journal of peace RESEARCH

vol. 36, no. 4, 1999, pp. 387–404
Sage Publications (London, Thousand Oaks, CA and New Delhi)
[0022-3433 (199907) 36:4; 387–404; 008897]

Globalization and Peace: Assessing New Directions in the Study of Trade and Conflict*

KATHERINE BARBIERI

Department of Political Science, Vanderbilt University

GERALD SCHNEIDER

Faculty of Public Administration, University of Konstantz

'Globalization' has largely superseded the term 'economic interdependence' to describe the rapidly growing links between nations, economies, and societies. The effects that the internationalization of the world system has on social equality, the environment, and economic growth are, however, still largely disputed. In this article, we discuss the literature that covers another intensively debated issue and which attempts to assess the relationship between trade and interstate conflict. Although liberal economists maintain that economic interdependence exerts an unconditionally pacifying influence on interstate relations, we show that the most recent formal work expects that trade will have a negligible and, in the perspective of one important model at least, even an amplifying effect on conflict. Much empirical work, by contrast, supports the claim that the relationship between trade and conflict is direct and not mitigated by contextual factors. We review the different controversies on the link between economic interdependence and militarized disputes and outline some major challenges that have not yet been adequately dealt with in the scientific study of war and peace.

Introduction

The contemporary surge in economic interdependence referred to as 'globalization' has evoked rampant speculation about the impact of increased levels of trade and investment on interstate relations. Most leaders still cling to the longstanding belief that expanding economic ties will cement the bonds of friendship between and within nations that make the resort to arms unfathomable. In contrast, realist and Marxist critics reject this liberal view with the same vigor as internationalization skeptics debate the allegedly beneficial or neutral effects of globalization. Hence, critics of the 'trade promotes peace' hypothesis argue that economic interdependence may have either a negligible or amplifying effect on international conflict.

In this article, we review the contribu-

* An earlier version of this paper was presented at a research seminar at the University of Konstanz. Our thanks go to the participants, especially Thomas Plümper and Torsten Selck. We also received helpful comments from Han Dorussen, Andrew Enterline, Nils Petter Gleditsch, John Oneal, James Lee Ray, and Bruce Russett. The authors would also like to thank the International Studies Association for a workshop grant that provided the means for several colleagues to participate at two panels held at the Annual Convention of the organization in Minneapolis, March 1998. Several of the papers collected in this special issue were presented for the first time during this meeting. Gerald Schneider would like to extend his gratitude for a scholarship under the German–Norwegian cultural agreement enabling him to present some of the ideas presented in this article during lectures at PRIO in April and August 1998, and to the Norwegian Research Council for travel support for this second visit.

tions that the scientific study of war and peace has recently made to this important debate. In particular, we bridge the gap between the theoretical and empirical research on this topic. While some recent empirical work supports the hypothesis of an unconditional and positive relationship between trade and peace, the proponents of non-cooperative game-theory show that the impact of trade is contingent upon a set of other factors such as enforcement and monitoring mechanisms or the size of the international system (Dorussen, 1997, 1999; Morrow, 1997; Skaperdas & Syropoulos, 1996). This new work indirectly refutes the assertion that increasing costs create a sufficient deterrent to conflict when trade ties are extensive.

We argue, on the one hand, that empirical studies could profit from a more solid micro-foundation. Krugman's (1996) assertion that firms and not states trade suggests that recent contributions to the debate are problematic. Currently, most formal and statistical models rely on the much criticized unitary actor assumption usually associated with realist thinking, the heavily disputed antipode to liberalism in the theory of international relations. Although trade theorists generally disaggregate the 'state', most work on the trade–conflict question in international relations, with the exception of Weede (1995), ignores this approach. On the other hand, we also stress that the current debate suffers from the different sides in the trade–conflict debate relying on a relatively small foundation of empirical findings. Unfortunately, there are few independent evaluations of the competing claims made by any one camp (e.g. Hegre, 1998).

Before moving to a critical discussion of the underlying assumption and practices of trade–conflict researchers, we compare the contributions of three different formal modeling traditions – expected utility, cooperative, and non-cooperative theory. We then assess the extant empirical work. We conclude with the suggestion that the rent-seeking literature and theory of strategic trade might be fruitful starting points for the next generation of formal models. We also discuss ways in which empirical work on trade and conflict might be improved.

Theoretical Work on the Trade–Conflict Linkage

The relationship between economic interdependence and conflict has received considerable attention in the theoretical literature. Most of these academic discussions are, however, controversial. Within the literature relevant to the trade–conflict debate, there are a number of competing propositions with respect to the influence of trade on interstate relations: (1) the liberal argument that trade unconditionally promotes peace; (2) the argument, advanced by neo-Marxists and some neorealists, that symmetrical ties may promote peace, while asymmetrical trade leads to conflict; (3) the suggestion that trade increases conflict; and (4) the belief held by many realists that trade is irrelevant to conflict.

The 'trade promotes peace' proposition can be traced to ancient writings, but it is most commonly associated with the liberal school of thought (Angell, 1912; Blainey, 1988: ch. 2; de Wilde, 1991; Doyle, 1997: ch. 7; Selfridge, 1918; Viner, 1937). While proponents of this conviction traditionally link the pacifying elements of trade to both economic and social factors, only the former variables tend to appear in the contemporary liberal argument. However, there is also an implicit, and at times explicit, assumption that the increased contact associated with greater trade ties promotes peace and unifies states. This line of reasoning is mostly commonly associated with the writings of Karl W. Deutsch and his associates (Deutsch et al., 1957). He maintained that trade and

other forms of intercultural exchange would help foster the development of a 'sense of community', which makes the resort to violent forms of conflict resolution increasingly unlikely.

While related, the economic and sociological strands of liberal thought rely on different dynamics to explain the trade–conflict relationship. Here, we focus our attention primarily on the former arguments since they have recently received the most scholarly attention. The starting point of these models is that states are deterred from initiating conflict against a trading partner for fear of losing the welfare gains associated with the trading relationship (Polachek, 1980).

Scholars often cite Kant or Montesquieu in tracing the roots of the cost–benefit tradition in the research on trade and conflict. In this century, *The Great Illusion* by Norman Angell (1912) provides the most prominent attempt to conceive of war in times of high economic interdependence as a highly unlikely event of collective irrationality. The well-known irony of this book was that the outbreak of World War I almost immediately contradicted Angell's bold prediction. The blow to the liberal school, however, remained a temporary event. After 1945, 'embedded liberalism' (Ruggie, 1982) and thus the promotion of a multilateral order of the world trading system became the dominant ideology in the Western world.

After the disasters of the Great Depression and World War II, this conviction was so deeply entrenched in mainstream economics that only heretics from the radical fringes of the discipline dared to question it. Yet, critics of foreign trade enjoy a history equally as long as the advocates of free trade (see Barbieri, 1995, 1998b). Hirschman (1945/1980), in *National Power and the Structure of Foreign Trade*, was among the first contemporary scholars to elaborate on 'how relations of influence, dependence and domination arise right out of mutually beneficial trade' (Hirschman, 1945/1980: vii). Although not explicitly concerned with the trade–conflict relationship, Hirschman proved influential in the literature by highlighting the negative consequences of asymmetrical dependence. Hirschman's vivid portrayal of the use or abuse of power in asymmetrical relations stood in sharp contrast to the harmonious trading relationships portrayed by liberal scholars.

Dependency theorists further articulated the negative consequences of asymmetrical trade relations for the more dependent state. While the dependency argument that foreign 'penetration' was detrimental to the developing world was the source of several disputes between sociologists (for a summary, see Weede, 1996), other theorists went a step further and claimed that trade in general is detrimental to world peace. Quite ironically, Marxists and neorealists found some common ground in their skepticism towards economic interdependence. The most succinct expression was the attempt by Kenneth Waltz (1979) to link this expectation to the fear of states to profit unequally from increased levels of economic exchange. In Waltz's view, ' … close interdependence nears closeness of contact and raises the prospects of occasional conflict' (Waltz, 1979: 138). His argument was taken up ten years later by Grieco (1988) who invoked this 'relative gains argument' to assess the possibility of cooperation between trading partners. According to this argument, envy is the major impediment in the attempt to create lasting institutions. Although this hypothesis did not survive the most advanced formal statements, it had a lasting impact on the current debate.

Some scholars of trade–conflict research have built upon Hirschman's theme and the issues covered by neo-Marxists and

Dependency theorists, all of whom cite the adverse consequences of dependence, by arguing that the 'trade promotes peace' hypothesis is contingent upon the type of dependence that exists in a given economic relationship. Symmetrical ties may promote peace, but asymmetrical dependence creates tensions that may manifest themselves in conflict. The most prominent examples of this view are seen in the writings of Barbieri (1995, 1998b), Gasiorowski (1986), and Wallensteen (1973).

In sum, the early work on the nexus between trade and conflict was generally more open to the possibility that the impact of trade was not universally beneficial. Critics of commercial Liberalism recognized that economic relations were not all equal; some trading relationships provided net benefits, while others entailed disproportionate costs for the more dependent state that might result in conflict or at least fail to deter it. In the early decades of the post-World War II era, scholars appeared more mindful of the legacy of colonialism, imperialism, and neocolonialism, in which trade and conflict seemingly went hand in hand.

In contrast, scholarship in the post-Cold War period has largely ignored radical critiques of economic exchange. Currently, most policymakers and academics appear to view the contributions by the early globalization skeptics as largely irrelevant to the new liberal order. Consequently, few scholars today question the belief that trade brings universal benefits and peace under all conceivable conditions. Just as Hirschman's influence in the literature reflected a broader skepticism about trade relations, the economic prosperity of the 1980s and the collapse of Communism in the 1990s corresponded to the emergence of a new way of looking at trading relationships.

The controversies over the impact of trade were not resolved in the empirical studies of the 1970s and 1980s, but the relationship between trade and conflict received relatively little attention until the early 1990s. When some scholars began linking issues of economic liberalism to those of republican liberalism being addressed in the popular democratic peace literature, interest in the trade–conflict question grew. This extension was built on the conviction that democracy and trade reinforce each other in the construction of a peaceful world, an idea which Russett and his collaborators recently traced back to Kant (Russett et al., 1998).

Recent years have seen a growth in interest in the topic of trade and conflict. However, research has been hampered by divergent definitions of basic concepts, inconclusive insights from the theoretical side, and data ambiguities. Still, much progress has been made on a number of fronts. The subsequent two sections review the state of the art in the most prominent theoretical and empirical studies.

Moving from Expected Utility Models to Strategic Game Forms

Theoretical models on the relationship between trade and conflict are based on some assumptions about the number of relevant actors and their perception of the benefits that increased levels of interdependence might offer. Another category for the classification of the theoretical work is whether a contribution assumes that the nexus between trade and militarized conflict is unconditional and thus not contingent upon the influence of some intervening variables. We will start the evaluation of the extant theoretical work with the decision-theoretic literature, briefly discuss some cooperative game models, and conclude with a presentation of recent non-cooperative work in this area. Table I summarizes some of the most important contributions that have been

Table I. A Classification of the Formal Work on Trade and Conflict

Type of Model/Author	*Number of Actors*	*Intervening Variables Type of Model*	*Effects of Trade on Peace*
Expected Utility Models			
Polachek (1980)	1	–	Positive
Copeland (1996)	1	Expectations	Positive/Negative
Polachek (1997)	1	Democracy	Positive
Polachek et al. (1997)	1	Distance (Transportation costs)	Positive
Polachek et al. (1999)	1	Foreign aid, contiguity, country size, market power	Positive
Cooperative Game Models			
Grieco (1990)	2	Relative gains reasoning	Negative
Snidal (1991a,b)*	2	Relative gains reasoning	Positive
Powell (1991)*		Resource allocation	Positive
Non-Cooperative Game Models			
Gowa (1994)	2	Polarity, relative gains	None
Skaperdas & Syropoulos (1996)	2 and >2	Arming	Positive/negative in two/multi-actor case
Morrow (1997)	2	Resource allocation, sanctions	Negligible/Positive
Dorussen (1997)	3	Balance of power	Mixed
Dorussen (1999)	>2	Balance of power	Positive, but dependent upon system size

* Includes non-cooperative considerations.

made in the three competing sub-fields in formal theory.

Expected Utility Models

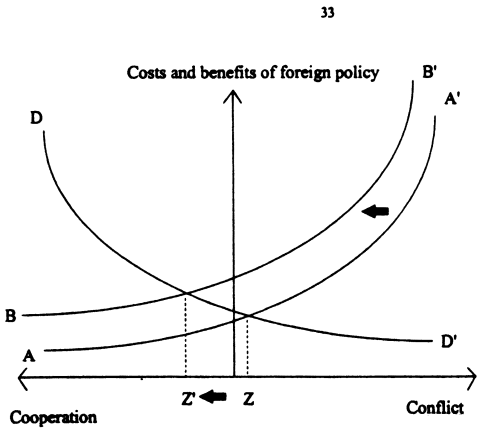
The proponents of the early expected utility models contend that the 'trade promotes peace' hypothesis is unconditional. This is largely a consequence of the unquestioned assumption that the eventual destruction of trade is costly to all parties concerned. In Polachek's (1980: 61, italics surpressed) classic statement:

> the price of being belligerent is an implicit price that increases with the level of trade. Ceteris paribus, the greater the amount of trade, the higher the price of conflict, and the less the amount of conflict that is demanded.

This unilateral perspective is derived from a country's welfare function $W = W(C,Z)$ where C represents desired consumption and Z existing hostility. The equation $C = q + m - x$ defines that consumption equals total production (q) plus imports (m) minus exports (x). Optimizing behavior then leads to the two main insights, namely that countries with comparatively high export and import levels have to count on higher costs of conflict ($\delta Z/\delta x < 0$ and $\delta Z/\delta m < 0$, respectively). Straightforward cost–benefit reasoning leads Polachek to conclude that such states are less conflict-prone than less interdependent states. A country reaches its optimal levels of conflict at the point where the benefits of more hostility ($\partial W/\partial x$) equal the costs of additional hostility ($x\partial P_x/\partial Z - m\partial P_m/\partial Z$). Figure 1 depicts the interrelationship between the costs and benefits of conflict.

Figure 1 shows that if the costs of conflict

Figure 1. The Optimal Level of Conflict



(Adapted from Polachek 1980)

increase due to a rise in imports or exports, the cost curve shifts upwards from *AA*' to *BB*'. Since the new intersection with the demand curve is to the left of the former equilibrium, the optimal level of conflict moves from *Z* to *Z'*. The same reasoning underlines extensions of this framework which consider the impact of foreign aid, contiguity, democracy, transportation costs, country size, and market power (e.g. Polachek et al., 1999).[1]

While expected utility models offer a straightforward foundation for the unconditional peace-through-trade hypothesis, they neglect the strategic interdependence between nations. A further weakness is the almost tautological reasoning that higher costs of conflict imply lower levels of conflict. Finally, the framework does not distinguish between different forms of 'conflict' and assumes in accordance with the events-data tradition that scales measuring the net level of conflict from one state to another can be constructed. It is no surprise then that political theorists have moved away from this modeling technique.

Cooperative Models

Cooperative models that address the interrelationship between trade and conflict have been mainly constructed by realist scholars. The tradition started with Grieco's (1988, 1990) attempted refutation of some claims made by liberal scholars. He claimed in accordance with the relative gains hypothesis by Waltz (1979), that a state's utility function should include not only the individual payoff *Y*, but also integrate the gap between their own payoff and that of a partner. In the resulting utility function $U = V - k(W - V)$, *W* represents the other state's payoff and *k* measures the sensitivity towards 'relative gains'. This definition is subsequently used in the analysis of two of the most commonly known normal form games, a Prisoner's Dilemma game and a Deadlock game.

Grieco stresses that relative gains concerns might override in the long term the short-term benefits of cooperation. Since states anticipate the externality that cooperation would create, they avoid any long-term agreement that benefits another state disproportionally:

> … most states concentrate on the danger that relative gains from joint action may advantage partners and may thus foster the emergence of what at best might be a potentially more domineering friend and at worst could be a potentially more powerful future adversary. (Grieco, 1988: 44–45)

Another realist, Joanne Gowa (1994), see also Gowa & Mansfield (1993), asserts that the impact of trade on conflict is an epiphenomenon which is caused by other factors. She maintains that trade increases economic efficiency, enabling states to devote resources to military purposes. Yet, the anarchy of the international system counteracts this trend by making possible more powerful adversaries. Assuming that polarity is the root

[1] The same reasoning as in Polachek's pathbreaking article can implicitly be found in Copeland's (1996) contribution in which a distinction between optimistic and pessimistic trade expectations is made.

cause of international behavior, Gowa (1994), lays the theoretical foundations for the popular adage that 'trade follows the flag' and leaves us to expect that free trade is only more probable between like-minded states.

In the cooperative setting, orthodox relative gains arguments are, however, based on the implicit assumption that the size of *k* is so large as to necessarily prevent any kind of lasting cooperation. Since zero-sum interactions are not the only form of state interaction (Snidal, 1991a,b), creating and maintaining trade partnerships is possible even if states care about distribution of the eventual benefits that interdependence creates. If growing trade represents higher absolute gains, increasing levels of economic interdependence would foster the likelihood of cooperation. Furthermore, it should be noted that the games Grieco developed are not able to capture the subtleties of the international political economy in any meaningful way, since the dichotomous choice between 'cooperation' and 'conflict' is misleading. Even Powell's (1991) admittedly simplistic optimal tariff model that yields states three options is more realistic since it includes the possibility to avoid direct confrontation with a state. This leeway is neglected in conventional two-state games.

Furthermore, the empirical question that realists have raised is a typical chicken-and-egg problem. It is thus not completely straightforward as to why polarity should be the root cause of both trade and conflict. On the contrary, one could simply surmise that alliances are expressions of economic or social interdependence and that 'trade' or other forms of societal cooperation thus predate the 'flag'. Some recent research accordingly suggests that the effect of such security externalities is negligible (Morrow, 1997) and that states continue to trade even in times of war (Morrow et al., 1998; Barbieri & Levy, 1999).

Non-Cooperative Games

The argument by Grieco was influential insofar as it inspired other researchers to probe its limitations from the vantage point of non-cooperative game theory. These critical studies were a major stimulus for the new debate on trade and conflict that started in the early 1990s. The modern non-cooperative tradition starts largely with Powell's (1991) refutation of Grieco from which a Markov perfect equilibrium of peaceful allocations was deduced. Morrow (1997) subsequently added trade to this framework, showing that economic exchange is feasible between foes. This eventuality even exists if a distinction between different types of trade goods is made – goods which increase capabilities through increasing wealth; goods which offer an immediate benefit and are thus immune to the eventual retaliatory actions of another state; and finally military goods. Unsurprisingly, the benchmark for a peaceful outcome is highest when states trade in military goods. Trade maintains a deterrent value in this context only if the short-term costs of arming outweigh the eventual long-term gain that attacking the trading partner might entail.

Morrow's model, in particular, highlights the effect that the distribution of benefits and enforcement considerations have on interstate relations. These comparative static results demonstrate that the conflict propensity of a trading state depends, to a great extent, on the size of intervening factors: 'both sides' discount factors, their attitudes toward risk, the costs of war, the postwar distribution of resources, and the magnitude of the first-strike advantage all affect equilibrium military allocations' (Morrow, 1997: 26). Enforcement concerns mainly loom large if trade concerns military goods or goods with an easily capturable surplus. In the event that trade between two states is, however, dominated by 'normal' goods, the incentive to cheat does not loom large. Since

such goods only increase the security externalities of trade in an indirect fashion, both states might gain largely through the direct growth in national welfare.

The relative gains debate in political science was accompanied by a renewed interest among economists in the linkage between trade and conflict. As Skaperdas and Syropoulos (1996) show, conflict might become more likely between a multitude rather than two trading states. This trade-off hinges on the realistic assumption that the benefits of a contested territory increase with the number of trading states. In a multi-actor world, this incentive does not exist anymore and is superseded by growing difficulties to win. Consequently, the smaller the number of countries in a non-trading world, the higher the amount of conflict. Dorussen develops (1997, 1999) such multi-actor models in a more convincing way since he allows them to conclude alliances. He convincingly shows that the benefits of trade depend on the number of states.

The insights that can be gained from this literature with respect to the link between trade and conflict are, however, limited. While Morrow's research shows that trade between enemies even occurs during wartime, the model is not easily transferred to what he suggests as a framework for analysis, deterrence models of crisis behavior.[2] Ultimately, all the extant models are based on plausible, but implicit assumptions that increased arming translates into a higher likelihood of conflict. Currently, no causal mechanism between trade decisions and conflict initiation exists. On the other hand, the models reviewed in this section have successfully dealt with the realist challenge that was formulated in the 1980s.

[2] Morrow (1999) discusses some empirical problems that might arise if one conceives of trade within a typical crisis bargaining context.

Empirical Studies

Until recently, there were few empirical studies that assessed the trade–conflict relationship in a systematic fashion. Table II presents a summary of empirical studies focused directly on the question of the impact of trade on conflict.[3] As the summary reveals, the literature has expanded rapidly in a relatively short period of time. Table II excludes a large number of unpublished conference papers that have spurred further debate and have become the focus of later published work, including Oneal & Russett's (1999) response to Barbieri (1996b, 1998a). The growth in scholarship has done little to resolve the basic question of whether trade promotes peace.

Taken as whole, statistical studies of the trade–conflict relationship provide a mixed set of findings. If we consider the conditional nature of the trade–conflict nexus discussed earlier, the apparent inconsistencies in empirical findings may be of no surprise. Confusion arises over scholars' tendency to focus their attention on different spatial and temporal domains, varying measures of trade and conflict, and employment of various sets of control variables. The differences in findings that arise from alternative research strategies may, in fact, highlight the variations in the trade–conflict relationship that exist under alternative conditions. Finally, it should be noted that only a small number of scholars have produced

[3] Here, we consider those studies that focus on the impact of trade on conflict. Most scholars recognize that conflict also affects trade, but differ over whether they believe the trade-to-conflict or conflict-to-trade relationship is dominant. Several scholars view causation as flowing from politics to trade relations and find an inverse relationship between trade and conflictual political relations at the dyadic level (Dixon & Moon, 1993; Gowa, 1994; Pollins, 1989a,b). Studies examining the mutual influence of trade and conflict include Polachek (1992) and Reuveny & Kang (1996). Barbieri & Levy (1999) examine the impact of war on trade and find variations across dyadic relationships. At the system level, Mansfield (1994) suggests that war reduces trade.

Table II. Summary of Statistical Studies of the Trade–Conflict Relationship

Author(s)	*Temporal Domain and Unit of Analysis*	*Methodological Techniques*	*Control Variables*	*Main Findings*
Russett (1967)	1946–65 41 warring dyads	Factor Analysis Contingency Tables		Trade to war [+]
Wallensteen (1973)	1920–68 144 warring dyads	Contingency Tables		Trade to war [+]
Polachek (1980)	1958–67 dyads (30 states)	Regression, Two-Staged LS	14 NAs	Trade to net conflict [−]
Gasiorowski &Polachek (1982)	1967–78 US – Warsaw Pact	Regression, Granger Causality		Trade to net conflict [−]
Gasiorowski (1986)	1948–77 dyads (130 states)	Regression	PE, GDP	Mixed
Domke (1988)	1871–1975 states	Probit		Mixed
Polachek & McDonald (1992)	1973 dyads (14 OECD states)	Regression	PE, GDP	Trade to net conflict [−]
Polachek (1992)	1948–78 dyads	Regression	DE, NA	Trade to net conflict [−]
Polachek (1997)	1948–78 dyads (11states)	Regression Three-Staged LS	17 NAs	Trade to net conflict [−]
	1958–67 dyads (30 states)		RT	Trade to democratic peace [+]
Oneal et al. (1996)	1950-85 PRD	Logit	A, EG, C, G, RT	Interdependence to MIDs [−]
Oneal & Ray (1997)	1950–85 PRD	Logit	A, C, EG, G, RP, RT	Interdependence to MIDs [−]
Oneal & Russett (1997)	1950–85 PRD	Logit	A, C, EG, GP, PC, RP, RT	Interdependence to MIDs [−]
Oneal & Russett (1999)	dyads	Logit	A, C, EG, GP, PC, R, RP	Interdependence to MIDs [−]
Barbieri (1995)	1870–1985 dyads	Logit	A, C, RT, RP	Interdependence to MIDs & wars [+]
Barbieri (1996a)	1870–1938 dyads	Logit	A, C, RT, RP	Interdependence to MIDs [+]
Barbieri (1997)	1870–1985 dyads	Logit	A, C, RT, RP	Interdependence to MIDs [+]
Mansfield (1994)	1850–1964 system	Regression	Con, EO, H	Trade to MP war [−] Openness to War [+]

A, Alliance Ties; C, Contiguity; Con, Concentration of Power; DE, Defense Expenditure; EG, Economic Growth; EO, Economic Openness; GP, Geographic Proximity; H, Hegemony; NA, National Attributes (socio-economic and demographic variables); PC, Political Change; PE, Price Elasticities; PR, Political Relevance; PRD, 'Politically Relevant' Dyads; RT, Regime Type; RP, Relative Power; TD, Temporal Dependence.

the majority of the empirical studies. Thus, while the competing camps disagree on a host of issues, each side of the debate relies on a limited foundation of empirical findings.

The earliest empirical studies that considered the impact of trade on international relations identified a positive relationship between trade and war. Bruce Russett (1967) finds that pairs of states united in clusters of high trade are more likely to engage in war than those not so linked.

Wallensteen (1972: 104–105) further demonstrates the conflictual nature of some trading relationships. His work highlights the distinction between symmetrical and asymmetrical relations, by designating states as topdogs or underdogs in the international system. He finds that wars are most likely between structurally unequal states and finds that topdogs (the most important trading states in the system) are more likely to intervene militarily in nations that are dependent upon them economically. This finding may not be surprising in light of the high correlation between major-power status, the capacity to trade, and the ability to wage war. At the same time, it calls into question the monadic hypothesis popularized by Rosecrance (1986), and rigorously examined by Domke (1988), that trading states are more peaceful or that trade partners will refrain from conflict. The findings of these early studies are considered by some to be less reliable than the empirical work that followed, since early scholarship failed to control for the potential confounding influence of variables believed to be associated with both trade and conflict. The majority of subsequent research in this area incorporates control variables, although scholars differ over which control variables should be included in any analysis.

Polachek's (1980) move to the dyadic level of analysis provided assurance to the liberal cause and influenced all subsequent studies in the trade–conflict literature. His work has consistently revealed an inverse relationship between trade and conflict. Interestingly, the evidence provided in his initial study is based on a very limited sample of relationships. This again raises the question of whether the impact of trade is indeed universal. Moreover, Polachek's early study contains evidence that contradicts some of the basic conclusions we might reach from a superficial reading. Polachek's research agenda, for the most part, assesses the impact of trade on the overall dyadic relationship, where conflictual and cooperative events are evaluated in a combined measure of net conflict (the frequency of conflictual events minus cooperative events). In this respect, it differs from the scholarly efforts to address the question of whether trade inhibits the most serious forms of military conflict. Polachek concludes that trade promotes peace, based on the inverse relationship between trade and his net conflict indicator. Yet, if we take a closer look at Polachek's (1980) initial study, where he disaggregates his net conflict score to determine the impact of trade on different categories of conflict and cooperation, we see that trade has a positive effect on the highest level of conflict-limited acts of war, as well as the lowest level of conflict. The aggregate measure appears to mask the fact that high trade could be positively associated with the most conflictual acts. In defense of Polachek, we must recognize that his intent is to assess the impact of trade on the overall relationship between states. At the same time, the question arises over whether trade does serve to prevent the most serious forms of conflict.

Polachek has continued to refine his basic model and has provided further empirical support to substantiate his claims (Gasiorowski & Polachek, 1982; Polachek, 1992, 1997; Polachek & McDonald, 1992). Moreover, his finding that trade might increase some forms of cooperative and some forms of conflictual interactions is in itself a subject deserving of further attention. In fact, de Vries (1990), employs event data to assess the impact of interdependence on conflict and cooperation and finds that interdependence increases the intensity of interactions – both cooperative and conflictual events.

Gasiorowski (1986) provides an early critique of Polachek's work, highlighting the inadequacies of his measure of conflict. Interestingly, Gasiorowski (1986) criticizes

his own study with Polachek (Gasiorowski & Polachek, 1982), in addition to Polachek's (1980) work. He advances an adjusted measure of conflict that deals with some of the problems posed by events data and introduces additional measures of dependence. From this, he provides evidence that leads him to conclude that the previous finding that trade reduces conflict does not hold up under further scrutiny. Although the absolute volume of trade does appear to be inversely related to conflict, other allegedly more reliable indicators of trade and economic dependence are positively related to conflict. Gasiorowski concludes that the beneficial aspects of trade may promote peace, but that the costly aspects appear to be positively associated with conflict. Once again, Gasiorowski emphasizes the conditional nature of the trade promotes peace proposition.

Gasiorowski's work is indicative of several trends in the trade–conflict literature. First, as his research progresses, he refines his measures of trade dependence and conflict. Second, he offers multiple measures of trade dependence within the same analysis. Finally, he suggests that the relationship of trade to conflict is not straightforward; different factors associated with trade may have different relationships to conflict. Although the lack of consensus in the literature on the appropriate measures of dependence and conflict make it difficult to make comparisons across studies (even those carried out by the same researcher), the positive side of heterogeneity is that each study contributes additional information about what has been a relatively unexplored puzzle. It may be the case that different dimensions of dependence have different effects on conflict and that scholars who employ alternative measures are actually capturing these variations. This is a theme that has been explored by Barbieri (1995), one of Polachek's students.

Barbieri's (1995, 1996a,b, 1997, 1998b) work focuses on whether trade inhibits the most violent forms of conflict – militarized disputes and wars. Moreover, her research program seeks to incorporate a more diverse set of relationships than had previously been considered and to treat liberal and radical economic theories of trade on an equal footing. In part, she seeks to explain Polachek's finding that the relationship between trade and conflict is positive for some dyads, but negative for others.[4] She assumes that the explanation for the difference resides in whether the relationship is symmetrically or asymmetrically dependent, although she finds limited empirical support for this assumption. Her research agenda has expanded by refining measures, expanding her database to incorporate more states, relying on new statistical techniques, and focusing on the impact of trade on the various phases of the conflict process and the various characteristics of conflict. Her findings, in general, reveal a positive relationship between trade and conflict, both disputes and wars. However, as her research shifts to alternative levels of analysis, she finds some evidence of a pacifying effect of trade at the national level (Barbieri, 1998b), confirming the studies of Rosecrance (1986) and Domke (1988). Barbieri and Bremer (1998) also find that dyads with high trade engage in shorter disputes.

The work of Oneal and colleagues (Oneal & Ray, 1997; Oneal & Russett, 1997, 1999; Oneal et al., 1996; Russett et al., 1998) represents another multi-staged research project designed to identify the relationship between trade and militarized disputes. Like Barbieri, the research group around John Oneal and Bruce Russett focuses on the relationship between trade and militarized

[4] This finding was communicated in personal discussions and has also been discussed by Polachek at several conference presentations, in which he provided scatter plots of the dyadic relationship between trade and conflict. We are uncertain whether or not this finding has previously been published.

conflict. However, they consistently find an inverse relationship between trade and conflict. The agenda of this group also differs from Barbieri's in that it seeks to incorporate trade within the broader context of what has been referred to as 'the Kantian tripod for peace' (Russett et al., 1998), which entails a broader conception of the liberal vision of peace beyond commercial liberal prescriptions. In fact, the democratic peace was the central focus of the team's early research efforts, with trade being treated as a control variable (Oneal & Ray, 1997; Oneal et al., 1996). As the importance of trade became apparent, it appears to have taken a more central role in this group's scientific agenda.

Like others, the research of Oneal and colleagues has progressed by refining measures and data, expanding the domain of inquiry, and incorporating new statistical techniques. Their latest results, for example, incorporate a control for temporal dependence in logit models. While the influential study of Beck et al. (1998) did not reveal a significant impact of trade on conflict after the introduction of such controls, Oneal and Russett (1999) show the opposite to be true. Although these efforts are to be applauded, they also create some difficulty in comparing findings across studies.

While the majority of empirical studies focus on the dyadic level of analysis, several scholars have focused on either the national or the systemic level of analysis. As indicated, Barbieri (1998b) and Domke (1988) provide evidence that trade-dependent states are less war prone. Surprisingly, there has been little empirical research on the relationship between trade and conflict at the system level, despite the prominent position that this level of analysis has had in theoretical discussions about interdependence. The main exception is Mansfield (1994), who finds that major-power wars are less likely during periods of high trade, but that they are more likely during periods of economic openness. The view that an open economy will be beneficial for peace appears to be contradicted, while that of high trade being more peaceful appears to be supported. Mansfield goes on to report that variations in his results arise from employing alternative datasets and measures, which raises questions about the robustness of the relationships identified.

Some Challenges: Rent-seeking, Neo-Institutionalism, and Data Validity

What are the origins of the contradictory explanations and evidence regarding the impact of trade on interstate relations? Within the empirical literature, scholars have attempted to identify the factors giving rise to the inconsistent findings (Barbieri, 1996a, 1998a; Oneal & Russett, 1999). To date, no compelling theoretical rationale has been offered for why empirical findings differ, other than the fact that scholars pursue very different inquiries, with different samples, data, measures or modeling techniques. To shed some light on this unsettling puzzle, we review the main challenges in the theoretical and the empirical domain in the next two sections.

Theoretical Issues

The theoretical work on the trade–conflict issue has been largely successful in refuting some of the claims made by realist scholars. The neo-Marxist challenge, by contrast, never did find a firm theoretical response. To our knowledge, only Weede's empirical studies, and the informal model that he derives from it, offer a partial explanation of why trade-dependent states might be more democratic and peaceful (Weede, 1995).

Despite the relative success of the liberal strand, it is not clear whether the current modeling strategies will ultimately be as successful in dealing with some further challenges that lay ahead. In other words, most

advanced theoretical work is still based on a set of implicit assumptions that seem at least to be questionable. To give a notable example, formal work starts from the premise that nation-states are rational unitary actors who try to maximize national welfare. The reliance on such a behavioral rule is surprising because political economists abandoned the chimera of a benevolent dictator a long time ago. A particularly pertinent example is Krugman (1996: 22) who refuted the claims of some strategic trade theorists by pointing out that 'competitiveness is a meaningless word when applied to national economies'. He maintains that international trade is not a zero-sum game since countries can profit from the success of their rivals. Furthermore, the main agents are firms that try to compete on the international market or seek government protection because of a lack of competitiveness.

This point is important insofar as the trade–conflict literature has not yet been convincingly linked to the rent-seeking literature, which disaggregates the state and shows how protectionist groups prevent trade. If governments are indeed dependent on interest groups, this should enable us to test a point raised by dependency theorists; why do states often act against the will of the majority, opting instead for the destruction of trade links and even a conflictual solution to an interstate disagreement. Generally, the inclusion of domestic actors in formal models would allow us to detect the much needed causal mechanisms between political institutions and conflict behavior. It is quite plausible that distributional coalitions are more successful in some political systems than in others, leading to social inequality and fostering the likelihood of civil unrest. Rent-seeking theory might thus also be fruitful for those researchers who try to analyze the links between trade and civil war, a topic that has not been addressed in the 1990s, but which will certainly receive more attention in the coming decade.

If formal theorists stick to the unitary actor assumption, they might use strategic trade theory rather than the relative gains hypothesis as an analytical starting point. This formal theory lays a foundation for the claim that helping imperfectly competitive industries can also serve the country at large. Some strategic-trade theorists have shown that the benefits of tariffs may be greater than zero even after other states retaliate and punish the country that is pursuing unilateral strategies. These models could be especially fruitful in the reassessment of the claims made by expected-utility theorists that the link between trade and conflict is unconditional. In particular, the pursuit of unilateral interests typically examined in these models could be used to study forms of coerced trade, an issue which has been dropped from the research agenda in the 1990s.

Empirical Issues

One fundamental empirical issue, often ignored, is whether we are capturing the complex relationship of economic interdependence, given the limitations inherent in trade and other economic statistics. If we are unable to measure interdependence, can we assess its impact? All empirical analyses face problems of measurement error, particularly when we rely upon historical statistics. Yet, trade–conflict researchers appear to minimize or ignore problems posed by data limitations. Economists have for decades questioned the accuracy and reliability of official trade statistics as an indicator of real trade ties (Bhagwati, 1964, 1967,; De Wulf, 1981; Ely, 1961; Morgenstern, 1963; Sheikh, 1974; Yeats, 1978, 1990) but trade–conflict researchers seem to ignore the implications that this has for their research.

Trade–conflict researchers tend to focus on differences between what are often elaborate measurement constructions of inter-

dependence. Yet, even before measures are constructed, the basic value that trade researchers ascribe to a relationship or state might differ dramatically, depending upon the decision rules they adopt for dealing with trade statistics. Scholars select different sources for trade and exchange rate figures, rely on different country reports for dyadic figures, and treat missing data and reports of no trade differently. Even scholars who focus on the same spatial and temporal domain may work with different interdependence figures. This might comprise a major source of the discrepant findings in the trade–conflict literature.

The larger issue, of course, is whether official trade statistics serve as an accurate indictor of real transactional flows (see Yeats, 1990). States may have political or economic reasons to undervalue or overvalue their trade reports with a given country. In some instances, trade reports, rather than trade itself, may reflect the political relationship between states or the economic conditions of a country. In addition, there are other data limitations that make it difficult for scholars to obtain an accurate picture of economic bonds. For example, activities such as trade in services and investment flows, which are reported in national statistics, are not readily available at the dyadic level. Another example, for which there appears to be no resolution, is the large volume of trade that embodies illegal trade activities. Data limitations may determine the manner in which scholars conceptualize and operationalize economic interdependence. Thus, our measures may not accurately reflect the economic bonds whose impact we seek to explain.

What implications does this have for trade–conflict researchers? Researchers might, for example, paint a very different picture of the relationship, depending upon which country's statistics they use. For example, Yeats (1990), finds that in some cases, 'countries listed by the exporters as the largest markets for exports often fail to report any corresponding imports' (Yeats, 1990: 152). Some scholars assume that the absence of a trade report or a zero trade value in national accounts indicates that no trade takes place between countries (Oneal & Russett, 1999). Yet, a dyadic relationship may be ranked as number one in importance for one country and may be reported as non-existent for the other state that reports no trade. This raises both conceptual and empirical problems for trade–conflict researchers.

Researchers must maintain a healthy degree of skepticism about the accuracy of trade statistics and seek additional ways of supplementing measures of economic interdependence. At a time when scholars are adopting increasingly sophisticated statistical techniques to address previous analytical deficiencies, it may be more appropriate to take a step backward and examine the extent to which we are able to capture economic ties. The potential problems posed by measurement error seem substantial enough to warrant attention. We must resist the tendency to speak about our findings with a degree of certainty that is not realistic given the degree of error in our data. We cannot expect data to resolve controversies when the data themselves contain their own inherent controversy. We must develop ways to supplement our information base, such as developing a greater appreciation for combining qualitative and quantitative techniques.

Moreover, scholars link their arguments about the ability of trade to deter conflict to notions concerning the costs and benefits of a trading relationship. More attention is needed to develop measures of these costs and benefits, rather than assuming that they are directly related to the value of the trade ties. This might allow us to begin to determine whether beneficial trading relation-

ships are peaceful and whether costly relationships are conflictual.

At a minimum, the main lesson for researchers who are interested in the trade–conflict question is that we have only begun to unravel the mysteries of this important relationship. Further work is needed in this area if we are to identify the conditions under which trade promotes peace and those in which it appears to exacerbate tensions.

Conclusion

This overview has discussed the ways in which recent research has dealt with the interrelationship between trade and conflict. The recent re-examination of the liberal claim has led to an upsurge in theoretical and empirical work on this issue. Although no consensus on the effects of trade has been reached, the new generation is much more skeptical and does not believe that economic interdependence unconditionally pacifies interstate relations. This is in considerable contrast to the empirical literature where the unconditional peace through trade-hypothesis still enjoys support.

Rather than assuming that a definitive conclusion can be reached about the impact of trade on interstate relations, the ambiguities in the formal models and the statistical evidence suggest that more attention is needed in assessing the factors responsible for variations in trade's impact under different contextual conditions and different forms of dependence. Moreover, the lack of robustness in findings across studies raises questions about the strength of the relationship between trade and conflict. If the relationships we identify in disparate research efforts are truly robust, they should hold up under seemingly related concepts of interdependence and under different conditions captured by our choice of domain and control variables. This is at least what the experience of the democratic peace debate suggests. In addition, there are several possible explanations for discrepant findings that have not been adequately addressed but that have serious implications for all trade–conflict literature. Finally, some important extensions of the current debate have remained under-explored in recent years. One prominent example is the relationship between other facets of interdependence and conflict. 'Globalization' describes mainly the explosive growth in foreign direct investment and the international capital markets. Whether the ensuing 'monetarization' of international relations pacifies states or contributes to internal and external instability is an open question. We hope that the next generation of formal and statistical research will address these points.

References

Angell, Norman, 1912. *The Great Illusion. A Study of the Relation of Military Power in Nations to their Economic and Social Advantages.* London: Heinemann.

Barbieri, Katherine, 1995. *Economic Interdependence and Militarized Interstate Conflict, 1870–1985*. PhD Dissertation. Binghamton, NY: Department of Political Science, Binghamton University.

Barbieri, Katherine, 1996a. 'Economic Interdependence: A Path to Peace or Source of Interstate Conflict?', *Journal of Peace Research* 33(1): 29–49.

Barbieri, Katherine, 1996b. 'Explaining Discrepant Findings in the Trade–Conflict Literature'. Paper presented at the International Studies Association Annual Meeting, San Diego, CA, 16–20 April.

Barbieri, Katherine, 1997. 'Risky Business: The Impact of Trade Linkages on Interstate Conflict, 1870–1985', in Gerald Schneider & Patricia A. Weitsman, eds, *Enforcing Cooperation: 'Risky' States and the Intergovernmental Management of Conflict*. London: Macmillan (202–231).

Barbieri, Katherine, 1998a. 'International Trade

and Conflict: The Debatable Relationship'. Paper presented at the International Studies Association Annual Meeting, Minneapolis, MN, 18–21 March.

Barbieri, Katherine, 1998b. *Trade and Conflict: Assessing the Impact of Interdependence on Militarized Conflict.* Unpublished manuscript.

Barbieri, Katherine & Jack S. Levy, 1999. 'Sleeping with the Enemy: The Impact of War on Trade', *Journal of Peace Research* 36(4): 463–479.

Beck, Nathaniel; Jonathan Katz & Richard Tucker, 1998: 'Taking Time Seriously: Time-Series-Cross-Section Analysis with Binary Dependent Variable', *American Journal of Political Science* 42(4): 1260–1288.

Bhagwati, Jagdish N, 1964. 'On the Underinvoicing of Imports', *Oxford Bulletin of Economics and Statistics* 27(4): 389–397.

Bhagwati, Jagdish N, 1967. 'Fiscal Policies, The Faking of Foreign Trade Declarations, and the Balance of Payments', *Oxford Bulletin of Economic and Statistics*. 29(1): 61–77.

Blainey, Geoffrey, 1988. *The Causes of War*, 3rd edn. New York: Free Press.

Copeland, Dale C., 1996. 'Economic Interdependence and War: A Theory of Trade Expectations', *International Security* 20(4): 5–41.

Deutsch, Karl W.; Sidney Burrel, Robert Kann, Maurice Lee, Martin Lichterman, Raymond Lindgren, Francis Loewenheim & Richard van Wagenen, 1957. *Political Community and the North Atlantic Area*. Princeton, NJ: Princeton University Press.

De Vries, Michiel S., 1990. 'Interdependence, Cooperation and Conflict: An Empirical Analysis', *Journal of Peace Research* 27(4): 429–444.

De Wilde, Jaap, 1991. *Saved from Oblivion: Interdependence Theory in the First Half of the 20th Century. A Study of the Causality Between War and Complex Interdependence*. Aldershot: Dartmouth.

De Wulf, Luc, 1981. 'Customs Valuation and the Faking of Invoices', *Economia Internazionale* 34(1): 13–33.

Dixon, William J. & Bruce Moon, 1993. 'Political Similarity and American Foreign Trade Patterns', *Political Research Quarterly* 46(1): 5–25.

Domke, William K., 1988. *War and the Changing Global System*. New Haven, CT: Yale University Press.

Dorussen, Han, 1997. 'Trade Coalitions and the Balance of Power'. Paper presented at the ECPR Joint Sessions of Workshops, Bern, 27 February–4 March.

Dorussen, Han, 1999. 'Balance of Power Revisited. Multi-Actor Models of Trade and Conflict', *Journal of Peace Research* 36(4): 443–462.

Doyle, Michael W., 1997. *Ways of War and Peace. Realism, Liberalism, and Socialism*. New York: Norton.

Ely, J. Edward, 1961. 'Variations between US and Its Trading Partner Import and Export Statistics', *American Statistician* 15(2): 23–26.

Gasiorowski, Mark, 1986. 'Economic Interdependence and International Conflict: Some Cross-National Evidence', *International Studies Quarterly* 30(1): 23–28.

Gasiorowski, Mark & Solomon W. Polachek, 1982. 'Conflict and Interdependence: East-West Trade and Linkages in the Era of Détente', *Journal of Conflict Resolution* 26(4): 709–729.

Gowa, Joanne, 1994. *Allies, Adversaries, and International Trade.* Princeton, NJ: Princeton University Press.

Gowa, Joanne & Edward D. Mansfield, 1993. 'Power Politics and International Trade', *American Political Science Review* 87(2): 408–420.

Grieco, Joseph M., 1988. 'Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism', *International Organization* 42 (Summer): 485–529.

Grieco, Joseph M., 1990. *Cooperation Among Nations. Europe, America, and Non-Tariff Barriers to Trade.* Ithaca, NY & London: Cornell University Press.

Hegre, Håvard, 1998. 'Does Trade Promote Peace?'. Paper presented at the 32nd Annual Meeting of the Peace Science Society (International). East Brunswick, NJ, 16–18 October.

Hirschman, Albert O., 1980. *National Power and the Structure of Foreign Trade*. Berkeley, CA: University of California Press. [Originally published in 1945.]

Krugman, Paul, 1996. *Pop Internationalism.* Cambridge, MA: MIT Press.

Mansfield, Edward D., 1994. *Power, Trade, and War.* Princeton, NJ: Princeton University Press.

Morgenstern, Oskar, 1963. *On the Accuracy of Economic Observations*. Princeton, NJ: Princeton University Press.

Morrow, James D., 1997. 'When Do "Relative Gains" Impede Trade?', *Journal of Conflict Resolution* 41(1): 12–37.

Oneal, John & James Lee Ray, 1997. 'New Tests of the Democratic Peace: Controlling for Economic Interdependence, 1950–85', *Political Research Quarterly* 50(4):751–775.

Oneal, John R. & Bruce M. Russett, 1997. 'The Classical Liberals Were Right: Democracy, Interdependence, and Conflict, 1950–1985', *International Studies Quarterly* 41 (March): 267–294.

Oneal, John R. & Bruce M. Russett, 1999. 'Assessing the Liberal Peace with Alternative Specifications: Trade Still Reduces Conflict', *Journal of Peace Research* 36(4): 423–442.

Oneal, John R., Frances Oneal, Zeev Maoz & Bruce Russett, 1996. 'The Liberal Peace: Interdependence, Democracy and International Conflict, 1950-1986', *Journal of Peace Research* 33(1): 11–28.

Polachek, Solomon W., 1980. 'Conflict and Trade', *Journal of Conflict Resolution* 24(1): 57–78.

Polachek, Solomon W., 1992. 'Conflict and Trade: An Economics Approach to Political International Interactions', in Walter Isard & Charles H. Anderton, eds, *Economics of Arms Reduction and the Peace Process.* Amsterdam: North-Holland (89–120).

Polachek, Solomon W., 1997. 'Why Do Democracies Cooperate More and Fight Less: The Relationship between International Trade and Cooperation', *Review of International Economics* 5(3): 295–309.

Polachek, Solomon W. & Judith McDonald, 1992. 'Strategic Trade and the Incentive for Cooperation', in Manas Chatterji & Linda Rennie Forcey, eds, *Disarmament, Economic Conversion, and Management of Peace.* New York: Praeger (273–284).

Polachek, Solomon W.; John Robst & Yuan-Ching Chang, 1997. 'Geographic Proximity and Interdependence: The Relationship between Distance, Trade and International Interactions'. Unpublished manuscript. Binghamton University & Chinese Cultural University.

Polachek, Solomon W.; John Robst & Yuan-Ching Chang, 1999. 'Liberalism and Interdependence: Extending the Trade–Conflict Model', *Journal of Peace Research* 36(4): 405–422.

Pollins, Brian, 1989a. 'Does Trade Still Follow the Flag?', *American Political Science Review* 83(2): 465–480.

Pollins, Brian, 1989b. 'Conflict, Cooperation and Commerce: The Effect of International Political Interactions', *American Journal of Political Science* 33(3): 737–761.

Powell, Robert, 1991. 'Absolute and Relative Gains in International Relations Theory', *American Political Science Review* 85(4): 1303–1320.

Reuveny, Rafael & Heejoon Kang, 1996. 'International Trade, Political Conflict/Cooperation, and Granger Causality', *American Journal of Political Science* 40(3): 943–970.

Rosecrance, Richard, 1986. *The Rise of the Trading State: Commerce and Conquest in the Modern World.* New York: Basic Books.

Ruggie, John G., 1982: 'International Regimes, Transactions and Change: Embedded Liberalism in the Postwar Economic Order', *International Organization* 36(2): 379–416.

Russett, Bruce M., 1967: *International Regions and the International System: A Study in Political Ecology.* Chicago, IL: Rand McNally.

Russett, Bruce; John R. Oneal & David R. Davis, 1998. 'The Third Leg of the Kantian Tripod for Peace: International Organizations and Militarized Disputes, 1950–85', *International Organization* 52(3): 441–467.

Selfridge, H. Gordon, 1918. *The Romance of Commerce*. London: Bodley Head.

Sheikh, Munir, 1974. 'Underinvoicing of Imports in Pakistan', *Oxford Bulletin of Economics and Statistics* 36(4): 287–296.

Skaperdas, Stergios & Constantinos Syropoulos 1996. 'Competitive Trade with Conflict', in Michelle R. Garfinkel & Stergios Skaperdas, eds, *The Political Economy of Conflict and Ap-*

propriation. New York: Cambridge University Press (73–95).

Snidal, Duncan, 1991a. 'Relative Gains and the Pattern of International Cooperation,' *American Political Science Review* 85(3): 701–726.

Snidal, Duncan, 1991b. 'International Cooperation Among Relative Gains Maximizers', *International Studies Quarterly* 35(4): 387–402.

Viner, Jacob, 1937. *Studies in the Theory of International Trade*. New York: Harper and Brothers.

Wallensteen, Peter, 1973. *Structure and War: On International Relations 1920–1968*. Stockholm: Raben & Sjögren.

Waltz, Kenneth, 1979. *Theory of International Politics*. New York: Random House.

Weede, Erich, 1995. 'Economic Policy and International Security: Rent-Seeking, Free Trade and Democratic Peace', *European Journal of International Relations* 1(4): 519–537.

Weede, Erich, 1996. *Economic Development, Social Order and World Politics*. Boulder, CO: Lynne Rienner.

Yeats, Alexander, 1978. 'On the Accuracy of Partner Country Trade Statistics', *Oxford Bulletin of Economics and Statistics* 40(1): 341–361.

Yeats, Alexander, 1990. 'On the Accuracy of Economic Observations: Do Sub-Saharan Trade Statistics Mean Anything?', *The World Bank Economic Review* 4(2): 135–156.

KATHERINE BARBIERI, b. 1965, PhD in Political Science (Binghamton University, 1996), Assistant Professor, Vanderbilt University (1998–).

GERALD SCHNEIDER, b. 1962, PhD in Political Science (University of Zurich, 1991), Professor of Political Science, Fakultät für Verwaltung-wissenschaft, Universität Konstanz (1997–); Executive Editor, *European Union Politics*.