Economic Analysis of
International Law†

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I. INTRODUCTION

Richard Posner wrote in 1986 that the law and economics movement is “perhaps the most important development in legal thought in the last quarter century.”¹ Through its application of economic theories and methodologies to legal issues, this movement has revolutionized our understanding of many areas of common law and statutory regulation. Curiously, however, the law and economics revolution has, with few exceptions, bypassed international law,² perhaps for some of the same reasons that realist political scientists ignore international law, or perhaps because of a concern that economic analysis is somehow less useful in the international context than in the domestic context. The purpose of this Article is to begin an inquiry into the actual and potential application of law and economics to international law.

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2. But see Economic Dimensions in International Law: Comparative and Empirical Perspectives (Jagdeep S. Bhandari & Alan O. Sykes eds., 1997) (offering a collection of articles that approach international law topics from a law and economics perspective) [hereinafter Economic Dimensions]. In particular, see Ronald A. Cass, Introduction: Economics and International Law, in Economic Dimensions, supra, at 1. In the Appendix, we provide a selected bibliography of articles using economic approaches to international legal issues.
With the rejection of both natural law theory and state-centered positivism as sources of theory for international law, international lawyers seek both theory and methodology. As a result, international legal scholarship too often combines careful doctrinal description—here is what the law is—with unfounded prescription—here is what the law should be. This scholarship often lacks any persuasively articulated connection between description and prescription, undermining the prescription. International legal scholarship lacks a progressive research program.

In response, several international law scholars have turned to other disciplines. Some, such as Kenneth Abbott and Anne-Marie Slaughter, have led the way into international political theory, including international political economy, and have begun a thoughtful arbitrage. At the same time, the international political scientists were engaged in their own rationalist arbitrage, borrowing from various components of economic theory and game theory. While there are valuable tools to be borrowed from political scientists, our focus here is on the rationalist tools that are largely borrowed from economics, and, in several cases, from law and economics.

Economics is the study of rational choice. As such, it plays a leading role in evaluating the effects of rational maximizing behavior under conditions of scarcity. Economics enjoys an advantage over other disciplines in rationality-based analysis, simply because this analysis is central to economics, and economics has developed this analysis extensively. The development has largely been in the mathematical realm, the so-called "blackboard economics." However, at this point in the development of economics—and of international law—the more mathematical models do not yet seem to engage the core issues of international law. Economics as practiced by lawyer-economists often involves complex cost-benefit analyses. This approach is often useful, but has important limitations due to problems of administrability, commensurability, and interpersonal comparison of utility.

3. For one account of this search, see Anne-Marie Slaughter Burley, International Law and International Relations Theory: A Dual Agenda, 87 Am. J. Int’l L. 205 (1993) (charting the emerging connections between international law and two schools in political science, Institutionalism and Liberalism).


5. See, e.g., Kenneth W. Abbott, Modern International Relations Theory: A Prospectus for International Lawyers, 14 Yale J. Int’l L. 335 (1989) (outlining the major strands of international relations theory and suggesting their relevance for international law); Slaughter Burley, supra note 3; Anne-Marie Slaughter et al., International Law and International Relations Theory: A New Generation of Interdisciplinary Scholarship, 92 Am. J. Int’l L. 367 (1998) (reviewing recent uses of international relations theory in international law scholarship and proposing an agenda for the integration of the two disciplines).
However, the more promising economic methodologies, in terms of their capacity to generate a progressive research program that might usefully address persistent international law problems, may not be those that teach us to balance the costs and benefits of any particular policy, but rather those that focus on the balancers: international institutions (including the general international legal system). Indeed, the threshold issue in many, if not all, international legal problems is that of institutional choice. What institution—market, domestic legislature, adjudicatory body, or international rule-making body—ought to decide, for example, if one state’s intellectual property standards are too low, or another’s environmental standards are too high? The answers to questions like these ought to be informed by an understanding of the relative institutional competencies and capacities of the various alternatives, as well as by an appreciation of the strategic interactions among the various institutions.

We believe that economic analysis may be able to shed substantial light on precisely these sorts of inquiries. Significantly, this form of analysis is not limited to questions of wealth maximization. As we note below, if economic analysis were limited to wealth maximization, this would be reason alone to reject, or at least sharply limit the domain of, the economic analysis of law. In fact, the extension of economic analysis to fields beyond traditional markets requires economics to revise its approach to include the maximization of additional values, or, more accurately, to include the maximization of multiple values simultaneously.

To develop this thesis, this Article proceeds in seven parts. In Part II, we identify three reasons why international lawyers have not, to date, extensively used economic analysis, and demonstrate that none of these reasons is persuasive. This “negative” argument does not, of course, establish that international lawyers should use economic analysis. In Part III, we provide a reason to believe that economic analysis will enrich our understanding of international law by outlining the analogy between the market of international relations and the traditional markets for goods. While others have alluded to this analogy before, we provide a typology of the ways in which “transactions” in international relations resemble market interactions.

6. By institutions, we mean not only organizations such as the United Nations or the European Union, but also treaty structures and other non-organizational structures that constrain future behavior. The essence of an institution is that it constrains future behavior; an organization is an institution that actually takes action over time. See, e.g., Elias L. Khalil, Organizations Versus Institutions, 151 J. Inst. & THEORETICAL ECON. 445 (1995) (distinguishing organizations which, the author argues, are agents with preferences and objectives, from institutions, which amount to social constraints).

7. See infra Sections II.B, VII.B, VII.C.
Those who reject the analogy between international relations and private markets need not reject the economic analysis of international law. In the next three Parts of the Article, we test the hypothesis that economic analysis will be useful in understanding international law topics that are similar to domestic law topics where economic analysis has been fruitful. Thus, Parts IV, V, and VI explore the applicability of economic analysis to three important international law topics: the allocation of prescriptive jurisdiction, the law of treaties, and the competences of international organizations. In each Part, we analogize the international legal issue to a domestic legal issue, and then explore whether the economic methodologies that have been useful domestically can also be used on the international plane. In Part IV, we outline an analogy between prescriptive jurisdiction and property, and then apply transaction cost economics and economic analysis regarding the design and protection of entitlements to jurisdictional issues. In Part V, we outline the analogy between treaties and contracts, and explore whether the efficient breach hypothesis and the game theoretic analysis of default rules can illuminate our understanding of treaty law. In Part VI, we analogize international organizations to business firms and examine whether the theory of the firm can inform current debates over international organizations. To anticipate our conclusions, we will identify certain methodologies included in the new institutional economics and in the public choice branch of economics, such as game theory and transaction cost economics, as having greater promise than other economic approaches, including price theory used without reference to transaction costs or strategic considerations.

Like all theoretical approaches, economic analysis has its limitations. In Part VII, we outline some of the problems associated with this type of analysis. Some of these problems are also present, although not as starkly, in the economic analysis of domestic law. Other difficulties arise from the particular features of the international legal system. We believe that our identification of these difficulties can inform a research agenda to further our understanding of the appropriate domain of economic analysis of law.8

Finally, in Part VIII, we briefly set forth some ideas about a future research program. We also provide, in an Appendix, a bibliography of literature that uses economic tools to analyze international legal issues.

We emphasize that our analysis and examples are intended to be illustrative and suggestive rather than exhaustive. We by no means attempt to explore every international legal issue that can be informed by economic analysis, nor do we attempt to apply every possible economic methodology

8. In other words, we do not simply treat law and economics (L&E) as a source of theory that international law can passively accept. Rather, we see the intellectual arbitrage as potentially running in both directions and believe that international law can inform our understanding of L&E. See Slaughter et al., supra note 5, at 379 (showing that international lawyers use international relations theory to help explain international law, and use international law to help explain international relations theory).
to the international legal problems we do address. Instead, this Article represents an "invitation": we hope to stimulate a series of inquiries into the utility of different forms of economic analysis in evaluating a variety of international legal norms and institutions, and, in so doing, to enrich international legal discourse and scholarship.

II. WHY HAVE INTERNATIONAL LAWYERS AVOIDED LAW AND ECONOMICS?

While there may be many explanations for why international legal scholars have not participated in the law and economics (L&E) revolution, we believe that many international lawyers would identify at least one of the following three concerns: (1) L&E's seemingly inaccessible methodologies; (2) L&E's supposedly conservative political prejudices; and (3) L&E's positivism and its presumed denigration of international law. However, we believe that each of these concerns rests upon a misunderstanding of relevant law and economics methodologies. In this Part, we attempt to clear up the confusion underlying each of these objections, and to explain why they provide no rationale for declining to investigate whether L&E methodologies can illuminate international legal problems.9

A. Inaccessible Methodologies

As George Stigler explains10, there are two roles that economics can play in law. The first, traditional, role of economics is to answer particular questions.11 For example, economics can speak to the question of market definition in antitrust or antidumping, or to the question of whether two products are "like," with the result that discrimination between them is prohibited,12 by reference to cross-elasticities of demand. In this first role, economic analysis supplies inputs to a legal rule, and we might refer to this role as "economic analysis in law." This role, which requires the full tools of the professional economist, and can be undertaken without any help from lawyers, is not the focus of this Article.

9. In Part VII, infra, we identify more serious difficulties associated with the economic analysis of international legal issues.
10. See George Stigler, Law or Economics, 35 J.L. & Econ. 455, 467 (1992).
11. See id.
"A second, more controversial role for economics is in the study of legal institutions and doctrines." This is "economic analysis of law," and is the domain we explore below.

Many of us are uncomfortable with economics, both because we distrust its theory and methodology, and, more embarrassingly, because we are uncertain that we have the quantitative or other skills needed to use these tools. Complex graphs, charts, and multivariable equations may deter those trained in the law from employing economic analysis. These tools, however, are not necessary for all types of economic analysis of law and, in fact, the highly mathematical formal analysis that economists often use has, to date, shed little light on the issues that most interest international lawyers. Many of the most relevant and useful tools of analysis for our issues do not require great mathematical skill.

For example, international legal scholars should find few obstacles to the use of the new institutional economics. New institutional economics seeks to integrate neoclassical economics, which has concentrated on the workings of the price system (in fields amenable to pricing), with institutional analysis. Institutions, including both organizations and legal rules, are by definition entities that make or constrain decisions outside the formal price mechanism. In order to study institutions, it is necessary to add consideration of transaction costs and of the effects of strategic behavior (game theory); both are areas with which international lawyers are already familiar.

In brief, the new institutional economics incorporates price theory, transaction cost economizing, and game theory. It incorporates, and is also incorporated in, economic analysis of property rights, public choice theory, and positive political economy. A primary tool of this approach is comparative institutional analysis—a form of analysis already at the heart

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14. We do not mean to overstate this point: in many contexts, "blackboard economics" provides important insights into problems. To avoid it simply because we do not understand it would be as ignorant as to avoid important scholarship or primary materials simply because they are published in another language.


21. See, e.g., Neil K. Komesar, Imperfect Alternatives: Choosing Institutions in Law, Economics and Public Policy (1994) (emphasizing the central need for the analysis of institutional choice in economics and policy); Coase, supra note 15, at 229; Bruno S. Frey,
of much international legal scholarship. In fact, like Molière's Bourgeois Gentilhomme, international lawyers may find, to their surprise, that they have always spoken new institutional economics, because one of the lawyer's principal tools of analysis is comparison. On the other hand, we would not be writing this Article if we did not feel that the new institutional economics offers substantial counterintuitive insights.

B. Political Prejudices and the Subordination of Noneconomic Values

Much criticism of economic analysis on the domestic level focuses on the alleged political biases inherent in this form of analysis. Thus, critics have objected to economists' alleged commitment to laissez-faire economic policy, or supposed ideological allegiance to libertarian or conservative political positions. Stated most bluntly, economic analysis is often dismissed as providing an ideological justification for the unconsidered rejection of government intervention.

Similarly, economic analysis may be rejected for its supposed elevation of the market, and the economic values that are maximized in market settings, at the expense of other important values. This argument would suggest that economic analysis cannot adequately account for difficult-to-quantify or incommensurable social values, and necessarily devalues or subordinates those values to economic values.

Again, however, we believe that these related objections do not fatally undermine efforts to apply all L&E methodologies to international legal issues. First, the methodologies that we find most promising do not have a "bias" against government regulation and/or in favor of the market. Rather, the methodologies we focus on accept the potential validity—both the

Institutions Matter: The Comparative Analysis of Institutions, 34 EUR. ECON. REV. 443 (1990) (highlighting interactions between economics and institutions and their importance for economic theory); Douglass C. North, Institutions, Transaction Costs and Economic Growth, 25 ECON. INQUIRY 419 (1987) (exploring the historical obstacles to economic growth in the context of the political/economic institutional framework of economies in history and consequent transaction costs); North, supra note 17 (explaining that theory can be used to integrate neoclassical theory with an analysis of the way institutions modify choice); Oliver Williamson, Comparative Economic Organization: The Analysis of Discrete Structural Alternatives, 36 ADMIN. Sci. Q. 219 (1994) (combining institutional economics with contract law and organization theory to differentiate different forms of economic organization).

22. Scholars from across the political spectrum share this view. See, e.g., George J. Stigler, The Politics of Political Economists, in ESSAYS IN THE HISTORY OF ECONOMICS 51, 52 (1965) ("[T]he professional study of economics makes one politically conservative."); Morton J. Horwitz, Law and Economics: Science or Politics?, 8 HOFSTRA L. REV. 905 (1980) (discussing the tendency of economic analysis to produce politically conservative views). We understand this to be a claim that economists tend to support decentralized markets over other institutions. See Russell Hardin, Magic on the Frontier: The Norm of Efficiency, 144 U. PA. L. REV. 987, 2014 (1996). As explained more fully in the text, we think this charge of conservative bias cannot fairly be leveled against the methodologies we find most promising.

23. We address the problems associated with incommensurability in Section VII.C, infra.
legitimacy and the efficiency—of government processes. Contrary to the claims of the critics, in the methodologies upon which we focus “neither market nor nonmarket forms of organization are primary.” Instead, under this understanding, legislation—no less than the market—is a mechanism for preference revelation; however, both the market and the law (the state) are imperfect as such mechanisms. The methodologies we explore take as central (and open) the question of which “institution,” including potentially the market, ought to be used in any particular context.

To be sure, the governmental processes that might be used are not necessarily efficient in monetary or monetized terms: they might not pass a cost-benefit analysis that has regard only for monetary or monetized benefits. But this cannot be the measure of validity, as there are many values that are not readily monetizable but that are still worthy of expression, either in private conduct or in political action. They are also worthy of being traded for monetary or monetized values, and such “trade” is presumptively efficient. We emphasize these points to reach out to those who reject law and economics as politically doctrinaire or ignorant of non-monetized values, and we argue that any dogma or ignorance is a political prejudice that is not necessitated by economic analysis itself.

While we believe, as explained below, that L&E analysis has much to say about questions of institutional choice, the actual decisions are, of course, made through political processes. It is in this sense that politics is the leading mechanism, as it still retains kompetenz-kompetenz to determine the border between its domain and that of the market, and the methods we examine do not question this priority of the political over the economic.

C. Positivism and the Denigration of International Law

A fundamental tenet of law and economics is its positivism, meaning its emphasis on empiricism and analysis of the world as it is, as opposed to a “normative” perspective of the world as it should be. The line between positive and normative economics is frequently unclear, as positive analysis is frequently motivated by or used to support a normative critique. While
positivism is the *sine qua non* of social science, international lawyers have long done battle with a brand of international legal theory that is called "positivist." Those critical of international legal positivism might see little reason to expect economic positivist methodologies to illuminate international legal issues. Again, however, we think that this objection to the use of L&E methodologies lacks force. In particular, it confuses the positivism of law and economics with other forms of positivism.

To the extent that international lawyers confront positivism, it is often in the context of the Westphalian positivist view of the world: a world of "billiard ball" states that interact only with one another. Moreover, this Westphalian positivist view is often associated with the dominant anarchic, self-styled "realist" perspective on international relations that holds that states are not bound by law, since they themselves maintain a monopoly on coercive force. However, this perspective is neither truly realist nor truly positivist.

This is why many international lawyers and international legal scholars reject the Westphalian positivist model. They argue that the model either ignores—or cannot explain—many of the most important phenomena on the international legal scene, including the rise of non-state actors; the importance and, at times, relative independence, of international organizations; and the binding force of international law. Thus, there is little room in Westphalian positivism for binding treaties to allocate regulatory authority, or for the pooling of regulatory authority in international organizations. In this model, international agreements only last as long as the short-term interests that motivated them; they are epiphenomenal to the power and interest equation that explains egotistical state action of the moment. There is little room for the incursions on sovereignty experienced in the European Union (EU), or for the strengthened dispute resolution of the World Trade Organization (WTO), or for many of the other institutions that constitute the core of what international lawyers do and study. In this sense, international lawyers rightly understand positivism to turn a blind eye to precisely those phenomena that interest them the most.


But "positivism" has different meanings in different disciplines, and the positivism of L&E is very different from the positivism associated with Westphalian realism. While Westphalian positivism is state-centric, L&E positivism rests upon methodological individualism. Methodological individualism assumes that each person is in charge of his or her own utility function and is a rational evaluative maximizer. It posits no values other than that of individual choice. Methodological individualism, otherwise known as consumer sovereignty (perhaps more felicitously termed "individual sovereignty" in a world in which markets are not the sole forum for revelation of preferences), is a cosmopolitan concept that stands in opposition to the state sovereignty erected by Westphalian positivism.

Methodological individualism easily lends itself to contractarian approaches to issues involving cooperation and/or conflict. Analogizing from the domestic to the international, the positivism associated with economic analysis easily lends itself to treaty-based or institutional responses to international issues involving cooperation and/or conflict. For this reason, the positivism associated with economic analysis tends to highlight—rather than ignore—the treaties, institutions, and other international legal phenomena that are most interesting to international legal scholars.

In short, the most common reasons advanced for not exploring whether L&E might enrich our understanding of international law are not persuasive. The L&E methodologies most likely to be useful are not terribly exotic and,


33. Although economists and other social scientists study the limits and domain of this assumption, it still provides the basis for most models. This rationalism entails self-interest, although neither the definition of "self" nor the definition of "interest" is uncontested. Rather, self-interest is being reexamined to accommodate behavior that seems or is normative, altruistic, or self-abnegating. See Christine Jolls et al., A Behavioral Approach to Law and Economics, 50 Stan. L. Rev. 1471 (1998) (drawing attention to cognitive and motivational problems of individuals and governments to illustrate that behavioral law and economics offers answers distinct from those offered by the standard economic analysis of law).

34. See Joseph Schumpeter, On the Concept of Social Value, 23 Q.J. Econ. 213, 214-17 (1909) ("For only individuals can feel wants.").

35. Methodological individualism actually requires a contractarian approach, as it argues that the only reason for entering society is to maximize individual preferences. A Pareto-efficiency test of whether individual preferences are maximized in this type of context asks whether each individual agrees, at some level, to the arrangements. This search for individual agreement requires and validates a contractarian approach.

36. Many lawyers may also object to another attribute of law and economics' positivism—its insistence on the distinction between things as they are and things as they ought to be, between "is" and "ought"—arguing that law necessarily entails a normative dimension. As this issue has been thoroughly explored elsewhere, we do not revisit it here. See, e.g., Herbert Hovenkamp, Positivism in Law and Economics, 78 Cal. L. Rev. 815, 815 (1990) (arguing that the "unconstrained application of economic positivism to legal analysis produces an impoverished view of the goals of law."); Avery Weiner Katz, Positivism and the Separation of Law and Economics, 94 Mich. L. Rev. 2229 (1996) (arguing that one of the foremost cultural differences between the disciplines of law and economics is economists' methodological commitment to positivism); Anthony J. Sebok, Misunderstanding Positivism, 93 Mich. L. Rev. 2054 (1995) (outlining an historical account of the evolution of legal positivism in American jurisprudence).
in fact, have a structure and focus that should be familiar to international lawyers. In addition, these methodologies do not have a bias in favor of the market as opposed to the state, or for economic values as opposed to other values. To the contrary, these methodologies take as central and contingent the question whether market or nonmarket mechanisms are appropriate in any particular instance. Finally, these methodologies do not deny a role for, or the reality of, international law. Instead, they direct us towards the very phenomena that are already at the center of the international legal agenda.  

Of course, demonstrating that arguments against the use of L&E analysis lack force is not, in itself, any reason to believe that L&E analysis will be useful to international lawyers. It is to this task that we now turn.

III. THE STRUCTURAL ANALOGY: THE SUPRA-MARKET OF INTERNATIONAL RELATIONS AND GAINS FROM TRADE

Before engaging in the economic analysis of international legal problems, we will explore whether international legal problems have some characteristics in common with those already addressed by law and economics. While it is not necessary for our purposes that the analogy be perfect, or even good (although we think it is), relevant similarities facilitate the transfer of tools from the domestic sphere to the international. Hence, we outline here the argument that transactions in international relations are analogous to transactions in private markets. This argument has already been made in applying economic tools to many nonmarket circumstances, including subjects as diverse as politics and family life. In subsequent sections, we outline arguments for more specific analogies between particular international legal problems and particular domestic legal problems.

At its core, the relevant similarity is that international society, like any society, is a place where individual actors or groups of actors encounter one another and sometimes have occasion to cooperate, to engage in what may broadly be termed “transaction[s].” This analogy has been developed by,
inter alia, Abbott, Keohane, Krasner, and Waltz.\textsuperscript{40} In this literature, markets are understood to arise out of the activities of individual persons or firms. These individuals seek to further their self-defined interests through the most efficacious means available. While each individual acts for himself, "[f]rom the action of like units emerges a structure that affects and constrains all of them. Once formed, a market becomes a force in itself, and a force that the constitutive units acting singly or in small numbers cannot control."\textsuperscript{41}

So, too, for the international system.\textsuperscript{42} Like economic markets, the international system is formed by the interactions of self-regarding units—largely, but not exclusively, states. These utilitarian states interact to "overcome the deficiencies that make them unable to consummate . . . mutually beneficial agreements."\textsuperscript{43} Actors in each system are willing—to some extent—to relinquish autonomy in order to obtain certain benefits.\textsuperscript{44} Both the international and the domestic systems, then, are individualist in origin, spontaneously-generated and unintended products of self-interested behavior.\textsuperscript{45}

The assets traded in this international "market" are not goods or services per se, but assets peculiar to states: components of power. In a legal context, power is jurisdiction, including jurisdiction to prescribe, jurisdiction to adjudicate, and jurisdiction to enforce. In international society, the equivalent of the market is simply the place where states interact to cooperate on particular issues—to trade in power—in order to maximize their baskets of preferences. To be sure, states may also trade in money or physical assets; however, the unique feature of states is their possession of

\textsuperscript{40} See, e.g., ROBERT O. KEOHANE, AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY (1984) (emphasizing that international cooperation is based on shared interests and partially on mutual agreement); KENNETH N. WALTZ, THEORY OF INTERNATIONAL POLITICS 24–26 (1979) (describing the international system in terms of the relative power positions of states and the need for an imperialist state or group of states to maintain power surpluses over others); Abbott, supra note 5, at 375–77 (discussing how state interaction resembles firms and the market); Stephen Krasner, Global Communications and National Power: Life on the Pareto Frontier, 43 WORLD POL. 336 (1991) (arguing that institutional arrangements are better explained by the relative power distribution among various national actors than by concerted efforts to solve problems of market failure); Stephen Krasner, State Power and the Structure of International Trade, 28 WORLD POL. 317 (1976) (correlating the presence of a hegemonic power with openness of the international trading system). Other international law scholars have noted the transactional nature of international relations without explicitly drawing the analogy to market transactions. See, e.g., IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 603–34 (4th ed. 1990) (discussing sources of law on treaties and other international transactions); 2 OPPENHEIM'S INTERNATIONAL LAW 1179 (Robert Jennings & Arthur Watts eds., 9th ed. 1992) (describing the nature of international transactions among nation states and distinguishing between unilateral and multilateral actions).

\textsuperscript{41} WALTZ, supra note 40, at 24–26.

\textsuperscript{42} Rejection of this analogy is not fatal to our larger project in this Article. One could, for example, reject the "larger" analogy between international relations and market transactions, but nevertheless accept the "smaller" analogies between, for example, contract and treaty, or the international organization and the firm.

\textsuperscript{43} KEOHANE, supra note 40, at 83.

\textsuperscript{44} In fact, the contractarian model is more easily applicable to the international system than to the domestic, as the international system has more viable exit options.

\textsuperscript{45} See KEOHANE, supra note 40, at 83–84.
governmental regulatory authority in the broad sense. International law is concerned with the definition, exchange, and pooling of this authority.

States enter the market of international relations in order to obtain gains from exchange. For present purposes, we can understand the structure of this market as follows: Beginning from the state of nature, the first level of “trade” is that which establishes constitutional rules—rules about how subsequent and subordinate rules will be made. The next level of trade is that which allows departure from the state of nature: establishment of market-organizing rules of non-coercion, property rights, and contract. These rules facilitate additional transactions among states. Finally, institutions can be established to constrain (positively or negatively) transaction choices in the future. Of course, in contexts where there are no gains from trade, there should be no trade; that is, depending on the context, no cooperation, no treaty, and/or no integration may result. This idea is implicit in price theory-based neoclassical economics. We identify below some of the possible sources of gains from exchange.

A. Externalities and Exchange

Actions or inactions of states may have positive or negative “effects” on other states. Thus, for example, the environmental law (or deficiencies therein) in one state may be associated with adverse or beneficial effects (negative or positive externalities) in other states, because (for example) the first state’s law permits pollution that flows to other states. Domestic environmental laws may also “cause” adverse effects in other states by being too strict regarding the entry of foreign goods into the national market, or too lax with respect to domestic industries, resulting in competitiveness effects (pecuniary externalities). Externalization through regulation that fails to protect foreign interests, pecuniary externalization through strict regulation that has protectionist effects or through lax regulation that may be viewed as a subsidy, and subsidization itself may all be viewed as questions of prescriptive jurisdiction: which state—or international body—will have power to regulate which actions?

These external effects may cause other states to wish to alter some of these activities, through their own regulation or through changes in the first state’s regulation. There are two main ways to do so: the first is bilateral persuasion; the second is through institutionalization. Bilateral persuasion may involve force, exchange, or implicit reciprocities (either specific or

46. As described below, spillovers of public goods may provide incentives for states to transact. For an analysis of spillovers of public goods, and the consequent market for agreement constraining or facilitating spillovers, see Albert Breton, Public Goods and the Stability of Federalism, 23 KYKLOS 882 (1970).
diffuse);\(^47\) it occurs in the “spot market.” Institutionalization involves the transfer of power over time through a treaty or an international organization. However, externalization cannot be the lone touchstone for determining when local legislation might fall to integrationist goals.\(^48\) First, externalities are notoriously difficult to define.\(^49\) More importantly, the identification of externalities presupposes established property rights; that is, economists take property rights as givens, and define externalities based on the effects of one person’s actions on the property rights of another, although the latter may not have any legal recourse.\(^50\) But in the regulatory context identified above, it is precisely the scope of each state’s power—its jurisdiction—that is at issue. This must be defined before we can properly speak of externalities.\(^51\) Finally, even if we could define externalities separately from property rights, we might expect that “property rights develop to internalize externalities when the gains of internalization become larger than the cost of internalization.”\(^52\)

Of course, the creation of such rights—and rules regarding the allocation of jurisdiction to prescribe—raise a host of other issues. Power and wealth are, of course, central to this process. Different distributions of power would likely produce different patterns of property rights; these property rights then become the framework within which wealth is created and distributed.\(^53\) Economic analysis, primarily through the Coase Theorem,\(^54\) exposes the distributive ramifications, and therefore the inescapably value-laden nature, of the decision to create property rights and

\(^{47}\) See Robert O. Keohane, Reciprocity in International Relations, 40 Int’l Org. 1, 27 (1986).

\(^{48}\) But see Jacques Leboeuf, The Economics of Federalism and the Proper Scope of the Federal Commerce Power, 31 San Diego L. Rev. 555, 556 (1994) (arguing that externalization is the appropriate touchstone).

\(^{49}\) Demsetz recognizes that “[e]xternality is an ambiguous concept” that includes external costs, external benefits, and non-pecuniary as well as pecuniary externalities. See Harold Demsetz, Toward a Theory of Property Rights, 57 Am. Econ. Rev. Papers and Proc. 347, 348 (1967).

\(^{50}\) To a realist lawyer, this is a strange formulation: if the harm can be done with impunity, the property rights bundle must not include the relevant stick. This leads us to a recognition that the entire concept of externality begs the question of legal rights. Therefore, arguments that we should design legal rights to internalize externalities are circular.

\(^{51}\) See Joel P. Trachtman, Externalities and Extraterritoriality: The Law and Economics of Prescriptive Jurisdiction, in Economic Dimensions, supra note 2, at 642, 655-57 (analogizing rules of prescriptive jurisdiction in international society to rules of property in domestic society).

\(^{52}\) Demsetz, supra note 49, at 350. It is also plausible to expect that the costs of establishing and enforcing property rights would decline, and the benefits would increase, as population density increases. Greater functional economic integration would presumably yield similar results in the international arena.

\(^{53}\) See Keohane, supra note 40, at 18.

to “internalize” externalities. Moreover, to the extent that these property rights represent public goods, we might expect them to be under-produced by the market, acting alone. We return to these issues below.

B. Economies of Scale and Scope

Related potential sources of gains from trade are economies of scale and economies of scope. Given the increasingly global nature of society, and of problems such as environmental degradation and trade, it seems likely that there would be economies of scale, under some circumstances, in the international or regional regulation of these matters.

Economies of scale have a number of components. First, states may enjoy economies of scale in contexts where they regulate transnational actors. For example, there may be efficiencies gained through coordinated rule-making, surveillance, and enforcement activities. In the absence of these transactions, states face heightened risks of evasion, detrimental regulatory competition (which can be driven by externalization), and unjustified regulatory disharmony, all resulting in inefficiencies. Second, there may be technological economies of scale, relating to equipment, acquisition of specialized skills, or organization. Economies of scale may provide a motivation for integration in order to capture these economies.

Economies of scope are reductions in cost resulting from centralized production of a group of products, especially where the products share a common component. Once several areas of international regulation are established, economies of scope may be realized by regulating other areas. The Uruguay Round Agreements provide a good example of the utility, both ex ante and ex post, of expanding the subject matter of coverage. Ex ante, the expanded coverage of the Agreements allowed the grand bargain among those seeking liberalized trade in agriculture and textiles and those seeking new rules in intellectual property rights and services. Ex post, it added the

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55. See Bruce Ackerman, Reconstructing American Law 46–60 (1984).
56. The dividing line between externalities, on the one hand, and uncaptured economies of scale, on the other hand, is not clear. An uncaptured economy of scale is a circumstance in which, by sharing resources, two or more persons may achieve efficiencies. The failure of one to agree to share confers a detriment on the other, and is therefore analogous to an externality.
57. Of course, the fact that it is efficient to regulate activity from a global perspective does not mean that only one regulator should exist; rather it is a problem of contracting and establishing the most efficient institutional structure in response to technical or contextual factors. A similar caveat applies with respect to “economies of scope.”
possibility for cross-retaliation among these areas in WTO dispute resolution.\textsuperscript{60}

Finally, economies of scale and scope may arise from increased frequency of transactions or from longer duration of transactions. Given greater numbers of transactions in international relations, one would expect greater economies of scale. In addition, learning curve effects may, over time, give rise to economies of experience, which are economies of scale and scope that arise from repeated activity over time.\textsuperscript{61}

C. \textit{Transactions and Institutions}

States may enter into one-off unilateral transfers of power or jurisdiction, for example, when one state's courts determine that the doctrine of \textit{forum non conveniens} or another doctrine of abstention calls on them to decline adjudicative jurisdiction in favor of another forum. Alternatively, states may enter into treaties to exchange jurisdiction over time with respect to a particular subject matter. For instance, states may enter into extradition treaties whereby they agree on the circumstances under which they will transfer jurisdiction to adjudicate claims against particular individuals. In addition, states may enter into institutional arrangements—constituted by treaties—that provide for legislative capacity to agree on further exchanges of jurisdiction over time. The Treaty of Rome is a leading example of a circumstance in which an international organization is accorded power to legislate over time. Many EU harmonization directives, particularly those that provide for mutual recognition, take jurisdiction away from one state and transfer it to another.

The new institutional economics assumes a dichotomy between transactions and institutions. But between the spot market transaction and the formal organization there exist many types of formal contracts and informal arrangements, and even the formal organization is a nexus of contracts. Thus, the supposed dichotomy is, in fact, a continuum: the boundary between the transaction and the institution is blurred.\textsuperscript{62} The metric of this continuum is the relative scope of retained individual discretion: where the individual retains greater discretion, she is closer to the pole of the market; where the individual retains less discretion—and assigns more discretion

\textsuperscript{60}. Ex post trade-offs can be compared to "relational contracting," where multiple relationships give rise to greater protection against opportunism. \textit{See} Keohane, \textit{supra} note 40, at 103–04.

\textsuperscript{61}. \textit{See} Kenneth J. Arrow, \textit{The Economics of Learning by Doing}, 29 REV. ECON. STUD. 166 (1962). All of these economies may be related to the phenomenon of "spillover" often considered in connection with neo-functional approaches to international integration. \textit{See} Ernst Haas, \textit{Beyond the Nation State} 48 (1964).

\textsuperscript{62}. \textit{See} Benjamin Klein, \textit{Contracting Costs and Residual Claims: The Separation of Ownership and Control}, 26 J.L. & ECON. 367, 373 (1983) ("Coase mistakenly made a sharp distinction between intrafirm and interfirm transactions, claiming that while the latter represented market contracts the former represented planned direction.").
through contract or organization—she is closer to the pole of the firm. This continuum is translated in international economic relations to the continuum running from intergovernmentalism to integration, where integration denotes a pooling of authority.

Indeed, Coase's dichotomy of firm and market may usefully be compared to Albert Hirschman's dichotomy of voice and exit. The main difference between the market and the firm is in the duration of relations and in how decisions are made. In the (spot) market, decisions are binary: one either enters (buy) or exits (sell). The firm entails longer-term relationships, requiring that one exercise voice. Voice is heterogeneous, including various mechanisms that may amount to selective or partial exit, such as the ability to vote out a government.

These analytical perspectives allow us to understand the choices that states make in deciding how to relate to one another. There may be circumstances where it is easier (in transaction cost and strategic terms) to engage in transactions through a market-type mechanism. Alternatively, in some circumstances it may be easier to engage in transactions—to deal in power or jurisdiction—through organizational mechanisms. The recognition that these mechanisms are related and comparable allows states to compare them and to match their characteristics to particular circumstances more accurately.

Thus, states choose among varying types and locations of transactions in power. Law and economics would predict that their choice depends on factors such as transaction costs and strategic considerations. So, the United States might seek to convince other states to implement anti-bribery laws through bilateral negotiations, through the OECD (in fact the forum in which a treaty was successfully negotiated), or through the WTO (which stood in the wings as a potential alternate forum). We can see a similar set of possibilities for negotiation of rules for foreign direct investment. Capital-importing countries may constrain their sovereignty—may transfer jurisdiction—to expropriate foreign investment under bilateral investment treaties. However, the United States and other capital-exporting countries have recently attempted to achieve a multilateral agreement on investment under the auspices of the OECD. These negotiations could move to the

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63. In this context, discretion means residual discretion to be exercised in the future. This formulation can be further refined. Through decentralization within the firm, the amount of individual discretion within the firm may be made to equal the amount of discretion an individual might retain outside the firm. Thus, the continuum has two parameters: the first parameter is the degree of integration into the firm (or other integration structure, including contract); the second parameter is the degree of centralization within the firm.

WTO in order to provide (1) greater possibilities for exchange of concessions; (2) stronger dispute resolution; and (3) the possibility for cross-retaliation between varying sectors in order to enhance enforceability. Similarly, European Union member states considering a Europe-wide initiative enjoy a degree of choice as to whether to locate the initiative in the European Union, utilizing its executive, legislative, and judicial institutions, or to construct freestanding treaty regimes.

D. Limits of the Structural Analogy

It is not necessary to fully analogize the world of international relations to a private market in order to apply the tools of law and economics to the international realm. Indeed, we appreciate that the structural analogy described above has significant limitations when applied to international relations. Some of the limitations of the analogy are also limitations of the scope of applicability of economic analysis. We review below three of the more interesting and important arguments regarding the limitations of economic analysis in the international domain. Significantly, these limitations of economic analysis also exist, in less obvious form, in many of the domestic areas in which law and economics has become dominant. We develop this idea—of a bidirectional critique—in Part VII below.

1. The Problem of Non-Monetized Exchange

The international market for power is different from the market for private goods along many dimensions, some of which are discussed above. While there may well be exchange in the market of international relations, this market is not normally a cash market. Rather, it is most often a barter market, with all the difficulties and transaction costs of barter. For example, agreements within the European Community to engage in mutual recognition of regulation are a kind of barter; similarly, all trade negotiations are essentially complex, usually multiparty, barter. Trade negotiators try to value the concessions they make and receive, but this is done in an extremely inexact manner.

The fact that this market for state power is not extensively monetized does not block its economic analysis. Economists have increasingly turned their attention to the analysis of social phenomena where value is exchanged

65. A number of the most obvious dissimilarities—for example, between the role that elimination through competition plays in the economic and international political spheres—are not discussed in text because they are less relevant to our analysis. Another dissimilarity is that bargains among firms can be enforced by a third party, while this is not generally the case for bargains among states. For further discussion of third-party enforcement of bargains among international firms, see Charles Lipson, Why Are Some International Agreements Informal?, 45 INT'L ORG. 495, 503-04 (1991). But this means that states need to seek other mechanisms for ensuring compliance, as we discuss below.
but not assessed in monetary terms. While price theory-based economic analysis is rendered more difficult in non-monetized contexts, the type of institutional analysis described in this Article does not rely on monetization and is very similar in its application to the private firm and to the international organization.

Finally, even preferences that are monetized, and money itself, may not be commensurable or fungible. Again, this is much less an argument against the institutional analysis suggested here, than an argument about the limitations of price theory-based mathematical economics. The theoretical perspective of this Article would clearly be incomplete if it failed to take all preferences into account, including both those that are easily monetized and those subject to greater problems of incommensurability.

2. The Problem of State Rationality

Another potential problem with this model is that it assumes that states are rational utility-maximizers. While the assumption of rationality of individuals is under sustained attack, an assumption of rationality may be even less acceptable as applied to states, as the literature on social choice and public choice suggests. For example, Andrew Guzman has explored the question of why nations enter into treaties that appear to be contrary to their interests, and Paul Stephan has suggested that elite groups and executive branch officials can use international lawmaking processes to further their own interests, rather than broader national interests. At present, we are more interested in identifying this problem than in resolving it. For present purposes, we believe that

66. For example, the public choice analysis of politics systematically applies economic analysis to exchanges of value in the political system and outside the normal monetized market for private goods.


68. We return to the problem of incommensurability in Part VII, infra.

69. While rationalist international relations theory does not attempt to explain these preferences, liberal institutionalism recognizes the need to get inside the "billiard ball" and understand how state preferences are formed and expressed. For more on the differences between these approaches, see, for example, Robert Powell, Anarchy in International Relations Theory: The Neorealist-Neoliberal Debate, 48 Int’l Org. 313 (1994) (reviewing NEOREALISM AND ITS CRITICS (Robert O. Keohane ed., 1986) and NEOREALISM AND NEOLIBERALISM: THE CONTEMPORARY DEBATE (David A. Baldwin ed., 1993)).

70. Arrow and Buchanan suggest that organizations have no rationality of their own, but rather that they intermediate, imperfectly, for individuals. See Kenneth J. Arrow, Social Choice and Individual Values 21 (1951); Buchanan, supra note 32, at 39.


Finally, it should be recognized that private market analyses depend substantially on assumptions of corporate rationality.

3. The Problem of Endogenous Preferences

A final problem to be acknowledged here is that the structural analogy takes state preferences as exogenous. That is, state preferences are simply "given," and then strategies are developed to maximize these preferences. Preferences, however, depend on context—particularly the existing political, legal, and institutional arrangements. This suggests a logical difficulty with attempts to explain legal rules or institutions as simple aggregations of preferences; when preferences are a function of legal rules, these rules cannot, without circularity, be justified by reference to the preferences. It also suggests a dynamic element that is missing from the structural analogy. Since international institutions modify state preferences, the very preferences that might otherwise lead to institutionalization may be changed by the presence of that institution.

Recent work in international law and international relations scholarship has emphasized the ways in which state interests and even identities are not exogenously given but rather constituted through interaction on the basis of shared legal norms. Constructivist political scientists have argued "that the fundamental structures of international politics are social rather than strictly material (a claim that opposes materialism), and that these structures shape actors' identities and interests, rather than just their behavior (a claim that opposes rationalism)."74 Similar arguments have been made by international lawyers such as Harold Koh, who argues that states internalize international legal norms through a complex pattern of interactions involving both international and domestic processes of norm enunciation and interpretation.75 Hence, leading international relations and international law

scholarship seriously challenges the L&E assumption that state interests are exogenous.

We do not seek to minimize these theoretical difficulties. However, while these problems are worthy of sustained analysis and receive further attention below, they do not fatally undermine the effort to apply economic analysis to international legal phenomena. Thus, we turn to an economic analysis of three particular international legal issues: jurisdiction to prescribe, the rules of treaty, and international organizations.

IV. JURISDICTION TO PRESCRIBE AND PROPERTY RIGHTS

The discussion above implicitly analogizes domestic property to international prescriptive jurisdiction. In this Part, we pursue this analogy; in particular, we explore whether law and economics methodologies that have proven useful in the analysis of property law can be usefully applied to questions of international jurisdiction.

Economists often refer to property rights as the "ability to enjoy a piece of property,"76 or "the individual's ability to directly consume the services of the asset, or to consume it indirectly through exchange,"77 in contrast to the "bundle of rights" approach more often used by lawyers. From an economic perspective, the legal recognition of property interests is viewed as a means for the protection of the economic value of property. More importantly, the economic conception of property is broader than the legal conception, encompassing those interests in property that arise by nonlegal custom or comity.78

While neoclassical economics has often limited itself to the study of market transactions, the initial establishment of property rights is a meta-
market phenomenon and is, in a general sense, pre-transactional.\textsuperscript{79} In this sense, property rights form a substructure on which further transactions may be built; transactions then are exchanges of property rights. Recall our analogy to prescriptive jurisdiction: in the world of prescriptive jurisdiction, custom, treaty, or other international legislation would form the substructure on which further transactions in prescriptive jurisdiction could be built. These further transactions might themselves also be effected through treaties or other devices.

A. Transaction Cost Economics

Prior to Coase, economics presumed property rights but did not analyze them. Coase revolutionized our thinking about assignments of property rights.\textsuperscript{80} While Coase showed that under zero transaction costs, the allocation of property rights does not affect efficiency, under positive transaction costs—the world as it is—it is appropriate to consider the design of property rights and rules of prescriptive jurisdiction. Often, law and economics scholars call simply for clear property rights. Often, international legal scholars call for clarification of international legal rules regulating prescriptive jurisdiction. But these calls are often based either on a misreading of the Coase Theorem, or on an assumption that clarity invariably minimizes transaction costs.

It is not necessarily true that clarity always solves the problem of property rights. For example, even "clear" property rules may inappropriately distribute the "bundle of rights," leading to an inefficient underuse of resources;\textsuperscript{81} in other contexts, "muddy" rules may be appropriate even in the absence of high transaction costs.\textsuperscript{82} Similarly, it is not clear that clarity solves the problem of jurisdiction. Clarity is thought to reduce transaction costs. However, the simple minimization of transaction costs is an inappropriate goal; this perspective is incomplete without examining transaction gains.\textsuperscript{83} Moreover, the transaction gain component is also incomplete without considering those gains in net terms: subtracting

\textsuperscript{79.} See Demsetz, supra note 49, at 350–53. On the other hand, beginning from a state of nature, or in circumstances where property rights have not been developed, property rights may themselves be formulated as part of an exchange: "You recognize my exclusive rights to harvest the field that I cultivate, and I will not take game from the traps that you set." This type of exchange may be generalized to form part of a "social contract," and may result in property law. See Barzel, supra note 18, at 85–104 (stating that people can have economic rights over their property even in a society that does not have legal rights).

\textsuperscript{80.} For more on the Coase Theorem, see supra note 54.


\textsuperscript{82.} See Carol M. Rose, Crystals and Mud in Property Law, 40 Stan. L. Rev. 577, 594 (1988).

\textsuperscript{83.} See Komesar, supra note 21, at 106.
transaction loses (including opportunity costs) from transaction gains. Thus, when there are opportunity costs, including "interdependence costs," associated with agreed allocation of authority or international organization, these must enter the calculation.

While clarity is not necessarily the solution, we can formulate a rough guide to identifying solutions in particular circumstances. The most efficient rule of prescriptive jurisdiction will maximize the sum of (1) efficiency gains from allocation or reallocation to the state that values the right to exercise jurisdiction the most; and (2) transaction costs of such allocation and of reallocation following from an initial allocation to a state other than that which values the jurisdiction the most. Of course, this equation raises tremendous problems of evaluation, commensurability, and interpersonal comparison of utility.

Clarity may be the solution in circumstances where it is difficult to make the initial allocation accurately by virtue of property rules, and where transaction costs are low, allowing reallocation to the most efficient uses through transactions. Thus, if it were easy for the United States to sell, barter, or otherwise transfer for value to the European Union exclusive jurisdiction over the Boeing/McDonnell Douglas merger, or for the European Union to sell those rights to the United States, then perhaps a clear rule of exclusive jurisdiction would be the efficient solution (leaving aside for the moment the distributive question of where jurisdiction is initially assigned). On the other hand, if transaction costs are high, perhaps it is better to maintain concurrent jurisdiction or muddy jurisdiction. This amounts to a kind of institutionalization because the contending states must somehow share control of these assets (more or less cooperatively). The

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84. See Andrew Moravcsik, Preferences and Power in the European Community: A Liberal Intergovernmentalist Approach, 31 J. COMMON MARKET STUDS. 473, 492-93 (1993) ("The more divergent national policies are to begin with, the greater the costs of co-operation. Nonetheless, where these costs are outweighed by the interest in reducing negative policy externalities, international policy co-ordination can help governments reach an optimal balance between increased market access and the maintenance of regulatory standards.").

85. Buchanan and Tullock refer to the sum of costs incurred through the actions of others in the organization as "decision-making costs." See JAMES M. BUCHANAN & GORDON TULLOCK, THE CALCULUS OF CONSENT 44 (1962). John Ruggie uses this term "to mean a more general loss of control over one's own activities, resulting from the accumulation of collective constraints." John G. Ruggie, Collective Goods and Future International Collaboration, 66 AM. POL. SCI. REV. 874, 878 n.24 (1972). From an economic perspective, this relates to opportunity costs, or the costs of foreclosed options (assuming some valuation of options).

86. We can formalize this by stating that states should seek to apply the rule of prescriptive jurisdiction that maximizes the present value of net gains: $\text{NG} = \text{TG} - (\text{TL} + \text{TC})$, where $\text{NG} =$ net gains; $\text{TG} =$ gains from allocation of prescriptive jurisdiction to the state to which it is most valuable; $\text{TL} =$ loss from allocation of prescriptive jurisdiction away from other states; and $\text{TC} =$ transaction costs.

87. We address these issues in more detail in Sections VII.B and VII.C, infra.
institutionalization between the European Union and the United States, by virtue of the agreement on cooperation in competition law between the two jurisdictions, transatlantic intergovernmental ties, and the general international law system, is insufficient to bind the parties to an immediate and complete solution. However, after some period of contention, the institutionalization will no doubt be sufficient to allow a resolution.

As we will discuss below, one of several potential solutions to the problem of allocation of jurisdiction is more complete institutionalization or more extensive transfer of competences to an integrative institution, such as an ad hoc bilateral dispute resolution tribunal, or a multilateral body, such as the WTO. The availability of relatively strong dispute resolution under the WTO has served as a magnet to draw in many types of claims that otherwise would have lacked strong institutional contexts. It is in this connection that both the legal rules themselves and the institutional framework for applying the legal rules must be evaluated in order to assess the binding nature of legal structures.

A shift in the analysis began with Calabresi and Melamed’s analysis of entitlements in terms both of the party who is assigned the entitlement, and of the remedies available, beginning with the different remedies available for violation of a property right (injunction) and violation of a duty in tort (damages). They suggested that property rules may be used to promote efficient exchange where transaction costs are low, while liability rules may be appropriate where transaction costs are high. In the latter case, courts set the price of transfer, and the “owner” may be forced to accept the price so set. Thus, the choice between property and liability is a partial choice between the market and the state as the institution for effecting transfers of the relevant asset.

We might ask, why, in international society where transaction costs seem high, do we not see more liability rules, as opposed to the dominance of property-type rules? This suggests an even more puzzling question: What would a rule of liability, as opposed to property, look like in international law? First, the move to liability provides the person invading the property with a license to do so. In more advanced economic terms, it assigns an option to the invader to invade, at a specified exercise price. Second, the move to liability implicates more judgment on the part of a court or centralized institution that must determine what the invaded right was worth.

88. See Calabresi & Melamed, supra note 78. As Calabresi and Melamed correctly note, most domestic entitlements are partially protected by property rules and partially protected by liability rules. See id. at 1093. Calabresi and Melamed also note that entitlements are, at times, protected by inalienability rules. See id. at 1111–15. For present purposes, it is sufficient to discuss the two primary ways of protecting entitlements: property and liability rules.

89. These claims have been subject to sustained scrutiny. See, e.g., James E. Krier & Stewart J. Schwab, Property Rules and Liability Rules: The Cathedral in Another Light, 70 N.Y.U. L. Rev. 440, 452–65 (1995) (noting that liability rules may be inefficient, even in high transaction cost settings, if the costs of assessing damages are higher still).
to the complainant. However, as we have seen, the international legal system lacks extensive institutionalization or tribunals for assessing damages, and where such bodies exist they often lack compulsory jurisdiction. Moreover, even the major recent exception to this generalization—the WTO dispute resolution system—leaves it to the parties, at least in the first instance, to determine "damages." Why, then, does the international system utilize property and not liability rules? At least two "law and economics" answers suggest themselves. Perhaps institutions that could apply liability rules do not exist because either (1) the cost of creating a clear property rights system that would allocate jurisdictional power; or (2) the cost of setting up a complex dispute resolution system to handle the inevitable disputes that would arise; or (3) the costs of determining and assessing damages in the specific cases that would arise; or (4) the aggregate of these costs exceed the benefits to be gained by such a system. In such circumstances, it would be appropriate that the international system lacked liability rules. Even if such a system existed, if there were high costs associated with determining ex ante exactly who possessed the rights (i.e., with determining the content of the law) and high costs associated with enforcing formal legal rights, states might be reluctant to employ the system.

Furthermore, an international law "liability" system may possess many of the characteristics of a "public good." Even if the community of states would be better off with a "liability" system and the institutional apparatus to enforce it, individual states might rationally believe that they could enjoy the benefits of this system without contributing to the costs of setting it up. If every state thought this way, then none would contribute to the creation of

90. Neoclassical economics eschews interpersonal comparison of utility by institutions other than markets, but legislatures and courts are exactly nonmarket mechanisms for interpersonal comparison of utility.


92. This "excessive cost" explanation finds some support in the history of international efforts to create "liability" rules in other contexts. For example, while formal efforts to draft a treaty setting out the law of state responsibility began during the first session of the International Law Commission in 1949, no treaty has yet been produced. See John K. Setear, Responses to Breach of a Treaty and Rationalist International Relations Theory: The Rules of Release and Remediation in the Law of Treaties and the Law of State Responsibility, 83 Va. L. Rev. 1, 49 & n.88 (1997); Marina Spinedi & Bruno Simma, Introduction, in United Nations Codification of State Responsibility vii (Marina Spinedi & Bruno Simma eds., 1987).

93. The domestic analog here would be Robert Ellickson's classic investigation of the behavior of cattle ranchers in Northern California, finding that social norms and self help were more efficient regulatory mechanisms than enforcement of formal legal rules. See Robert C. Ellickson, Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County, 38 Stan. L. Rev. 623 (1986).
the liability system, and the system would never come into existence. More generally, the institutional response to underlying substantive policy problems may implicate many of the collective action problems that plague efforts to resolve the substantive problems themselves.94

Our interest here is less in resolving questions regarding the rules governing the exercise of prescriptive jurisdiction than in suggesting that economic analyses can shed substantial light on these questions. We have tried to show how transaction cost economics can inform discussions about the appropriate allocation of jurisdiction to prescribe and the various ways to resolve conflicts over prescriptive jurisdiction. Other methodologies, including game theory, can shed light on these issues as well.

B. Game Theory and Economics of Information

The design of property rights, and of rules of jurisdiction, implicate more than the maximization formula described above—as intimated above, there is also much room for strategic behavior. The jurisdictional rules should take the possibility of strategic behavior into account and seek to minimize the costs attendant thereto.

Ian Ayres, Eric Talley, Louis Kaplow, Steven Shavell, and others have evaluated the effects of strategic behavior on the design of efficient entitlements.95 They have extended the Calabresi/Melamed approach by suggesting the possible efficiency of "second order" rights. For example, Ayres and Talley examine the possibility that strategic behavior by a buyer and seller of property rights would inhibit transactions more than strategic behavior by two co-owners of an asset.96 They argue that "divided entitlements"—co-ownership—facilitate trade by providing incentives for the two parties to reveal information regarding their valuation of the asset.97 This proposition is based on the Coasean insight that transactions are possible without property: that liability rules or co-ownership rules might give rise to one party seeking to "purchase" the rights of the other party. The traditional assumption in law and economics is that transaction costs are reduced by clear property rights. By focusing on the transaction costs occasioned by strategic behavior, and more specifically on the costs of

94. See Abbott, supra note 5, at 379–81 (arguing that legal regimes are themselves collective goods that present collective action problems).
96. See Ayres & Talley, supra note 95, at 1051–53.
97. See id.
information, Ayres and Talley argue that there are circumstances—those where private information is the predominant source of transaction costs—in which transaction costs are reduced by divided entitlements—that is, by the most unclear types of allocation. While Ayres and Talley’s specific conclusions have been contested by Kaplow and Shavell, the larger point here is that a game theoretic analysis may add a substantial dimension to the transaction costs analysis described above.

Indeed, this type of analysis could have important ramifications in a number of areas. For example, it could inform the decision in international environmental negotiations to utilize an international emissions trading scheme (property rules) as opposed to a regime of state liability for transboundary pollution (liability rules). Or it might be used to compare international negotiations over global commons issues—such as the high seas or upper atmosphere—with those where “property” rights would seem to be more clearly defined, such as negotiations among co-riparians over international watercourses.

V. **TREATY AND CONTRACT**

Treaties have long been analogized to contracts. Law and economics scholarship has been enormously influential in the contract area; it is now commonplace to understand contracts—and contract doctrine—in economic terms. While the most influential work has been done using the tools of price theory, there are also substantial literatures using the tools of game theory and transaction cost economics. In this Part, we explore whether this scholarship can be usefully applied to the treaty context.

A. **Problematising Treaties**

Treaties are the principal source of international rights and obligations. Nevertheless, despite substantial treaty practice, and a well-developed law of treaties, a number of doctrinal dilemmas, such as how to harmonize conflicting treaty obligations and how to resolve the tension between the principles of *pacta sunt servanda* and *rebus sic stantibus*, remain problematic. This doctrinal confusion is symptomatic of deeper conceptual uncertainties: Why are treaties binding? Do states, in fact, comply with their treaty obligations and, if so, why? Questions like these will assume heightened importance as treaties are increasingly used to address complex economic, political, and social problems that cannot be solved unilaterally.

Past efforts to identify an underlying structure for the law of treaties have proven unsatisfactory. While the traditional, consent-oriented view of

the law of treaties has been subject to sustained attack,99 no alternative explanation has gained widespread acceptance. Recent alternatives to consent-based theories of international law—such as Thomas Franck's legitimacy-oriented approach,100 or Harold Koh's transnational legal process approach101—pay little attention to the law of treaties, and a leading book on contemporary treaty practice largely ignores doctrinal issues.102 We read this silence as an implicit commentary on the relevance of recent scholarship on treaty law and doctrine.

Might the methodologies of law and economics reinvigorate this field? Recent attempts to use rational choice and international relations models to address particular issues in treaty law represent promising efforts in this direction. But rather than focus on discrete problems in treaty law, as others have done, we wish to pose the more generalized question of whether law and economics approaches that have proven useful in the area of contracts are likely to be similarly useful in the treaty context.103

B. Domestic Analogies and Dissimilarities

International tribunals, and commentators, have long noted the domestic law analogies to treaty law.104 Rather than reproduce these discussions, we simply summarize below a number of the relevant analogies and dissimilarities between treaty and contract. This discussion provides a background for our consideration of whether the law and economics methods of analyzing contracts can be usefully applied to treaties.

99. See, e.g., JOHN L. BRIERLY, THE LAW OF NATIONS: AN INTRODUCTION TO THE INTERNATIONAL LAW OF PEACE 51–54 (Humphrey Waldock ed., 6th ed. 1963) (describing how the consent-oriented doctrine of positivism leads to a distortion of the facts of international law and fails to explain how obligation is created).

100. See THOMAS M. FRANCK, THE POWER OF LEGITIMACY AMONG NATIONS (1990) (arguing that the legitimacy of international rules and processes are a function of various factors, including determinacy, symbolic validation, coherence, and adherence).

101. Koh has outlined this approach in a series of recent writings, focusing on interactions among states and other transnational actors and discussing the internalization of international legal norms into the internal value sets of domestic legal systems. See, e.g., Koh, Legal Process, supra note 75; Koh, Nations Obey, supra note 75.

102. See CHAYES & CHAYES, supra note 75.

103. Treaties have also been analogized to legislation, and we believe that public choice analysis—which has been very influential in the analysis of legislation—could also be usefully applied to treaties. For an unconventional application of public choice analysis to apparently "deregulatory" trade liberalization agreements, see Jeffrey L. Dunoff, "Trade and: Recent Developments In Trade Policy and Scholarship—And Their Surprising Political Implications, 17 NW. J. INT'L L. & BUS. 759, 771–74 (1997).

As an agreement intended to be legally binding, a treaty is often considered to be "a form of contract."\textsuperscript{105} Like contracts, treaties are intended to serve as a source of rights and obligations between parties. Both are anchored in the mutual exchange of promises about future behavior, and, as a general matter, both create law for the contracting parties only.\textsuperscript{106} Moreover, treaties are analogized to contracts because both "derive their validity from the agreement of the parties."\textsuperscript{107} The law of treaties and the law of contracts exhibit similar structures, as both "establish rules about the making and interpretation of agreements, their observation, modification and termination."\textsuperscript{108} Thus, the bodies of law of both treaty and contract address a number of similar questions, including questions about capacity, formation, validity, breach, remedy, and termination.

However, the analogy with contract is far from complete.\textsuperscript{109} Some dissimilarities result from structural differences between the domestic and international legal orders. Other differences are doctrinal. As explained below, we believe that exploration of these differences could give rise to a fruitful research agenda. For example, a number of contract doctrines find no analog in the treaty context. A classic example is the doctrine of consideration. Long required by contract law, the doctrine helps distinguish agreements that are legally binding from those that are not, and is used to help prevent opportunistic behavior.\textsuperscript{110} Although the law of treaties also distinguishes between binding and nonbinding agreements, and disfavors opportunistic behavior, there is no corresponding requirement for consideration. Conversely, a number of treaty doctrines find no counterpart in the law of contracts.\textsuperscript{111} Finally, even where contract and treaty law address similar issues, doctrine tends to diverge. For example, contract doctrine on defenses to performance due to impossibility, frustration, and the like differ from ostensibly similar defenses to treaty performance.\textsuperscript{112}

\begin{itemize}
\item \textsuperscript{105} H.W. Malkin, \textit{Reservations to Multilateral Conventions}, 1926 \textit{Brit. Y.B. Int'l L.} 141, 142; see also Mark Janis, \textit{An Introduction to International Law} 9 (2nd ed. 1993) ("However styled, [treaties] are in the first place essentially contracts between states.").
\item \textsuperscript{107} Philip C. Jessup, \textit{A Modern Law of Nations} 124 (1948).
\item \textsuperscript{108} Mark Janis & John Noyes, \textit{International Law} 39 (1997).
\item \textsuperscript{109} See Evanghelos Raptopoulos, \textit{The Inadequacy of the Contractual Analogy in the Law of Treaties} (1990); Shabtai Rosenne, \textit{Developments in the Law of Treaties} 1945-1986, at 128 (1989) (describing how the analogy between treaty and contract is "simply false").
\item \textsuperscript{111} The well-developed treaty doctrine regarding the use and status of reservations, for example, has no counterpart in contract law.
\item \textsuperscript{112} Also, the analogy with contract is closer for some treaties than for others. While some treaties are quite similar to contracts—consider, for example, airline landing rights agreements, bilateral investment treaties, and cultural exchange agreements—other treaties can be more closely analogized to legislation. Treaties, such as the United Nations Charter, or clusters of treaties, such as
C. Price Theory and the Efficient Breach Hypothesis

Law and economics begins to approach contract with price theory. This alone is a powerful tool by which to address the enduring problem of compliance in international law. From this perspective, the key to compliance is the price of breach: where the price of a breach is sufficiently high, compliance will result. The price of breach must be measured both in terms of the measure of damages and of the extent to which institutions exist mandatorily to require the payment of damages. With this simple theoretical proposition, a research program could descriptively evaluate the relative binding nature of international treaties and could normatively suggest changes to treaty structures to enhance their binding nature, where enhanced compliance is in fact desired.113

Among the most influential—and controversial—claims made by law and economics scholars is the theory of efficient breach: There are circumstances where breach of contract is more efficient than performance, and the law ought to facilitate breach in such circumstances.114 While this theory has been enormously influential at the domestic level, its potential transferability to the international context is problematic; the different structural and institutional elements of the domestic and international legal orders suggest caution here.

The efficient breach theory presupposes effective adjudicatory and enforcement mechanisms that, in the absence of a liquidated damages clause, can determine and compel payment of the appropriate level of damages in the event of a breach. That is, where there are no institutions that can provide for payment of damages, an “efficient breach” rule cannot be operationalized. But such mechanisms are largely absent from the international context. The theory also presupposes the willingness to equate the damages suffered from the breach with a monetary payment, a presupposition that requires interpersonal (or, in this case, interstate) comparison of utility and is problematic not only in contract, but also in the context of, among others, arms control, human rights, national security, and environmental treaties.

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113. For a provocative essay questioning whether compliance is the appropriate touchstone, see George W. Downs et al., Is the Good News About Compliance Good News About Cooperation?, 30 INT’L Org. 379 (1996). For sophisticated surveys of the topic of compliance with international legal obligations, see, for example, Benedict W. Kingsbury, The Concept of Compliance as a Function of Competing Conceptions of International Law, 19 Mich. J. Int’l L. 345 (1998), which argues that the concept of compliance presupposes a theory of international law and outlines four such theories. See also Koh, Nations Obey, supra note 75 (surveying various traditions and customs that bind nations); Symposium, Implementation, Compliance and Effectiveness, 19 Mich J. Int’l L. 303 (1998).

These structural differences may help explain why questions of remedies—central to law and economics contract scholarship—occupy a relatively small role in treaty doctrine and scholarship. They are also relevant to the discussion, above, about the relationship between property and liability rules protecting entitlements. The efficient breach hypothesis would turn a contract damages rule into, in the language of Calabresi and Melamed, a liability rule; but liability rules have certain drawbacks that are especially pertinent in the international realm. First, liability rules impose on the wider community the collective expense of determining an “objective” cost of a breach. While domestic societies typically provide the “public good” of well-functioning, compulsory dispute resolution systems, the international community, as noted above, has often declined to do so. Second, liability rules represent only an approximation of the value of the breach to the promisee. Even assuming that such monetization is objectively possible for the types of “goods” exchanged by treaty—and it often is not—states may be more reluctant than individuals to subordinate their subjective valuations to the judgments of others.

Some international lawyers will reject the concept of efficient breach on a normative basis. They might argue that accepting the efficient breach hypothesis would threaten precisely the feature that renders treaties the “major instrument of international cooperation in international relations”—the belief that treaties will be obeyed, even when contrary to a state’s immediate, short-term interest. Encouraging, through law, “efficient” breaches of these treaties would undermine the fundamental rule of pacta sunt servanda, and likely render more difficult the possibility of sustained cooperation in an international community through treaty regimes.

Of course, the same objection may be raised in the domestic context. Contract is important because of the belief that contracts will be obeyed, but it is still efficient to allow breach under certain circumstances. In fact, entry into contract may be facilitated by the understanding of the parties that breach may be permitted under certain circumstances. Alan Sykes has made a similar argument regarding the GATT escape clause. This raises the

115. But see Setear, supra note 92, at 15–100 (presenting a sophisticated discussion of international legal doctrine and international relations theory on “rules of release” and “rules of remediation” that apply in the event of treaty breach).

116. See supra text accompanying note 94.

117. Perhaps this explains some of the concerns over the “democracy deficit” in the WTO, EU, and other international bodies. These bodies are increasingly making the sorts of trade-offs that are frequently made by national governments, but many question whether these bodies can appropriately make such decisions without greater democratic representation.


question of whether a liability rule, and the implicit permission for efficient breach, gives rise to incentives for inefficient strategic conduct.\(^\text{120}\)

This analysis suggests that where effective dispute resolution exists and damages can be relatively easily monetized states are more likely to adopt an "efficient breach" rule. One context in which mandatory dispute resolution now exists, and in which something akin to efficient breach is permitted, is the GATT/WTO system.\(^\text{121}\) Under the current WTO Dispute Settlement Understanding (DSU), when a WTO dispute settlement panel or the Standing Appellate Body concludes that a measure is GATT-inconsistent, "it shall recommend" that the measure be brought into conformity with the GATT.\(^\text{122}\) Once this determination is adopted by the dispute settlement body (DSB), the state can, and should, comply with the ruling by amending or withdrawing the offending measure. Alternatively, the state may retain the offending measure and, instead, provide compensatory benefits to restore the balance of negotiated concessions disturbed by the noncomplying measure. Finally, the state may choose not to change its law or to provide compensation, and, instead, suffer likely retaliation against its exports authorized by the WTO for the purpose of restoring the balance of negotiated concessions. Thus, we might usefully understand the WTO system as authorizing a member to choose to "breach" an obligation, and pay compensation to the injured party.\(^\text{123}\)

D. **Game Theory, Default Rules, and Strategic Interaction**

While game theoretic concepts have been widely used in the analysis of contract law, their application to treaties has been rather limited.\(^\text{124}\) To

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\(^\text{120}\) We identify game theoretic strategies for dealing with inefficient strategic behavior in the treaty context in Section V.D, infra.

\(^\text{121}\) In fact, as noted above, efficient breach exists in GATT in two respects. First, the escape clause provides for a type of efficient breach, available in limited circumstances. See Sykes, supra note 119, at 278-80; see also Frieder Roessler et al., The Economic Structure of Renegotiation and Dispute Resolution in the WTO/GATT System (Feb. 5, 1998) (unpublished manuscript, on file with authors) (arguing that liability rules in the GATT system facilitate efficient breach). Second, as described in the text, the dispute resolution features of GATT allow compensation for breach.


\(^\text{123}\) However, it is clear that this efficient breach, although permitted, is disfavored: "neither compensation nor the suspension of concessions or other obligations is preferred to full implementation of a recommendation to bring a measure into conformity with the covered agreements." Id. art. 22, para. 1. The argument that the DSU creates a strong preference for changing the offending measure over compensation is developed in John H. Jackson, The WTO Dispute Settlement Understanding—Misunderstandings on the Nature of Legal Obligation, 91 AM. J. INT’L L. 60 (1997).

\(^\text{124}\) Perhaps the most prominent application of game theoretic analysis to treaties has been John Setear’s application of “Institutionalist” theory—particularly aspects concerned with the notion of iteration—to the law of treaties. See John K. Setear, An Iterative Perspective on Treaties: A Synthesis of International Relations Theory and International Law, 37 HARV. INT’L L.J. 139 (1996). More
explore whether fruitful analysis is likely, we briefly survey the area where

game theoretic accounts of contract doctrine have been, perhaps, the most

influential—the analysis of default rules—and then return to treaty.125

The game theoretic analysis of default rules begins with the premise

that all contracts are necessarily incomplete. When disputes arise, courts use

“default” rules to fill these contractual gaps. These default rules thus govern

various aspects of the parties’ relationship, unless the parties contract around

them. But what default rule should a court apply?

Law and economics scholars attempt to answer this question, in part,

by identifying the causes of contract incompleteness. One cause is

inadequate knowledge: parties cannot possibly foresee every future

contingency that might arise, and the contract will be silent as to these

matters. Incompleteness can also result from strategic calculation. For

example, when the cost of negotiating contract terms is high, parties may

choose not to negotiate terms, ex ante, to cover low probability or low

magnitude contingencies.126 Law and economics scholars have argued that

when transaction costs make an explicit agreement too costly, the court

should apply a “default” rule that the parties would have reached had the

costs of negotiating not made their doing so inefficient.127

Alternatively, for opportunistic reasons one party may not reveal

information it alone possesses, precluding negotiation over particular issues.

For example, one party might withhold information that would increase the

aggregate gains from contracting in order to increase its own share of those

benefits. In situations where the cost of filling a gap ex post is greater than

the cost of negotiating an explicit bargain ex ante, some law and economics

scholars suggest “penalty” defaults that are “purposefully set at what the

recently, Setear has applied rationalist tools to the issue of remedies resulting from treaty breach. See

Setear, supra note 92.

125. Leading contributions to the literature on default rules include Ian Ayres & Robert


(1989) [hereinafter Ayres & Gertner, Filling Gaps]; Ian Ayres & Robert Gertner, Strategic

Contractual Inefficiency and the Optimal Choice of Legal Rules, 101 YALE L.J. 729 (1992); and Jason

Scott Johnston, Strategic Bargaining and the Economic Theory of Contract Default Rules, 100 YALE

L.J. 615 (1990). For a game theoretic account of contract formation rules, see Avery Katz, The

Strategic Structure of Offer and Acceptance: Game Theory and the Law of Contract Formation, 89


126. See, e.g., Steven Shavell, Damage Measures for Breach of Contract, 11 BELL J. ECON. 466, 468 (1980) (“[B]ecause of the costs involved in enumerating and bargaining over contractual

obligations under the full range of relevant contingencies, it is normally impractical to make contracts

which approach completeness.”). Thus, transaction cost analysis can be usefully applied to default

rules. See supra text accompanying notes 76–94.

127. For a discussion and analysis of this, see Jules L. Coleman et al., A Bargaining Theory

Approach to Default Provisions and Disclosure Risks in Contract Law, 12 HARV. J.L. & PUB. POL. 639, 707–09 (1989). The argument appears to assume, perhaps inappropriately in some cases, that the

transaction costs and inaccuracy costs of a court decision are less than the costs of explicit agreement.
parties would not want" in order to "give at least one party to the contract an incentive to bargain around the default rule." 128

Given that parties can always bargain their way around default rules, why study them in the first place? Law and economics scholars point out that if the gains from bargaining around the default rule are less than the costs of bargaining, then the default rule will govern the transaction. In these cases, the "initial entitlement"—provided by the default rules—will end up being the "final entitlement." Moreover, even in those cases where the gains from bargaining exceed the costs of negotiation, the default entitlement still matters because it determines who will bargain and at what cost. Given various structural factors that increase the transaction costs of negotiating treaties—including (often) multiple contracting parties and the need for subsequent domestic ratification—we might expect high transaction costs to play at least as large a role on the international plane as on the domestic. Thus, default rules—in treaty as in contract—are not simply neutral background rules designed to facilitate agreements; rather, they have important distributional implications. Moreover, these distributional implications are strongest when, as in the treaty context, transaction costs are high. 129

Many Vienna Convention provisions are default rules. Ironically, while legal scholars have devoted substantial attention to the distributional consequences of particular treaties, as far as we are aware to date no one has studied the distributional implications of the Vienna Convention's provisions—even though these provisions are generally applicable to all treaties. If the Vienna Convention is the "contract law" of international law, why is there not a body of literature analyzing its distributional effects?

Game theory could inform a rich research agenda in the treaty area. At a general level, game theory literature implicitly invites international legal scholars to focus on the strategic incentives present in treaty negotiation—a topic largely ignored in writings about the law of treaties—and provides a set of methodological tools for doing so. For those inclined to more discrete inquiries, the game theoretic contracts literature suggests a number of narrower questions about the structure and content of particular provisions of the Vienna Convention. For instance, why is it that some Vienna Convention default rules—such as those on dispute resolution—are quite frequently contracted around, while others—for example, the provisions regarding treaty breach—are rarely contracted around? 130 Do either of these rules minimize transaction or strategic behavior costs? Are these, or other Vienna Convention rules, designed to maximize the benefits states gain from entering into treaties?

128. Ayres & Gertner, Filling Gaps, supra note 125, at 91.
130. See Setear, supra note 92, at 23; see also Setear, supra note 124.
Finally, by suggesting that the default rules will determine what types of information will be exchanged during bargaining, this scholarship invites us to focus on the process of information exchange during negotiations. Law and economics scholars argue that when communication is costly and information incomplete—as is often true in the treaty context—parties will fail to realize the full potential gains from exchange. The amount of this loss depends, in part, on the institutions and rules governing bargaining, and this suggests that the Convention's rules have important consequences for the efficiency of exchange.131

Thus, game theoretic analysis can be helpful in illuminating the efficiency and distributional consequences of particular Vienna Convention rules, the law of treaties generally, and various particular treaties. We also believe that other fruitful inquiries might be possible using further refinements introduced by a transaction cost approach, as used in the section on jurisdiction, above, and the section on international organizations, below.

VI. FIRMS AND INTERNATIONAL ORGANIZATIONS

As discussed above, conflicting jurisdictional claims can be resolved through transactions in jurisdiction (through treaty or otherwise); they may also be addressed by pooling jurisdiction in international organizations. Shared ownership may be the best approach to dealing with the allocation of some types of rights. Often, shared ownership will be associated with particular types of "public goods,"132 or with "constitutional" rules governing how future decisions will be made regarding the disposition of such assets. To the extent that jurisdiction is shared or pooled, integration occurs.

All students of international law are familiar with the debate regarding the formation of, and allocation of competencies to, international organizations. This debate has been particularly pointed in recent years in the context of discussions of the competencies of the EU and the WTO.133 But we can generalize from these specific debates: Why are these organizations created, and how should they be designed? The responses to these questions have implications for sovereignty, for in asking what competencies shall be accorded to international organizations, we implicitly ask what competencies shall be left to states, and in asking how decisions shall be made in international organizations, we ask how states may retain

131. See Katz, supra note 125 (arguing that domestic contract formation rules induce particular forms of bargaining and affect efficiency of exchange).
power despite the relegation of competencies. We may ask the same fundamental question about the international organization that Ronald Coase asked about the business firm: Why does it exist and, if its existence is justified, why is there not just one big one? Coase developed the theory of the firm to answer his own question. The theory of the firm relies, implicitly, on the Coase Theorem, which focuses attention on transaction costs as the central determinant of the organization of production. The choice between organizing production within the firm or organizing production through purchases in the market, or through contract, depends on the relative transaction costs of these alternate structures.

A. Domestic Analogies and Dissimilarities

The utility of applying the theory of the firm to international organizations does not depend on a perfect analogy between firms and international organizations. Nevertheless, it is useful, in considering this analogy, to address two related questions. First, who are the real parties in interest in international organizations—the member states or their citizens? Second, assuming that citizens are the real parties in interest, how does the intermediation of their national governments affect the applicability of the theory of the firm?

While a normative contractarian, liberal, or cosmopolitan perspective suggests that the citizens of the member states are the real parties in interest, traditional realists would deny this. In practice, the answer ultimately depends on the responsiveness of the relevant state government or, perhaps more accurately, its representatives. Hence the real party in interest is indeterminate—states are neither billiard balls nor simple conduits but, like other institutions, complex mediating prisms that transmit the interests of individuals at varying speeds, with varying intensities, and with varying degrees of distortion. Because states intermediate—and since state governments generally control the exercise of states’ rights in international organizations (subject to successful claims of a democracy deficit)—there are important implications for the maximization that they effect. The values maximized through transactions are not directly those of individuals, but are the values expressed through state governments.

While corporations and international organizations have different structures, both allocate competencies and rights to make decisions in various ways. Indeed, as both types of bodies constitute means of establishing artificial persons to act on behalf of constituents, it is not surprising that they confront common issues. While the corporate governance literature explores the problem of agency costs and conflicts of interest—and seeks ways to ensure the fidelity of corporate managers to

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shareholder welfare—public choice writings on international organizations explore similar concerns regarding the pursuit by national governments—or their delegates to international organizations—of their own respective interests, rather than citizen interests.

The comparative institutional perspective suggests the desirability of reducing these agency-type costs, but we must be mindful of the costs of reduction and the availability of institutional substitutes. Thus, while the corporation creates agency costs, corporations exist, Coase argued, because the agency costs are smaller than the alternative transaction costs of the same allocation through the market.135 Just as economic actors may find that integration of a production process is superior to episodic agreements, or even long-term contracting, so states may find that they can better produce certain goods—say, international security or expanded international trade—by joining together in international organizations. Certainly this is the story of the institutional development of both the EU and the WTO.136

Obviously an international organization is not a business firm and does not have profit maximization as a goal. The international organization’s purposes and the quality of its relationships with its constituencies are quite different from those of a business firm. Yet the point of this Part is not that international organizations are business firms, but that the method of analyzing the relationships and constituencies comprising business firms can be applied to analyze the relationships and constituencies comprising international organizations. Even more fundamentally, international organizations can be explained in the same currency as business firms: the currency of comparative institutional analysis using transaction costs economizing.137

B. Price Theory

Traditional price theory and traditional neoclassical economics largely ignore institutions, particularly the firm. The microeconomic perspective on international trade has also largely ignored institutions, assuming perfect competition and zero transaction costs.138 This world of perfect competition

135. See id.
137. For a leading defense of comparative institutional analysis, see KOMESAR, supra note 21.
has no need for any institutional cooperation. But this economic perspective ignores the cost of pursuit of the gains from trade. As pointed out by Beth Yarbrough and Robert Yarbrough, neither the realist political science vision of unmitigated conflict nor the neoclassical economics vision of a perfect market fits the facts well.\textsuperscript{139} One does not believe institutions could help; the other does not believe they are needed.

C. \textit{Transaction Costs and the Theory of the Firm}

Given the possible gains from exchange in some circumstances, a transaction costs focus explains institutionalization in the form of the firm, as well as in the form of government regulation at local, national, and international levels. It frames the problem as one of comparative institutional analysis, considering all alternative institutions. Coase posited that people use the market (including contract) or the firm to organize their productive activities, depending on which produces the maximum benefits at the minimum cost in terms of transaction costs.\textsuperscript{140} More precisely, the "best" organization is the one that maximizes the positive sum of transaction gains, transaction losses, and transaction costs.

D. \textit{Operationalizing the Theory of the Firm in the Context of International Organizations}

Coase's theory of the firm has been expounded, extended, and critiqued by a host of scholars. Much of the work has sought, unsuccessfully, to operationalize the theory of the firm. We focus here on the work of the leading exponent of the theory of the firm, Oliver Williamson.

Williamson focuses on asset specificity as a basis for integration. For Williamson, an asset specific investment is one that can only realize its full value in the context of continued relations with another party.\textsuperscript{141} Such investments may provide incentives for opportunistic behavior by the other party after entering into economic relations. Williamson claims that asset specificity distinguishes the market and firm models. The market works well when asset specificity is negligible, but as asset specificity increases, transactions are more likely to be vertically integrated than carried out in the market.

\textsuperscript{139} See Yarbrough & Yarbrough, \textit{supra} note 138.
\textsuperscript{140} See Coase, \textit{supra} note 134.
\textsuperscript{141} Asset specificity may take several forms. For example, physical asset specificity may refer to unique machinery, and human asset specificity may refer to training and skills that are not readily transferable to alternative uses. See, e.g., Oliver E. Williamson, \textit{Vertical Merger Guidelines: Interpreting the 1982 Reforms}, 71 \textit{Cal. L. Rev.} 604, 613 (1983). Different types of asset specificity have different ramifications for governance. See id.
But Williamson’s understanding of asset specificity is too narrow, for it excludes otherwise indistinguishable reasons why parties might decide to contract or enter into firms or other organizations. Williamson uses as examples of asset specificity the worker who obtains special training that is only useful in the employer’s business. But what of the worker who declines one job, which will not be available later, to accept another in which she is employed at will? Perhaps the opportunity cost is also seen as an asset specific investment, but the concept soon becomes broad enough to encompass the giving, or giving up, of anything of value at an earlier stage, when corresponding value has not yet been received in return. The concept of asset specificity then becomes precisely congruent with the distinction between market and institutions developed above: the need to bind another person over time. Whenever this type of asset specificity exists, it may be useful to seek an institutional solution, either in contract or in hierarchy.

Asset specificity then becomes a term for circumstances where persons enter into relationships or transactions in which they incur costs in disproportional amounts over time. In a very clear example, bank lending, the bank normally provides cash to the borrower at the outset and needs an enforceable contract to ensure that it can rely on payments of interest and principal. In less one-sided agreements, one contract party might incur costs earlier than the other, and therefore need to rely on the other’s contractual commitment to incur costs later. Where there is no asset specificity in this sense, there is no need to bind the other person: no need for contract or other institutionalization. The same is true in international relations with respect to treaties and other institutionalization.

What makes a particular transaction in international relations “asset specific” in the broader sense used here? Again, any transaction in which one state advances consideration at a particular point in time and must rely on one or more other states to carry out their end of the bargain at a later point in time, or else experience a significant loss in its expected value, is “asset specific.” Consider, for example, recent attempts to harmonize regulation in the EU and elsewhere. When a state modifies its domestic regulatory system pursuant to a harmonization plan, it is difficult to reverse this course in response to defection by another state. On the other hand, it is relatively easy for another state to defect, and it may be difficult to identify and evaluate defection.

Or consider an agreement to reduce trade barriers. While it could be argued that this is the kind of self-enforcing transaction in which the consideration can be withdrawn, reestablishing trade barriers is often difficult. Frequently, the domestic political costs of reducing trade barriers are incurred at the time they are reduced and cannot be fully recouped later by reestablishment of the barriers. Moreover, to the extent that the barriers
are reduced on a multilateral basis, withdrawal may be made more difficult as a matter of international law, not to mention customs administration. In addition, the entry into an international organization itself may have high political costs, again at the outset, that are not fully recoverable. In summary, asset specificity definitely exists in many international relations contexts. Under circumstances of relatively high asset specificity, this theoretical perspective predicts that states will consider entering into treaties or other institutional relationships.

However, Williamson does not satisfactorily distinguish among various types of institutionalization. While there is a broad continuum of "hybrid" structures between market and hierarchy, Williamson does not establish a predictive relationship between degree of asset specificity, on the one hand, and type of institutionalization, on the other. Instead, he directs our attention to three transactional features: asset specificity, uncertainty, and frequency. Asset specificity, as we have seen, gives rise to potential opportunism. In turn, this gives rise to the need for binding mechanisms or institutions, both of which involve transaction costs. The choice of binding mechanism depends also on the degree of uncertainty involved: the lesser the uncertainty, the greater the ability to write specific or relatively "complete" contracts to address any uncertainty. In contrast, increasing uncertainty and complexity combine with "asset specificity" to make it increasingly difficult to write complete contracts. Finally, the more frequent the transactions, the greater economies of scale there will be in creating governance structures that address governance needs.

Thus, asset specificity indicates the potential utility of institutions, but does not alone indicate the kind of institutions needed. However, with higher magnitudes of asset specificity, and with greater uncertainty and complexity, there are greater incentives and possibilities for opportunism. More complete contracts are required to prevent opportunism. Given positive transaction costs, it is impossible to write explicit complete contracts. Therefore, as asset specificity, uncertainty, and complexity increase, the need to define and transfer categories of authority to bureaucratic, legislative, or dispute resolution-type bodies—to establish hierarchy—also increases. In other words, greater integration is necessary. These institutional mechanisms are needed in order to determine how standards established by the parties should be applied in the future when particular issues arise.

From the standpoint of the history of international economic integration, it might be theorized that states will first engage in integrative transactions in areas characterized by low asset specificity. Once gains from trade in low asset specificity areas are exhausted (and experience of trust is developed), there are greater possibilities for integration in higher asset

142. See Williamson, supra note 141, at 613.
specificity areas. From a broad standpoint, this pattern may be discerned in the history of the WTO or European Union.

Thus far, this Part has been concerned largely with the delegation of responsibilities to international organizations from the perspective of a sovereign state that, until such delegation, retains plenary power. There appears to be little difference in theory between this question and the question of subsidiarity: Once an international organization exists, and has plenary power (albeit cabined within limited authorizations), what powers should it exercise at the center, and what powers should it devolve to decentralized units? All other things being equal, the question remains, where should responsibility be lodged?

The transaction costs approach described above is thus applicable to the question of centralization or decentralization within an international organization. Of course, we know that all other things are not often equal, and the question of where plenary authority is initially lodged and how it is transferred will often make important design differences. There is a subtle difference between top-down designs and bottom-up designs. The less subtle distinction, however, relates to the location of residual authority.143

Indeed, the question of centralization versus decentralization must be answered in tandem with the question of intergovernmentalism versus integration. That is, as a state delegates responsibility to an international organization, it must consider how the international organization will carry out that responsibility in terms of centralization or decentralization. "In a system with both centralized and decentralized decisions, the centralized decisions serve to define the parameters of the decentralized ones and to put constraints on the local decision makers."144

Finally, when authority is delegated to an international organization, it is necessary to ask how that authority will be exercised: What is the decision-making process within the international organization? International

143. Interestingly, from the transaction cost perspective, the location of residual authority is somewhat blurred in both the United States federal system and the European Union. In the United States federal system, the blur is generated by the tension between the Tenth Amendment of the Constitution and other notions of state sovereignty, on the one hand, and the Commerce Clause and Supremacy Clause, on the other hand. In the European Union, the blur is generated by the tension between the limited purposes of the European Union and the rather unlimited legislative authority needed to achieve those purposes. Textually, we can look to the provisions of the Treaty on European Union requiring subsidiarity analysis, and, for example, at the Solange opinions of the German Constitutional Court. For a discussion of the Solange opinions, see Manfred Wiegandt, Germany's International Integration: The Rulings of the German Federal Constitutional Court on the Maastricht Treaty and the Out-of-Area Deployment of German Troops, 10 Am. U. Int'l L. & Pol. 889 (1995). For a recent transaction cost economics approach to the relations between hierarchical levels of government that analyzes the effects of decentralized veto power in governmental organization, see Clayton P. Gillette, The Exercise of Trumps by Decentralized Governments, 83 Va. L. Rev. 1347, 1372–90 (1997).

144. MILGROM & ROBERTS, supra note 39, at 114.
organizations may reflect delegated authority, but the internal decision-making process may, for example by, say, requiring unanimity prior to action, recreate the "market" of international relations. Hence, there are two types of intergovernmentalism: intergovernmentalism outside the walls of an institution and intergovernmentalism within an institution.

In a more complex way, the possibility of a variety of internal decision processes makes the choice between integration and intergovernmentalism a choice along a continuum, instead of a stark binary choice. Thus, an international organization may be accorded responsibility for a particular issue area as a whole, while the decision-making structure preserves intergovernmentalism in some respects and allows greater integration in other respects. In this sense, the structure of horizontal federalism—relations between legislatures, executives, and judiciaries—may replicate or complement vertical federalism—relations between the center and the components.

E. Game Theory

Just as our understanding of property and contract are informed by the study of strategic interaction, so is the analysis of the firm extended by game theoretic analysis. Game theory may provide insight into horizontal strategic interaction among states that are parties to an international organization, as well as into that occurring vertically between the states and the international organization itself.145 Game theory has been applied to decision-making within the European Union, generating some interesting insights.146

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The strategic perspective rejects the assumption that principals and agents—e.g., states and international organizations—have a joint goal of reducing transaction costs or of reaching efficient outcomes. As Bratton writes, "Even in a costless environment, information asymmetries may cause parties to fail to bargain their way to an efficient term." Rather, each seeks to maximize its own outcomes regardless of the cost to the other. The prisoners’ dilemma is one game theoretic model for this bargaining context. The prisoners’ dilemma has been used by a number of legal scholars to depict the decision of states to comply with trade liberalization or to defect from liberal trade policies. Many scholars conclude on this basis that despite the fact that states could maximize their welfare by compliance, they will defect. Interestingly, the prisoners’ dilemma assumes that the players may not speak to or bind one another. Institutions and law may be explained as an attempt to overcome the prisoners’ dilemma by providing mechanisms for communication and commitment.

VII. LIMITATIONS ON THE UTILITY OF ECONOMIC ANALYSIS OF INTERNATIONAL LEGAL ISSUES

This is not the place to provide a general critique of L&E. On balance, we believe that, while it is critical to identify the limitations of economic analysis, L&E methods provide extremely useful tools. However, we do not claim that L&E is invariably the best approach to every single

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148. See David M. Kreps, Corporate Culture and Economic Theory, in PERSPECTIVES ON POSITIVE POLITICAL ECONOMY (James Alt & Kenneth Shepsle eds., 1990); cf. Utset, supra note 145, at 569 (analyzing the firm as a bargaining game between shareholders and managers).
149. For a critique of the prisoners’ dilemma model in the trade context, see Dunoff, supra note 133.
150. A "technical" critique argues that legal analysis is invariably flawed by measurement problems, such as the problem of accurately assigning shadow prices to "goods" not traded in markets (or the "offer/asking" problem). A "distributional" critique notes L&E's emphasis on efficiency, to the exclusion of important questions of equity in distribution. For representative articulations of these critiques, see Mark Kelman, A GUIDE TO CRITICAL LEGAL STUDIES (1987), which reviews critical legal studies critiques of L&E; Bruce A. Ackerman, Law, Economics and the Problem of Legal Culture, 1986 DUKE L.J. 929, which outlines limits of L&E in addressing both positive and normative questions; Symposium, Efficiency as a Legal Concern, 8 HOFSTRA L. REV. 485 (1980); Duncan Kennedy, Cost-Benefit Analysis of Entitlement Problems: A Critique, 33 STAN. L. REV. 387 (1981), which argues that the "offer/asking" problem renders cost-benefit analysis indeterminate; and Arthur Allen Lefk, Economic Analysis of Law: Some Realism About Nominalism, 60 VA. L. REV. 451 (1974), which asserts that L&E ignores distributional and other normative issues. A number of legal scholars have also articulated a "moral" critique of the economic analysis of law. See generally Jane B. Baron & Jeffrey L. Dunoff, Against Market Rationality: Moral Critiques of Economic Analysis in Legal Theory, 17 CARDOZO L. REV. 431 (1996) (discussing this critique as articulated in various areas of domestic law).
legal problem, or that L&E can answer every single question. In particular, while L&E methods may be very helpful in identifying ways to achieve particular policy objectives, they may not be particularly helpful in identifying these objectives in the first place. Moreover, in many contexts L&E methodologies may appear to lack critical bite, as they will "simply" validate existing legal rules or institutions, or reinforce insights generated by other scholarly methodologies. \(^1\) However, we believe that such analyses are still valuable, as they can provide novel explanations of existing rules or institutions and can provide counterintuitive insights into existing doctrines. Finally, such analyses can illuminate the limitations of more traditional legal tools and the circumstances under which they might not be persuasive.

While these comments are equally applicable to the domestic and international realms, in this Part we outline a number of ways in which economic analysis may be especially problematic in the international legal field. \(^2\) Hence, just as law and economics provides a powerful new tool to enrich our understanding of international law, the international legal order poses a new set of challenges that can enrich our understanding of law and economics.

We focus on three areas that seem to raise greater concerns in the international legal context. All three have been prominent in domestic critiques of law and economics, but we believe that they become more powerful when considered in relation to international law. In turn, their application to international law exaggerates and highlights concerns raised in the domestic sphere. The issues we address here are the constructed nature of the rules sometimes considered to be background assumptions, the problem of interpersonal (and interstate) comparisons of utility, and the problem of incommensurable values.

A. The Contingent Nature of Background Norms

Much L&E analysis of domestic law, either alone or combined with public choice analysis, is used to argue against most forms of government regulation of commercial activity. We think this may often result from the choice of research agenda and the methods of the researchers, and may reflect a policy prejudice that is not necessitated by L&E itself. Interestingly, however, this style of law and economics does not reject contract or property law. But, as the international system highlights, it is clear (as realists and critical legal scholars have long argued) that contract and property are as constructed, and as "regulatory," as taxation, securities

\(^1\) For more on this "reinforcing" role of L&E scholarship, see Johnston, \textit{supra} note 4; and David Skeel, \textit{Public Choice and the Future of Public-Choice-Influenced Scholarship}, 50 VAND. L. REV. 647, 665 (1997).

\(^2\) We recognize that these problems also inhere in the L&E analysis of domestic legal issues and address this point, where appropriate, in the discussion below.
regulation and antitrust law. This observation seems sufficient to refute a
case often associated with Chicago School law and economics analysts: that
regulatory law beyond the common law should be eliminated, reverting to a
supposed nirvana of freedom of contract.

The international legal system provides a more graphic illustration of
the contingent nature of contract and property than does the domestic
system. Compared to the domestic system, the international legal system
lacks cognates to the more complete domestic systems of property law
(territory and jurisdiction), contract (treaty and custom), and tort (state
responsibility for harm to others).

Hence, we might begin to inquire as to the reasons behind the modest
binding nature of the international legal order compared to the domestic
legal order. And would conventional law and economics analysts declare
this attenuated nature efficient? If property and contract are the background
of any well-functioning system for mutually beneficial exchange, why are
they so rudimentary in the international legal system? While we begin to
address these questions above, further economic analysis should provide
additional insights into the relatively rudimentary structure of the
international legal system.

One way to approach the international legal system, sympathetic to law
and economics tools, is as a system where the social contractarian, and
constructed, nature of law is more readily apparent. In this world stripped to
a more fundamental social contract, there is little reason to argue that we
should stop constructing rules once we have finished constructing treaty law
or the law of jurisdiction—the cognates of contract and property. Rather, as
shown above, the regulatory and distributive character of these rules is
revealed, undermining arguments that they are somehow natural or that they
are the appropriate stopping places for the state's activities. This social
contracting process has no "natural" beginning or end in either domestic or
international society.

B. Valuing Trade-Offs: The Problem of Interstate Comparison of Utility

In addition, the international legal order highlights the real problem
with the method of efficiency analysis often used in law and economics
analysis. Kaldor-Hicks efficiency analysis, also known as potential Pareto
efficiency analysis, and equivalent to cost-benefit analysis, inquires whether

153. See generally Dunoff, supra note 133.
154. Of course, the combination of the rule and the institutional support for the rule must be
analyzed to assess its social effects, and here, while international law exists and has social effects, it is
significantly less effective than most domestic law.
155. See Stephan, supra note 72 (adducing arguments for retaining national control over
international institutions).
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a change would make someone better off without making anyone else worse off, assuming the ability to compensate others for harm. That is, it inquires whether the change would create a sufficient surplus to compensate those harmed. In order to make this inquiry, Kaldor-Hicks must determine the value to those harmed of the injury imposed upon them; this determination requires that the analyst set the value to the harmed person of the injury.

But the very possibility of such interpersonal comparisons of utility have bedeviled economic theory, and there is no widely accepted method for determining the value of a harm (or benefit) to another. In fact the answer to this problem is a call to comparative institutional analysis: the best we can do in cost-benefit analysis is to devise institutions that seem to reflect, as well as possible, constituent utility. Here again, the market competes with legislatures and courts as institutions devised to engage in interpersonal comparison of utility. Economists generally believe that decisions made in the market are actually Pareto-efficient, in accordance with the principle of consumer sovereignty, as the consumer contracting willingly is in the best position to know when she is better off.

However, this perspective elides the more fundamental question of whether these issues are best addressed by the market or instead by other institutions, as each type of institution entails both transaction costs and strategic costs. From the standpoint of Pareto analysis of institutions, what makes these institutions satisfactory is that they are accepted, again in a social contractarian sense. As legal analysts, we can only seek to add light to the determination of which institution to use.

In the domestic system, we assume a high degree of social solidarity. One facet of this solidarity may be the willingness to accord to institutions, such as legislatures, courts, and the market, the authority to make allocational decisions. In international society, this solidarity may be less firm: there is less of a sense of shared values, and less of a sense of being willing to accept the costs of an adverse decision in the short run for the benefits of living in society—and later receiving favorable decisions—in the long run. There is less of a sense of living in a constitutional moment, with a limited Rawlsian veil of ignorance, that allows acceptance of constitutional rules. Part of the reason for this lack of solidarity is the

156. The seminal articles setting forth this analysis include J.R. Hicks, The Foundations of Welfare Analysis, 49 Econ. J. 696 (1939); and Nicholas Kaldor, Welfare Propositions in Economics, 49 Econ. J. 549 (1939).

157. For a review of the concept of solidarity in international legal discourse, see Ronald St. J. McDonald, Solidarity in the Practice and Discourse of Public International Law, 8 Pace Int'l L. Rev. 259 (1996).

158. Rawls discusses a hypothetical veil of ignorance, in which people can make distributive decisions regarding the relative allocations to the wealthy and the poor without knowing their actual place in society. This is a mechanism for thinking about and legitimating distributive outcomes. To a limited extent, the agreement of constitutional rules takes place under ignorance—ignorance of how the rule will affect individuals—and this fact allows individuals to agree to constitutional rules that
relative thinness of the international system noted above: fewer transactions means fewer opportunities for things to work out in the long run.

C. The Incommensurability of Diverse Social Goods

Much of the analysis above presupposes the ability to measure and compare the "costs" and "benefits" of various types of transactions and institutional frameworks. But this assumption masks several difficulties. First, as noted above, the lack of a monetized market for the "goods" at issue in interstate transactions—such as jurisdictional authority, environmental amenities, and national security—significantly complicates all attempts at measurement. More importantly, many argue that it is not possible to reduce all relevant considerations into a single metric, assign them quantitative values, and weigh them against each other as if on a scale. This is the incommensurability thesis.\(^{159}\)

This thesis has several variants, all of which are potentially applicable to the economic analysis of international law. One variant of the incommensurability thesis is that to ask for the economic value of certain social goods is to make a category error, like asking, what color is the square root of one?\(^{160}\) Another variant is that, while it may be possible to calculate economic trade-offs between different goods, to understand trade-offs simply in economic terms is to "do violence" to our understandings of these goods.\(^{161}\) Another variant is that by comparing diverse goods in economic terms we transform our understanding of these goods in objectionable ways; we commodify these goods and thereby debase them.\(^{162}\)

Each of these critiques of economic analysis raises serious issues. Again, however, we see these issues as problems to be solved, rather than as reasons to abandon the economic analysis of international law. For example, the thinness of international legal rules and institutions should be the starting point of analysis, rather than a stopping point; it suggests a rich research agenda. Similarly, if the "goods" valued by the international community are commensurable in certain respects but incommensurable in other respects,

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159. For more on incommensurability in the domestic context, see Baron & Dunoff, supra note 150; and Cass R. Sunstein, Incommensurability and Valuation in Law, 92 Mich. L. Rev. 779 (1994) (stating that rational decisions cannot be made when measuring goods with social and personal values that do not always have commensurable relationships).


161. See Sunstein, supra note 159, at 797.

162. For example, if babies or body parts were routinely bought and sold, we might begin to think of people as nothing more than commodities. See Margaret Jane Radin, Market-Inalienability, 100 Harv. L. Rev. 1849, 1850 (1987); Sunstein, supra note 159, at 797. This "moral" dimension of the use of economic analysis is analyzed in Baron & Dunoff, supra note 150, at 447–51, 470–71.
this raises the fundamental question of what is the appropriate measuring rod? We believe that—as in the domestic sphere—further work on these issues will illuminate not only the international legal order, but also the appropriate domain of economic analysis of law.

VIII. TOWARD A RESEARCH PROGRAM IN THE LAW AND ECONOMICS OF INTERNATIONAL LAW

A. Elements of a Progressive Research Program in International Law

Imre Lakatos noted that scholarship tends to proceed by constructing a research program. A research program in Lakatos’s terms includes a hard core, such as assumptions of rationality and methodological individualism. This is then used to generate auxiliary hypotheses, such as some of those discussed above regarding jurisdiction, treaty, and organization. A progressive research program is one that is able to adapt its auxiliary hypotheses as it confronts anomalies. With this Article, we seek to expand theoretical discourse in international law scholarship, and to suggest the possibility of a progressive international law research program. Our ultimate goal, of course, is to stimulate research that will expand the boundaries of our knowledge of the international legal system. Working within the suggested research program, a scholar could identify an international legal problem and use the theoretical perspectives of law and economics to generate a hypothesis. If this is an operational theory, then the hypothesis could be empirically tested.

Here again, we point toward comparative institutional analysis. For the lawyer’s laboratory is not simply the library, but it is the world of institutional contingency. We can compare actual institutional structures in place, or compare actual institutions with hypothetical ones. To be sure, comparison is difficult given the number of variables to account for, but there is little alternative.

Our expectation is that, once a more refined body of theory is developed through greater theorizing and empirical testing, this research program may progress. Scholars utilizing law and economics in international law can build “a chain of ever more complicated models simulating reality,” rather than continually rehashing the same inconclusive arguments. In this regard, we understand our proposed research program as a cooperative endeavor, in which scholars build upon the work of others, together building an edifice of greater knowledge. This endeavor will require great coordination and modesty, in which scholars understand and agree on the next steps in building the edifice.

164. Lakatos, supra note 4, at 50.
We have mentioned above a number of international law subjects that could be addressed using law and economics. In fact, we believe that almost every international law research subject could be illuminated, to some degree, by these research methods. Below, we very briefly list a few additional applications, by way of additional illustration. This list is by no means exhaustive.

B. Positive Political Theory and Transnationalism

Positive political theory may be extremely relevant to the institutional issues that interest international lawyers and scholars. This approach uses game theoretic concepts to explore relationships among various institutions. It directs our attention to the strategic interactions among different bodies and is thus a useful vehicle for the investigation of dynamic, rather than static, systems. On the domestic level, positive political theory has been used to explore, for example, the strategic interactions among Congress, administrative bodies, and the courts. While the tools and analysis of positive political theory have not been applied extensively to international law, we believe this analysis may inform the increasingly important focus on inter-institutional interactions, as explored in the recent writings of scholars such as Harold Koh and Anne-Marie Slaughter. While Koh and Slaughter often explore the international legal implications of interactions among domestic institutions, we believe that positive political economy may well shed light on interactions among international institutions. One possible area of focus would be on the interactions among particular types of international bodies; for example, how might we expect the legal and policy issues arising from the recent and


166. See, e.g., Koh, Legal Process, supra note 75 (describing the role of institutional interactions in norm enunciation); Koh, Nations Obey, supra note 75 (arguing that transnational actors' international legal obligations become internally binding after they have been incorporated into the domestic legal system); Anne-Marie Slaughter, The Real New World Order, 76 FOREIGN AFF. 183 (Sept./Oct., 1997) ("The state is not disappearing, it is disaggregating into separate, functionally distinct parties. These parties—courts, regulatory agencies, executives, and even legislatures—are networking with their counterparts abroad, creating a dense web of relations that constitutes a new, transgovernmental order."); Anne-Marie Slaughter, A Typology of Transjudicial Communication, 29 U. RICH. L. REV. 99 (1994) (discussing various forms of transjudicial communication—communication among courts across borders); see also Symposium, The Interaction Between National Courts and International Tribunals, 28 N.Y.U. J. INT'L L. & POL. 1 (1996) (discussing international law in national courts, national jurisprudence in international tribunals, and the discourse that results among the two types of fora).
rapid increase in the number of international adjudicatory fora to be resolved? Another possible area of inquiry would be the interactions among international organizations that share responsibility for a particular issue area; for example, how will the WTO and the World Intellectual Property Organization (WIPO) interact over intellectual property issues? Or, how do the OECD and regional trade organizations change their behavior when they are simultaneously working on, for example, international investment issues? What are the dynamics when UNIDROIT and UNCITRAL are simultaneously drafting comparable treaty regimes? Alternatively, positive political theory could inform research into interactions among different bodies within the same international organization, for example the European Commission and the European Court of Justice, or the Security Council and the International Court of Justice. While international legal scholars have begun to explore these types of issues, we believe that the proliferation of international bodies makes this likely to be a particularly fruitful area of inquiry.

C. Norms and Customary International Law

Law and economics scholars have recently turned their attention to "norms," the rules and practices that govern relations in private groups. Much of the debate concerns whether and when norms created by private groups are likely to be efficient, and whether and when the state should either incorporate these norms into positive law or defer to these norms in a dispute resolution context. Some have analogized lawmaking to state economic planning, and norms to the market. Others are more skeptical, pointing to externalities, strategic behavior, imperfect information, and other reasons why private norms will often be inefficient.

The norms literature typically identifies several features that distinguish "norms" from "law." Significantly, while law is the product of centralized, hierarchical bodies (legislatures and courts), norms arise out of a decentralized process involving horizontally situated actors. Similarly, while law is enforced through centralized, hierarchical bodies, norms are enforced

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through nonlegal, decentralized mechanisms. In particular, it appears that norms are often obeyed when they become "internalized," or as a result of reputational concerns.  

Hence, it would appear that norms share a number of features with international law, and we believe that L&E analysis of norms might fruitfully be extended to the international arena.

Interestingly, one of the leading L&E scholars of "norms," Eric Posner, has recently co-authored an article on customary international law that analyzes custom from a game theoretic perspective. While this game theoretic approach to custom is fully consistent with our call for L&E analyses of international legal issues, we hope that those interested in norms might also begin to explore issues such as (1) the conditions under which we might expect customary norms to serve broader community interests, (2) when customary norms might be preferable to treaty, and (3) various strategies for dealing with the breach of customary norms.

D. Regulatory Competition—Regulatory Jurisdiction

Regulatory competition has become an important issue in international relations, despite small amount of data showing that such competition actually occurs. There is a growing law and economics literature addressing regulatory competition, increasingly linked to the issue of regulatory jurisdiction. This literature began in U.S. domestic analysis of fiscal competition (utilizing the Tiebout theorem) has addressed the "Delaware phenomenon" in U.S. corporate law, and is beginning to address


173. See Charles Tiebout, A Pure Theory of Local Expenditures, 64 J. Pol. Econ. 416 (1956) (explaining that the amount and quality of local provision of public goods and services can be explained by a theory of inter-jurisdictional competition that closely resembles market competition for the provision of private goods and services).

174. There is strong disagreement as to whether the "Delaware phenomenon"—the surprisingly large number of corporations that incorporate or reincorporate under the laws of the State of Delaware—represents a "race to the bottom" among states competing for incorporation franchises or a "race to the top" for efficient corporation laws that permit maximum returns to investors. For a recent review of the literature, see Lucian A. Bebchuck, Federalism and the Corporation: The
international regulatory competition.\textsuperscript{175} As we note below, some of these themes are beginning to appear in international environmental law scholarship, and we believe that they could usefully be applied to other areas as well.

E. \textit{Fiscal Federalism—International Organizations}

The fiscal federalism literature addresses how to distribute responsibilities among different levels of government. The general argument is that government services should be provided by the smallest jurisdiction that encompasses the geographical expanse of the benefits and costs associated with the service. Under this approach, all the relevant costs and benefits are internalized. In addition, this approach permits the tailoring of service levels to the particular tastes and other circumstances found in individual jurisdictions. The underlying idea is that, instead of providing a uniform level of public outputs over a large area, social welfare can be increased by differentiating these outputs according to local preferences and conditions.\textsuperscript{176}

The literature of fiscal federalism is only beginning to be imported from economics to law. It has been applied to many issues related to the EU, including the principle of subsidiarity and the European Monetary Union.\textsuperscript{177} This literature shows promise for application to international legal issues of coordination among governments not only in the tax area, but in other regulatory fields. It may also shed light on the difficulties surrounding the powers and competencies afforded international organizations, as discussed above.

F. \textit{Domestic Environmental Law—International Environmental Law}

Law and economics analysis has been very influential in domestic environmental discourse. These economic arguments are increasingly being used in various international environmental law contexts. For example, the law and economics critique of “command and control” legislation has helped


176. \textit{See generally} Wallace E. Oates, \textit{Fiscal Federalism} 35 (1972) (stating that, for a public good, “it will always be more efficient (or at least as efficient) for local government to provide the Pareto-efficient levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all jurisdictions”); Wallace Oates, \textit{On Environmental Federalism,} 83 \textsc{Va. L. Rev.} 1321, 1322-23 (1997) (stating that the basic principles of fiscal federalism suggest that governments take full advantage of tailoring service levels to the particular tastes that characterize these local jurisdictions).

177. See, e.g., Robert P. Inman & Daniel L. Rubinfeld, \textit{The EMU and Fiscal Policy in the New European Community: An Issue for Economic Federalism,} 14 \textsc{Int’l Rev. L. & Econ.} 147 (1994) (stating that the European Community often uses the concept of subsidiarity to determine whether a policy-making function should be centralized or decentralized).
prompt significant changes in the structure of domestic environmental statutes. Similar effects are starting to emerge in the international context, as evidenced by the various “market mechanisms” included in the recently concluded Kyoto Protocol. Economic rhetoric has also entered International Court of Justice opinions on international environmental matters.

Economic analysis can also be helpful in clarifying the very justifications for international environmental law. At times, these rules are justified by fears of a “race to the bottom,” in which states would compete for investment and industry by progressively lowering their environmental standards. The robust debate over the “race to the bottom” theory in the domestic context has started to spill over into the international domain. Significantly, this debate has paid careful attention to the similarities and differences between domestic and international legal systems. We also believe that public choice and other L&E methodologies that have been

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180. This rationale was likewise an important argument in favor of federal environmental law in the 1970s. The classic articulation of this rationale is Richard B. Stewart, Pyramids of Sacrifice: Problems of Federalism in Mandating State Implementation of National Environmental Policy, 86 YALE L.J. 1196 (1977).


182. See, e.g., Daniel A. Farber, Environmental Federalism in a Global Economy, 83 VA. L. Rev. 1283 (1997) (arguing that environmental regimes have evolved in parallel ways in the United States, the European Union, and international communities); Richard L. Revesz, Federalism and Environmental Regulation: Lessons for the European Union and the International Community, 83 VA. L. Rev. 1331 (1997) (arguing that agreements of centralized intervention and environmental regulation are different for the international community as compared to federal systems). For more on the “race to the bottom" debate in the international context, discussing various empirical studies on “race to the bottom" phenomena, see Jeffrey L. Dunoff, Understanding Asia’s Economic and Environmental Crises, 37 COLUM. J. TRANSNAT’L L. 263 (1999).
influential in the domestic realm will likewise prove fruitful in the international context.  

G. Comparative Law/Law and Development/Harmonization—Comparative Institutional Analysis

Comparative law has suffered to an even greater degree than international law from lack of a theoretical and methodological base. The new institutional economics, with its emphasis on comparative institutional analysis, is a natural source of theory and methodology for comparative law. This approach may be applied to today's two leading uses for comparative law: structuring laws for emerging and developing countries and the analysis of various national legal regimes' movement toward harmonization.

IX. CONCLUSION

While law and economics methodologies have informed our understanding of many areas of domestic law, they have been underutilized in international legal scholarship. We have attempted to explain why this is so, and to explore the uses—and limitations—of economic analysis of international law. In particular, we have attempted to show why the new institutional economics, incorporating the more standard neoclassical tool of price theory—as well as game theory and transaction cost economics—shows particular promise.

We recognize that many of our arguments and examples are illustrative rather than exhaustive. But our purpose in writing this Article was to present a first—rather than the last—word on these issues. We believe we have demonstrated the utility of L&E methods in analyzing a variety of international legal topics, and invite others to join in a progressive research program. Our larger hope is that by enlarging the theoretical tools at our disposal, the use of L&E methodologies will enrich international legal discourse and scholarship.

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APPENDIX: A BIBLIOGRAPHY OF LAW AND ECONOMICS ANALYSIS OF INTERNATIONAL LAW

For readers interested in exploring further the economic analysis of international law, we provide the following bibliography, organized by issue area. Rather than provide an exhaustive list of sources, we seek to identify some helpful and representative works in various areas. We have, no doubt, omitted some works that fit within these criteria. These omissions are due to error or oversight, and are not meant to imply any qualitative judgments.

General

ECONOMIC DIMENSIONS IN INTERNATIONAL LAW: COMPARATIVE AND EMPIRICAL PERSPECTIVES (Jagdeep S. Bhandari & Alan O. Sykes eds., 1997).

Territory and Jurisdiction


Stephen J. Choi & Andrew T. Guzman, Portable Reciprocity: Rethinking the International Reach of Securities Regulation, 71 S. CAL. L. REV. 903.


Thomas W. Merrill, Golden Rules for Transboundary Pollution, 1997 DUKE L.J. 931.


**Treaty**


**Custom**


**Organization**


International Economic Law Rules of Competition


International Economic Law Rules of Discrimination
