-Hungary's trade statistics are less complete than the other major powers, but it is still possible to consider the evidence that exists for this state.

Austria-Hungary's most important trading partner in the pre–World War I period was Germany, accounting for an average of 30 to 40 percent of Austria-Hungary's total trade. Clearly, this is consistent with the alliance patterns of World War I. Italy ranks second in importance. Rus-

sia and Britain account for approximately 4 to 5 percent of Austria-Hungary's total trade in 1913. Dependence on the United States declines to approximately 3 percent of total trade in 1913, compared to approximately 6 percent in 1910. France's share of Austria-Hungary's total trade also appears to decline after 1900 (6.7 percent) to about 2.5 percent. It appears that trade dependence may reflect emerging alliance patterns and foreshadow divides between adversaries in war, but there are no apparent patterns that would lead one to conclude that trade helped prevent war, unless one were to conclude that the allies remained at peace, because of the trade that existed between them.

In the pre–World War I era, Russia is actually more dependent upon Germany than Germany is on Russia. From 1870 through 1913, trade with Germany ranged between 18 and 46 percent of Russia's total trade, with dependence at around 45 percent in 1913. Russia was also heavily dependent upon Britain during this period, with trade dependence at an average of about 20 percent of total trade. France rates third for Russia's dependence, averaging approximately 8 percent during the period. Russia's dependence on the United States rose during the period, from less than 2 percent before 1905 to more than 4 percent after 1905. Russian dependence on Austria-Hungary varied within a small margin around 4 percent, declining slightly in the period leading up to World War I. A similar pattern is observed with Russia's dependence on Italy; dependence grew after 1885, but varied within a small range around the 4 percent level witnessed on the eve of World War I. For Russia, there are no sharp variations in dependence levels with any one partner, other than the positive trend in dependence observed with Germany and the United States.

For Britain, trade dependence is most heavily concentrated on the United States, which accounts for 15 to 27 percent of Britain's total trade during the pre–World War I period. Germany ranks second in importance, with dependence ranging from about 10 to 11 percent of Britain's total trade prior to World War I. France ranks third in partner dependence for Britain, with approximately 7 percent of total trade, followed by Russia who accounts for approximately 5 percent of Britain's total trade in 1913. Italy follows in dependence rankings, accounting for approximately 3 percent of total trade. Austria-Hungary is the least significant partner for Britain among the major power group; dependence on this state declines to around 1 percent of total trade in 1913.

For France, the most important trading partner during the pre–World War I period analyzed here is Britain, but trade dependence declines after 1900 to about 14 percent in 1913. Germany ranks second for France, with dependence rising for most, but not all years, in the period analyzed, accounting for almost 12 percent of France's total trade in 1913. The United States is France's third most important partner, with nearly 11 percent of total trade in 1913, followed by Russia, with approximately 4 percent in 1913. Italy accounts for a little more than 3 percent of total trade in 1913 and Austria-Hungary a minor 1 percent.

For Italy, dependence on Germany is most significant; the dyadic relationship accounts for 16 percent of Italy's total trade in 1913. Dependence on Britain and the United States also appears to be increasing in the period leading up to World War I, where each accounts for nearly 13 percent of total trade in 1913. France accounts for approximately 8.5 percent of Italy's total trade in 1913, a slight decline from earlier years. Dependence on Austria-Hungary and Russia also appears to experience a slight decline during the period to the levels of 8 percent and 4.5 percent of total trade, respectively.

Since its arrival at major power status in 1899, the United States' most important trading partner is Britain, who accounts for over 20 percent of U.S. total trade during the period. Germany is also significant to the United States, with dependence rising to about 14 percent of the United States' total trade in 1913. Dependence on France accounts for approximately 7 percent of U.S. total trade, while Italy accounts for approximately 4 percent. Among the major powers not discussed in detail here (since it has no role in World War I), U.S. dependence on Japan is growing during this time and accounts for nearly 5 percent of total trade. Austria-Hungary accounts for only about 1 percent of the United States' total trade.

From these trade patterns, we see that dependence is high between the major powers that constituted the allies and adversaries in World War I. In general, the levels of dependence exhibited during the pre–World War I period are much higher than we see for major powers in later periods of the century. There is no clear indication that rising or declining dependence was associated with the alliance patterns of the war. Similarly, there is no evidence that only the interdependent dyads were belligerents. In some cases, a state was most dependent upon another state that would become its adversary in war. In other cases, dependence was highest with

an ally. There is, however, general support here for the view that dependence was high for the major powers. To understand the relative levels of dependence, it is helpful to consider later periods of history. I turn now to the interwar period, to see how the state of interdependence among the major powers changed from the pre–World War I levels.

German dependence on other major powers appears high in 1920, but these figures may be less reliable than others, due to rapid fluctuations in exchange rates for Germany for this period and the difficulties this creates in converting local currencies to standardized international figures. For the interwar period, Germany's dependence on France, Russia, the United States, and Britain appears to decline significantly from the pre–World War I levels. Dependence on Japan and Italy, on the other hand, appears to increase, but not by a great extent. Aside from the cases of Italy and Japan, the general degree of trade dependence is much lower than that observed in the pre–World War I period.

Italy's dependence on most states also declines in the interwar period, with the exception of Germany. In fact, the degree of dependence on Germany is much higher than the levels observed in the pre–World War I period. This provides some indication that there was some consistency in alliance and trade patterns, but the relationship is not particularly precise, as shown in other major power relationships. For Italy, the rankings of trade partners by dependence levels remain similar to the pre–World War I period, but the general level of dependence is lower in all cases but Germany.

For Japan, trade dependence is highest in its relationship with the United States. Dependence on Britain is similar to the levels with Germany, but dependence on Germany is rising, while dependence on Britain is declining. Italy, France, and Russia each account for less than 1 percent of Japan's interwar total trade, which illustrates the fact that in most cases, the level of trade dependence in major power relations declined after World War I.

A comparison of Britain's level of dependence on the major powers in the pre–World War I and interwar periods provides further evidence that dependence between major powers declined. Once again, we see that the basic ranking of partner dependence is similar, with the United States the most important trading partner, followed by Germany, France, Russia, Italy, and Japan, but that the level of dependence on all states has dramatically dropped.

Turning to the case of Russia, we actually see instances of higher trade dependence in the interwar period than in the pre–World War I period. It appears that Russia's heavy trade dependence on Germany prior to the war was redirected toward other partners. The United States now tops Russia's list of important trading partners, and the degree of dependence is much higher than that observed prior to the war (ranging from 8 to 19 percent in the interwar period, compared to less than 5 percent prior to the war). Dependence on Britain is also increasing, while dependence on France, Italy, and Japan suggests a decline.

France's trade dependence on the major powers is also much lower in the interwar period than it was prior to World War I. On the eve of World War II, France is most dependent on the United States and Britain (each accounting for approximately 9 percent of France's total trade in 1938). France's trade dependence on the major powers is declining, with the exception of Russia; dependence levels are still much lower relative to the pre–World War I period.

U.S. dependence on other major powers is also lower in the interwar period than it was prior to World War I. Britain remains the most important partner, but dependence levels drop to only 13 percent of total trade in 1938, compared to 21 percent in 1913. Dependence on Germany declines significantly to 4 percent in 1938, compared to nearly 14 percent in 1913. Russia, on the other hand, represents a larger share of the United States' total trade in the interwar period than it did prior to World War I. In 1938, dyadic trade with Russia represents 2 percent of the United States' total trade, a figure larger than previous periods, but still not very significant. Dependence on Japan is also higher during this period, relative to the pre–World War I period, but declines from 9 percent to 8 percent during the period 1935 to 1938.

This brief review of major power trade dependence in the interwar period reveals that in general trade dependence was much lower than in the pre–World War I era. The war appears to have led to a reduced reliance on Germany for most states, with the exception of its allies. Here, there is a clearer distinction in the tendencies for dependence to be higher among allies than adversaries for the coming war, compared to the case in the pre–World War I era. However, the decline in dependence for the major powers was unable to stem the tide of war. Liberals, in fact, claim it contributed to the outbreak of war. What is clear is that the world wars occurred during periods in which major power trade depen-

dence was relatively high and low. Similarly, dependence levels in some cases were high with both allies and adversaries, making it difficult to draw any definitive conclusions about the relationship between interdependence and war.

Regarding the argument that major powers are less dependent on each other in the post–World War II era than they were in previous eras, the indicators of partner dependence support that view. Again, we must recognize that Waltz (1979) referred to more than trade ties, but trade ties should be highly correlated with other forms of economic and even noneconomic bonds, if liberal theories about integration are correct. The major power club changes after World War II, just as it did after World War I. The main example Waltz cites as evidence of decreased interdependence is the case of the United States and the Soviet Union. Data on this dyadic relationship are limited until after 1980. The few figures that are available during the Cold War clearly indicate that U.S.-Russian trade ties were less salient relative to each state's total trade than they were in the pre–World War II period. It is interesting to note that after the publication of Waltz's book in 1979, Russia's trade dependence on the major powers increases. This undoubtedly relates to Russia's increased integration into the global economy, following the disintegration of the Soviet Union.

While U.S. dependence on Russia has grown, it remains insignificant, accounting for less than 1 percent of the United States' total trade. U.S. dependence on other major powers also remains low, with Britain, France, and China each accounting for less than 5 percent of the United States' total trade in 1992. Again, the dependence levels I find are much lower than they were in the past. For Britain, the United States remains the most important trading partner, but France is increasing in importance; British-French trade accounts for almost 10 percent of Britain's total trade in 1992, compared to 11 percent conducted with the United States. British dependence on China is also growing, but this dyadic relationship accounts for less than 1 percent of Britain's total trade, a figure comparable to Britain's dependence on Russia. The highest levels of dependence for any major power are found in China's dependence on the United States. In 1992, U.S. trade ties represented more than 21 percent of China's total trade. This level is extremely high compared to other trade ties between major powers in the post–World War II period and is similar to the levels of dependence observed between major pow-

ers in the pre–World War I era. We also see an increase in China's dependence on Russia, which accounts for about 4 percent of China's total trade.

In conclusion, interdependence—if conceived of as dependence between the major powers—has declined significantly over time. Many of the same patterns of the states upon whom one state depends most heavily persist for long periods of history, but the amount that any state is dependent upon another state has declined significantly relative to earlier periods in history. With respect to the dyadic-level analyses conducted previously, this suggests that the high levels of interdependence associated with conflictual relationships are less likely to obtain. Similarly, if we conceive of systemic interdependence as defined by major power relations, as Waltz emphasizes, then systemic interdependence and the conflict associated with it should be less likely. The expansion of globalization has created more linkages, which may have actually reduced the dangers that may be associated with depending too heavily on any one partner. Instead, states have the freedom to exit undesirable relationships. This suggests that the expansion of trade globally may be beneficial for peace, since it leads to less dependence at the dyadic level. At the same time, it is difficult to speak definitely about any of the propositions that would link major power trade to war. It is apparent that important trading partners may be allies or adversaries in war; similarly, adversaries may emerge from war and return to being important trading partners.[4] While globalization is expanding, in terms of the extent of types and extent of linkages between states around the globe, the amount that any one state is dependent upon another appears to be declining over time. Recent trends in globalization may have created freedoms that were not present in earlier historical periods that witnessed high economic interdependence. My analysis, however, does point to some exceptions to the apparent decline in dyadic dependence. In the case of China and Russia, we see each state relying more heavily on other major powers. The extent of dependence approaches the types of relationships that my findings suggest would reach dangerous levels of dependence.

Again, whether one considers the world more interdependent and more conflictual than in the past depends upon how we conceive of interdependence and conflict. What is apparent is that the growth of global trade may be associated with declines in partner dependence at the dyadic level, including dependence between major power dyads. In fact,

the expansion of global trade offers new opportunities of freedom to redirect trade ties among a more diverse group of states. The dependence one has on any one state becomes less significant and perhaps less likely to engender conflict. In that respect, the decrease in dependence for the major powers may represent a positive development. Policy efforts to strengthen the bonds of dependence between these states may be met with caution. In the next chapter, I consider the policy implications of my findings in greater detail, particularly how they relate to dyadic interactions.

The analyses presented in this chapter reveal that where scholars focus their attention may alter the conclusion they reach about the impact of interdependence. The evidence suggests that some elements of trade may have a pacifying effect at the national level. Scholars should investigate more thoroughly the link between national and dyadic attributes of interdependent relationships. For example, I argue that trade's impact on conflict may vary depending upon the costs and benefits of a given relationship. Yet, I am assuming that some relationships are more costly or beneficial than others, without directly measuring whether this assumption is accurate. Unfortunately, it is difficult to measure the noneconomic benefits and costs of interdependence. I initially assumed that those states who were enjoying growth in GDP were more likely to derive benefits from trade and less likely to engage in conflict if they depend heavily on trade. In preliminary analyses (not reported here), I examined whether one-year and five-year growth patterns in total trade and/or GDP affected the basic analyses reported at the monadic level. I found no evidence that a state's enjoyment of positive growth in GDP or total trade reduced the likelihood that it would experience conflict. While I found this surprising, in light of my tendency to tie notions of growth in wealth to notions of trade's benefits, a more reasonable explanation for the lack of significance may reside in the tendency for wealthy states to engage in more conflicts. Even if some states are deterred from engaging in conflict during periods of relative growth, there appears to be a general tendency for wealthy states to have a greater propensity to engage in conflict. From this chapter, it also becomes clear that more work is needed to integrate theoretical propositions about the impact of trade on conflict at the monadic, dyadic, and system levels of analysis. Thus far, additional pieces of information about trading relationships appear to raise additional questions that require exploration.