

# Intellectual Property Rights and the New Institutional Economics

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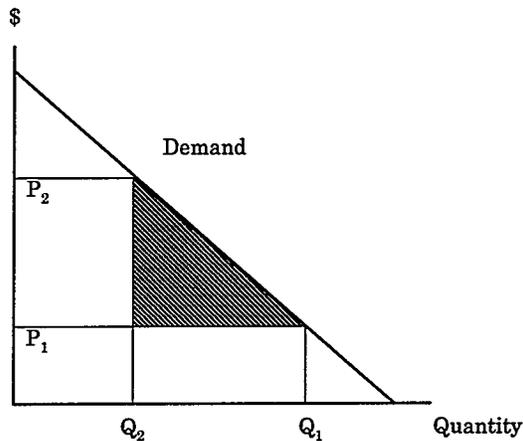
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## INTRODUCTION

When someone speaks of “the law and economics of intellectual property rights” (IPRs), an image along the lines of the following diagram is apt to come to mind:

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This is the basic illustration of monopoly price and output, familiar from introductory microeconomic texts. It is often used to explain the effects of IPRs, with the twist that, in this case, monopoly is good because it elicits desired investment in new intellectual creations.

Critics of law and economics dispute the proper characterization of this diagram and all that it represents. Some say it is highly simplistic, even misleading; others deem it an abomination, as wrong for its normative assumptions and implications as for its positive misrepresentations of economic reality.

Critics might be surprised to learn how many within the economics trade agree with them. Within economics, and even law and economics, many scholars have been working assiduously to unpack the assumptions, and to elaborate the conditions, behind diagrams such as this one. The past thirty to forty years has produced an eclectic and open-ended strain of economics that parallels, and in some ways rivals, neoclassical economics. The New Institutional Economics ("NIE") appears with increasing frequency in the law and economics literature. This brief Paper explains why it also has a central place in research on IPRs. To convey a sense of the applicability of the NIE to IPRs, I begin with a critique of the basic microeconomic diagram we started with.

#### I. UNPACKING THE SIMPLE DIAGRAM: OF PRODUCTS AND MARKETS

The diagram follows the conventions of the economic literature on IPRs, which customarily views property rights and product

markets as coextensive. Most work in this genre assumes (however implicitly) that one, and only one, property right covers the entirety of a marketable product.

This is not always an accurate picture. A commercially viable product will often be assembled from a number of components. One or more of these components may be covered by IPRs, but it is not always true that a complete product will be covered by one, and only one, comprehensive IPR. Complex, multi-component products are the norm in many industries (e.g., autos and consumer electronics), and individual patents often cover only a single component or sub-component. In the "copyright industries," a single, comprehensive copyright often covers a discrete product, such as a novel or scholarly monograph. Nonetheless, multi-component works are far from uncommon. Indeed, motion pictures, sound recordings, and magazines all have multiple "components" or inputs.

Often, then, there is no simple "one-to-one" mapping of products and property rights. Some components may not be subject to proprietary rights. Others may be, but the rights will be of different types (patents and copyrights), scopes, and durations. This means that, at the least, the simple monopoly pricing story may be inaccurate. Property rights may have little effect on the market, or they may create "monopolistic competition," a hybrid market structure midway between monopoly and perfect competition. In the end, IPRs may well have an effect on price, entry, and the like. But it will likely not be the simple, straightforward effect of creating a monopoly over a discrete product.

## II. COORDINATION, TRANSACTIONS, INSTITUTIONS

My critique of the simple diagram we started with boils down to this: it assumes a "one-to-one mapping" between property rights and markets, and this is too simple. Multiple, overlapping property rights often lie behind economic markets. Especially where rights are held by different firms, this entails some coordination among rightsholders before a product can be sold on a market.<sup>1</sup> This

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1. Even where a single firm owns all requisite rights in a product, a form of coordination may be necessary. IPRs often attach initially to individuals, all of whom must assign or license their respective rights for the firm to have integrated ownership. See Robert P. Merges, *The Law and Economics of Employee Inventions*, 13 HARV. J.L. & TECH. 1, 6-7 (1999) (noting employees may own their inventions by default and, consequently, "employers routinely require new R&D employees to pre-assign title to future inventions"). Cf. generally Bengt Holmstrom & Paul Milgrom, *The Firm as an Incentive System*, 84 AM. ECON. REV. 972 (1994) (analyzing and comparing the economic effects of incentives for employees and independent contractors).

need for coordination opens the door for analysis in the spirit of NIE.<sup>2</sup>

To apply NIE concepts to IPRs, we first need to understand the basic building blocks of the theory. Behind the fundamental organizing principle of coordination lie two simple constructs: transactions and institutions.

Transactions are roughly equivalent to contracts; they are the mechanisms of economic exchange. A primary contribution of the NIE, and Oliver Williamson in particular, has been an elaboration of exchange relations and the development of an analytic framework for describing them.<sup>3</sup> Two fundamental issues are exemplary. The first is the very idea of "transaction costs." Prior to the development of this branch of the NIE, most economists simply assumed away the costs of transferring economic assets from one set of hands to another. The second is the notion that one contracting party may be required by events or the terms of a contract to make investments that are "specific" to the contemplated exchange—i.e., they cannot be recouped in the event of breach or nonperformance by the other party. This topic of "asset specificity" has been a second major theme of the transaction cost branch of NIE.

#### *A. Pioneer/Improver Transactions*

One particular branch of the IPR literature emphasizing transactions is worth describing briefly. Economists, led by Suzanne Scotchmer,<sup>4</sup> have modeled interactions between a pioneering inventor and one or more improvers. These models specify with precision various bargaining scenarios between initial pioneer inventors and developers of subsequent improvements and applications. Early efforts established the basic framework, though they

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2. Cf. KENNETH J. ARROW, *THE LIMITS OF ORGANIZATION* 26 (1974) ("There are many other organizations besides the government and the firm. But all of them, whether political party or revolutionary movement, university or church, share the common characteristics of the need for collective action and the allocation of resources through nonmarket methods."). Coordination is also a theme in much of the economic work on technical innovation, in particular that of Richard Nelson. See, e.g., Richard R. Nelson, *Intellectual Property Protection for Cumulative Systems Technologies*, 94 COLUM. L. REV. 2674, 2676-77 (1994).

3. See, e.g., OLIVER E. WILLIAMSON, *THE MECHANISMS OF GOVERNANCE* 90-91 (1996).

4. See generally Jerry R. Green & Suzanne Scotchmer, *On the Division of Profit in Sequential Innovation*, 26 RAND J. ECON. 20 (1995) [hereinafter Green & Scotchmer, *On the Division of Profit*]; Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991) [hereinafter Scotchmer, *Standing on the Shoulders*]; Suzanne Scotchmer & Jerry Green, *Novelty and Disclosure in Patent Law*, 21 RAND J. ECON. 131 (1990) [hereinafter Scotchmer & Green, *Novelty and Disclosure*].

oversimplified legal rules in order to do so.<sup>5</sup> More recent efforts not only assume more realistic legal rules; they are also more sensitive to the way that refinements in the rules can affect the outcomes of pioneer-improver bargaining. Typical are papers that analyze patent breadth as a mechanism for determining which improvers must bargain with a pioneer inventor.<sup>6</sup> These papers thus represent a promising analytic direction in exploring coordination issues in the context of IPRs.

### *B. IPRs, Licensing, and Strategic Alliances*

The typical situation in the real world is even more complex than the rather stylized facts of the pioneer-improver scenario. In many cases, property rights on multiple components of a single product are owned by a number of separate firms. To be sure, this is not always the case. Some products are inherently subject to protection by a single, comprehensive property right—pharmaceutical formulations, for example.<sup>7</sup> Even outside pharmaceuticals, single-firm ownership of virtually all the relevant patents covering a multi-component product is not unheard of. The various generations of Gillette razors fit this description.

Nevertheless, many products encompass multiple components that are either supplied by independent firms, are subject to property rights held by independent firms, or both. This large group of cases is the special province of an NIE approach. At bottom, NIE is all about coordination between multiple economic units. Coordination is necessary for the physical and property right inputs to be assembled into a viable, multi-component product. NIE does have something to say about “vertically integrated” or totally “in house” production. But the more prominent applications of this framework are to inter-firm coordination, so we begin there.

There is abundant evidence that the production of R&D-intensive inputs is increasing dramatically.<sup>8</sup> This increase is simply

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5. See, e.g., Scotchmer & Green, *Novelty and Disclosure*, *supra* note 4, at 133 (assuming a patent system without “blocking patents”).

6. See, e.g., Green & Scotchmer, *On the Division of Profit*, *supra* note 4, at 23; Nelson, *supra* note 2, at 2676; Scotchmer, *Standing on the Shoulders*, *supra* note 4, at 30.

7. Even here, however, it is not uncommon for a product to incorporate other patented elements: perhaps part of the production process reads on another firm’s process patent; perhaps the drug delivery vehicle—time-release formulations, or spray mist delivery systems, for example—is subject to another firm’s patent.

8. Cf. generally James Brian Quinn, *Strategic Outsourcing: Leveraging Knowledge Capabilities*, SLOAN, Summer 1999, at 9.

the flip-side of the well-documented increase in the decentralization of production, and, in particular, of R&D-intensive production. Reversing the trend of the past century,<sup>9</sup> small specialty firms appear to be increasing their share of overall R&D. Whereas in the past, large firm vertical integration into R&D-intensive markets was the norm, the economic landscape today appears to be much more diverse. While vertical growth, typically via acquisitions, is of course still common, large firms often “partner,” via a dizzying array of organizational forms, with small firms steeped in new technologies. Joint ventures, R&D partnerships, corporate venture capital, spinoffs, startups, licensing deals, and “out-sourcing” arrangements (i.e., purchase of components formerly manufactured in-house), all forms of “strategic alliance,” have been adopted widely in recent years.<sup>10</sup>

IPRs clearly play a role in this trend, maybe an important one; the data show that, especially in certain industries, IPRs are central to input transactions. Particularly in biotechnology, but also in software and other industries, IPRs cover virtually all products sold as inputs to larger firms. Issues such as permitted uses, re-use, and alteration of products sold as inputs occupy a great deal of attention in negotiations, and lead to litigation in a growing number of cases.<sup>11</sup>

The focus on inter-firm input transactions also fits well with contemporary theorizing about property rights. We have begun to see in other settings that sensitivity to the life of a property right after it is initially granted—the pattern of transactions in which it is exchanged, and the institutions that may grow up to facilitate this exchange—reveal much about the optimal nature of the right.<sup>12</sup>

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9. See DAVID C. MOWERY & NATHAN ROSENBERG, *TECHNOLOGY AND THE PURSUIT OF ECONOMIC GROWTH* 150-51, 156-58 (1989) (describing the prominent R&D role played by universities and large industrial facilities); Naomi R. Lamoreaux & Kenneth L. Sokoloff, *Long-Term Change in the Organization of Inventive Activity*, 93 PROC. NAT'L ACAD. SCI. USA 12,686, 12,691 (1996).

10. Cf. Robert P. Merges, *Intellectual Property and the Costs of Commercial Exchange: A Review Essay*, 93 MICH. L. REV. 1570, 1573 (1995) (“[I]ntellectual property rights make more feasible various organizational structures that firms and individuals are increasingly using to produce goods and services.”).

11. See generally Gene M. Grossman & Elhanan Helpman, *Incomplete Contracts and Industrial Organization* (Aug. 1999) (working paper, on file with the author) (describing trend of “vertical disintegration” in many industries). See, e.g., *Micro Data Base Sys., Inc. v. Dharma Sys., Inc.*, 148 F.3d 649, 651-52 (7th Cir. 1998) (Posner, C.J.) (describing a dispute between a software subcontractor/input supplier that accused an input buyer of inadequately protecting its rights).

12. See Michael A. Heller, *The Tragedy of Anticommons: Property in the Transition from Marx to Market*, 111 HARV. L. REV. 621, 621 (1998); Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CAL. L. REV. 1293,

In particular, recent scholarship on so-called anticommons argues that multiple, conflicting property rights can sometimes create bottlenecks in productive activity. One solution to such anticommons is to revisit the design of property rights with an eye toward handing out fewer conflicting entitlements. This literature brings property rights theory to the doorstep of NIE by focussing on coordination problems as the key variable in the design of entitlements.

### C. Case Study: IPRs and Joint Ventures

The anticommons literature is suffused with a normative impulse; its goal is to reform property grants so as to more effectively promote economic activity. We must also take note of a parallel literature on the positive relationship between property rights and commercial activity. One recent paper on the relationship between IPRs and joint ventures will serve as an example. Joanne Oxley has written on the role of IPRs in joint ventures from a comparative institutional perspective.<sup>13</sup> An earlier body of work described why firms sometimes choose the more elaborate mechanism of stock purchase as the foundation for inter-firm transactions. This arrangement, known as an equity joint venture, forges deeper inter-firm ties, but is also more expensive to set up. In general, transaction cost theory provides that firms will resort to equity joint ventures and other forms of "hierarchical" integration when the transaction costs of regular arm's-length contracting are too high. Oxley used a sample of 773 inter-firm collaborations involving firms from 34 countries to study the relationship between IPR strength and organizational form. She found that,

[f]or U.S. firms partnering with firms in other countries, weak protection of intellectual property in the "foreign" country will tend to raise the cost of relying on contract-based alliances relative to equity joint ventures, thereby encouraging the use of joint ventures for a wider range of transactions (relative to contracts).<sup>14</sup>

This straightforward application of transaction cost theory has some interesting implications. For example, it fits well with theory predicting that stronger property rights enable some research-intensive inputs to be supplied by independent firms, rather

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1293 (1996); Steven N. Wiggins & Gary D. Libecap, *Oil Field Unitization: Contractual Failure in the Presence of Imperfect Information*, 75 AM. ECON. REV. 368, 383 (1985).

13. See generally Joanne E. Oxley, *Institutional Environment and the Mechanisms of Governance: The Impact of Intellectual Property Protection on the Structure of Inter-Firm Alliances*, 38 J. ECON. BEHAV. & ORG. 283 (1999).

14. *Id.* at 288.

than from within an integrated firm.<sup>15</sup> But at the basic level, it simply shows that IPRs can have an effect on the way firms structure transactions.<sup>16</sup> Other recent research on licensing and cross-licensing suggests similar conclusions.<sup>17</sup>

The positive literature on property rights and transaction costs is organized around questions that differ greatly from those at the heart of anticommons theory. Yet both are ultimately about the relationship between property rights and transaction costs. Hence, both form a part of the NIE approach to IPRs.

#### *D. Institutions for IP Exchange*

Sometimes a repeated pattern of bilateral exchanges will coalesce into industry "rules of thumb," or norms; sometimes a distinct administrative unit will even arise to carry out routine transactions. I have studied two examples of this: the emergence of collective rights organizations in the copyright arena, and the development of patent pools in various industries.<sup>18</sup> I found the general contours of these transactional patterns to be common enough to suggest some provocative revisions to our understanding of legal entitlements.

By focusing on the patterns of transactions that IPRs follow after they are granted, we will gain a deeper appreciation of the

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15. See Robert P. Merges, Property Rights as Contractual Safeguards (June 2000) (working paper, on file with the author) (applying transaction cost theory to argue that stronger property rights may facilitate and even enable organizational forms calling for inter-firm transfers).

16. See Joanne E. Oxley, *Appropriability Hazards and Governance in Strategic Alliances: A Transaction Cost Approach*, 13 J.L. ECON. & ORG. 387, 406 (1997).

17. See Peter C. Grindley & David J. Teece, *Managing Intellectual Capital: Licensing and Cross-Licensing in Semiconductors and Electronics*, 39 CAL. MGMT. REV., Winter 1997, at 8-10 (discussing importance of patent portfolio licensing in semiconductor industry); Ashish Arora et al., *Markets for Technology (Why Do We See Them, Why Don't We See More of Them and Why We Should Care)* (2000) (working paper, on file with author) (generalizing about the effects of an active market for technologies facilitated by patents); Tetsuo Wada, *Cumulative Innovation, Appropriability and Cross-Licensing: An Empirical Study of Patent Citations and U.S.-Japan Licenses in Electronics* (May 1999) (Haas Business School, U.C. Berkeley working paper, on file with author) (noting that citation analysis demonstrates that inter-firm patent citations increase in the wake of cross-licensing, which may mean that cross-licensing facilitates information exchange, thus overcoming "appropriability hazards" of innovating in fast-changing fields).

18. Carol Rose has formulated a closely related concept: the "limited access commons." Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 132 (1998) (defining a limited access common as "property held as a commons among the members of a group, but exclusively vis-a-vis the outside world"). Cf. Robert P. Merges, *Property Rights Theory and the Commons: The Case of Scientific Research*, 13 SOC. PHIL. & POL'Y 145, 145 (1996) (applying similar idea to scientific norms for sharing and withholding research).

dynamic role these property rights play in important areas of the economy. Several of the examples of IPR-related institutions that I studied emanate from the entertainment industry. I believe there is much more to be gained from a study of the myriad ways this industry acquires, values, integrates, repackages, and distributes IPRs and their associated works.

One way of approaching the entertainment industry is to treat it as a success story. In this industry, institutions have arisen that ease the transactional burden of dealing with many IPRs, sometimes owned by many disparate entities. Systematic study of this and other success stories would help balance the current theoretical debate. As noted earlier, anticommons theory is, at heart, transaction cost theory. The idea is that widespread bargaining breakdown may result from the profusion of rights, leading to serious disruptions in the supply of IPR-intensive goods and services. The debate over appropriate policy governing patents for gene fragments is the best recent example. The conventional microeconomic counterargument is predictable: there are gains from trade, so rational firms will make the deals necessary to get products to market. A more nuanced NIE take on the argument would pursue a middle ground. It would admit that transaction costs, and bargaining breakdown in general, are a serious concern. But it would also point out that, under the right conditions, today's impasse might lead to investments in various mechanisms to overcome the stalemate. What we need, in other words, is a theory to help predict when today's impasse (or anticommons) will lead to tomorrow's success story.

Some headway can be made by comparing what we know about IPR institutions to a well-known baseline case in the economics literature: the study of contracting among holders of overlapping oil development leases, or "oil field unitization." As described by economist Gary Libecap, unitization means drawing holders of leases on contiguous areas into a single, functional unit.<sup>19</sup> Significant economies from cooperation are often available: unitization prevents wasteful "races to pump," and generally lowers the cost of extraction. Despite the availability of gains from trade, Libecap has found that unitization is fraught with bargaining breakdowns, and often fails to achieve its full potential.<sup>20</sup>

Unitization may therefore be regarded as an example of "failed institutionalization." There are, of course more successful

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19. See GARY D. LIBECAP, *CONTRACTING FOR PROPERTY RIGHTS* 95 (1989).

20. See *id.* at 96.

examples, still outside the IPR context; one, the formation of cooperative water distribution arrangements, is described elsewhere.<sup>21</sup> Yet unitization is close enough to certain cases of overlapping IPRs to be of significant interest to IPR scholars. In particular, recent scholarship developing the theory of anticommons in various property rights contexts has cited Libecap's work on unitization as both an analogue to and a prediction of the effects of multiple, conflicting property rights assignments.<sup>22</sup> In the IPR context, anticommons theory has been applied in particular to the problem of gene fragment patents, alluded to earlier.

The key question throughout all of this is: Under what conditions will voluntary transactional institutions take shape? As yet, there is no definitive answer. As a move in this direction, however, I recently compared what we know about oil unitization, anticommons studies, and the formation of certain patent pools. The following table compares them:<sup>23</sup>

Case Study	Number of contracting parties	Repeat players or one-shot exchange	Property right valuation features
Anticommons (Moscow property, gene fragment patents)	Many	One shot	High uncertainty
Oil field unitization	Few to many	One-shot	High uncertainty; parties' actions may influence value of holdings
IPR exchange institutions (patent pools, ASCAP)	Pools: usually few ASCAP: many	Repeat players	Pools: acceptance of technology specialists' valuations ASCAP: rights valuable only in large bundles

On the questions of appropriate IPR entitlements and when private bargaining will realign them, the way forward from here is obvious. We need both more data and a more nuanced theory to account for it. We also need a better understanding of when and how government policy can be brought to bear on these issues. For example, we are just beginning to see how patterns of post-grant

21. See generally Merges, *supra* note 12.

22. See, e.g., Julie E. Cohen, Lochner in Cyberspace: *The New Economic Orthodoxy of "Rights Management"*, 97 MICH. L. REV. 462, 500 n.136 (1998) (citing LIBECAP, *supra* note 19, at 24-28, 116); Heller, *supra* note 12, at 626 n.19 (citing LIBECAP, *supra* note 19, at 29-114).

23. This table was taken from Robert P. Merges, *Institutions for Intellectual Property Exchange: The Case of Patent Pools*, in INTELLECTUAL PRODUCTS: NOVEL CLAIMS TO PROTECTION AND THEIR BOUNDARIES (Rochelle Dreyfuss ed., forthcoming 2000).

transactions affect the economic impact of various property right entitlements. This will have obvious implications for our thinking about the proper contours of property right grants. At the same time, in certain cases it likely will be very difficult or impossible to see far enough down the road to predict the post-grant landscape. In such cases, we must be sensitive to the need for rules and doctrines that permit the "visible hand" of government to prod or even force parties into transactions. This may be the only way to effectively reconcile a proliferating array of property rights with society's need to assemble rights into useful bundles.

### III. TOWARDS A POLITICAL ECONOMY OF IPRS<sup>24</sup>

Another important dimension of NIE is the attention it pays to political institutions.<sup>25</sup> One aspect of this branch of NIE will be of particular interest to students of IPRs: the study of political economy, or legislative rent-seeking.

Although property rights are defined and enforced only with the assistance of a government,<sup>26</sup> the early NIE approach to property rights, exemplified by the work of Harold Demsetz, largely ignored the dynamics by which property rights are created in the political process.<sup>27</sup> In Demsetz's early work, property rights emerge in response to changing economic conditions. When a resource becomes more valuable due to changing technology or some other "exogenous" shock, property rights over it are specified with greater precision. When the gains from granting and administering rights come to exceed the costs, the rights will be granted.

Demsetz's pioneering work moved property rights out of the deep background of economic theorizing, and into the foreground. Yet these early writings were quite stylized in one important re-

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24. This section derives from a portion of Robert P. Merges, *One Hundred Years of Solitude: Intellectual Property 1900-2000*, 88 CAL. L. REV. (forthcoming 2000).

25. *But see* Itai Sened, Book Review, 38 J. ECON. LIT. 128, 129 (2000) (arguing that economists in the NIE tradition sometimes overlook the significance of political institutions). For an overview of NIE contributions in this area, see Gary J. Miller, *The Impact of Economics on Contemporary Political Science*, 35 J. ECON. LIT. 1173 (1997).

26. Even systems of property right-like entitlement established by contract and recognized only in a closed group rely on court enforcement of contracts; they are also subject to structural limits such as the principle of federal preemption. *Cf.* William W. Fisher III, *Property and Contract on the Internet*, 73 CHI.-KENT L. REV. 1203, 1253-54 (1998); Margaret Jane Radin & R. Polk Wagner, *The Myth of Private Ordering: Rediscovering Legal Realism in Cyberspace*, 73 CHI.-KENT L. REV. 1295, 1295 (1998).

27. *See, e.g.*, Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 350 (1967) (discussing the emergence of property rights). For a summary of this literature, see Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315, 1320-22 (1993).

spect: they assumed that changed conditions would automatically translate into revised property rights. For this reason, Demsetz's theory has aptly been described as "the naive theory of property rights."<sup>28</sup> More recently, the theory has been restated in a somewhat more sophisticated form, emphasizing that property rights are strengthened when there is potential for higher asset valuation.<sup>29</sup> The Demsetz theory, particularly in revised form, explains at a primitive level the repeated recalibrations of property rights that are now recognized as an important component of economic growth.<sup>30</sup>

Even this revised form of the theory is difficult to square with certain historical accounts, however. Douglass North in particular has told of many occasions on which political institutions failed to specify efficient property rights. Indeed, in some places at some times it seems as if the events predicted by the Demsetz theory are the exception rather than the rule.<sup>31</sup>

What Demsetz omitted, of course, was politics. Only governments can grant property rights. The translation of changed conditions into property rights thus takes place only through the mediation of political institutions. Demsetz had an excuse for ignoring politics: very few economists had much to say about the matter (in a scholarly fashion, anyway) until recently.<sup>32</sup> In the past 40 years this

28. THRAINN EGGERTSSON, *ECONOMIC BEHAVIOR AND INSTITUTIONS* 271 (1990).

29. See *Toward an Understanding of Property Rights*, in *EMPIRICAL STUDIES IN INSTITUTIONAL CHANGE* 31, 32 (Lee Alston et al. eds., 1996).

There seems to be some confusion in the literature over which way causation runs between property rights and value. The confusion is cleared up if we remember the following. It is true that a resource becomes more valuable the greater the rights one has over the resource, and in this sense value (or actual rent) is a function of property rights. But it is not actual rent, but rather potential rent, that drives the *demand* for property rights. Potential rent is a function of the inherent rental stream (e.g., world price of the resource) and some benchmark set of possible property rights that are culturally and institutionally specific to a time and place.

*Id.*

30. See generally DOUGLASS C. NORTH, *INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE* (1990) (developing an analytical framework for explaining the ways in which institutions and institutional change affect economies); *THE POLITICAL ECONOMY OF PROPERTY RIGHTS* (David L. Weimer ed., 1997). For examples of case studies that seem to bear out the Demsetz thesis, see SHAWN EVERETT KANTOR, *POLITICS AND PROPERTY RIGHTS: THE CLOSING OF THE OPEN RANGE IN THE POSTBELLUM SOUTH* (1998); GARY LIBECAP, *THE EVOLUTION OF PRIVATE MINERAL RIGHTS: NEVADA'S COMSTOCK LODGE* (1978); David Gerard, *The Development of First-Possession Rules in US Mining, 1872-1920: Theory, Evidence and Policy Implications*, 24 *RESOURCES POL'Y* 251 (1999).

31. See NORTH, *supra* note 30, at 110 ("Because politics make and enforce economic rules, it is not surprising that property rights are seldom efficient.")

32. See Miller, *supra* note 25, at 1173 (discussing the shrinking gap between economics and political science).

has changed, however. To begin to construct a useful political economy of IPRs, we need to take stock of this literature.

The rigorous study of political participants as rational actors began around 1960, with serious growth only in the past twenty or so years.<sup>33</sup> The early work presented a stylized view of political actors as rational value-maximizing agents—a view quite familiar in the economics literature, but new to political science. In 1965, Mancur Olson moved beyond the basic “demand function for legislation,” and introduced a more sophisticated view of the formation and influence of interest groups in politics. In *The Logic of Collective Action*, Olson introduced the now familiar idea that interest group formation is influenced by the cost of locating and identifying prospective members, a task made easier when proposed political action affects a small, discrete group with pre-existing linkages. Olson pointed out that this dynamic explained a common feature of political systems: the frequent appearance of redistributive legislation that benefits a tightly organized group at the expense of a large, heterogeneous group (e.g., industry-specific subsidies paid for by general tax revenues). One of Olson’s key findings was that “capture” can occur as a result of repeated interactions between an interest group and the political actors that regulate it.

Olson’s early work has been advanced and formalized in recent years. Political economists have studied the relationship between campaign contributions by interest groups and the votes of specific representatives.<sup>34</sup> A number of competing theories are currently being tested. One theory views campaign contributions as outright vote purchasing, or, at best, “investments” in future votes.<sup>35</sup> There is some support for this theory; at least in some cases, specific votes are closely related to specific campaign contributions.<sup>36</sup> Even so, this simple “direct purchase” theory has trouble

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33. See *id.* (stating that by 1960, economists had begun to “study voters as rational maximizers, politicians as entrepreneurs, and bureaucrats as suppliers in market-like process of consumption, production, and exchange”).

34. See, e.g., Jonathan C. Brooks et al., *Political Action Committee Contributions and U.S. Congressional Voting on Sugar Legislation*, 80 AM. J. AGRIC. ECON. 441, 441 (1998) (considering “the simultaneous interaction between campaign finance and voting decisions in Congress”); Jack M. Snyder, Jr., *Campaign Contributions as Investments: The U.S. House of Representatives, 1980-1986*, 98 J. POL. ECON. 1195, 1196 (1990) (offering a “rigorous theoretical and empirical study of the relationship between investor contributions and electoral outcomes”).

35. See Brooks et al., *supra* note 34, at 446-52; Jack M. Snyder, Jr., *Long-Term Investing in Politicians; Or, Give Early, Give Often*, 35 J.L. & ECON. 15, 17-18 (1992) (discussing the power of money to shape public decisions).

36. See Brooks et al., *supra* note 34, at 446 (“[A]n extra \$1,000 [contributed by pro-Sugar import restriction PACs] typically elicited a 7% increase in the probability of the congressman voting in favor of the pro-sugar position in 1985 and an 11% increase in 1990.”).

accommodating certain recurring facts. In particular, at least in some cases, contributions do not seem to be very effective in securing particular outcomes.<sup>37</sup> Because of this, another branch of theory has developed.

Before moving beyond "direct purchase," however, two variations on the idea are worth mentioning because they may already be familiar to legal scholars: Frank Easterbrook's "bargain theory" and Fred McChesney's "rent extraction theory." Easterbrook sees legislation as the product of interest group negotiation; the legislature is not, strictly speaking, "captured" by any one group, but instead is called in to memorialize and institutionalize the "deal" struck by competing industries.<sup>38</sup> It is the totality of interest groups that captures the political process. According to McChesney's theory, legislators are not only self-interested, they are also strategic. They threaten efficiency-reducing regulation to extract political contributions from industry representatives. In this view, industry groups act in self-preservation, bribing officials to refrain from imposing damaging regulations.<sup>39</sup>

Recently, some political scientists have introduced a radically different conception of legislation, with particular attention to the role of money and interest groups. David Austen-Smith and others begin with the idea that interest groups are not simply purchasers of political "outcomes." They are also suppliers of important information to legislators that can be transmitted only through "access" to political actors. According to Austen-Smith:

Two things about legislative access command some consensus in the literature: access to legislators is costly, typically requiring some level of campaign contribution, and a principal rationale for access is the opportunity it provides for information transmission between lobbyists and legislators. Such information might be political (e.g., "If you vote for x, our members will come out in force against you in the next election") or technical (e.g., "An increase of \$1 in the minimum wage will result in a 1% rise in unemployment"). In either case, the information is germane only if it is relevant to some legislative decision and a lobbyist, or interest group,

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37. See *id.* at 449-50 (pointing out significant contributions by anti-Sugar import restriction forces to congressmen "who would not appear to have been natural sympathizers" and who did not in fact support or vote for lifting import restrictions).

38. See Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 540-41 (1983). Easterbrook's theory is closely related to the important work by political scientist Jack Knight, who posits that political institutions are explicitly negotiated and contracted for by rational actors who have the distributional implications of institutional change uppermost in their minds. See JACK KNIGHT, *INSTITUTIONS AND SOCIAL CONFLICT* 40 (1992). For a recent critique of Easterbrook's view, see Mark L. Movsesian, *Are Statutes Really "Legislative Bargains"? The Failure of the Contract Analogy in Statutory Interpretation*, 76 N.C. L. REV. 1145, 1171-88 (1998).

39. See generally FRED S. MCCHESENEY, *MONEY FOR NOTHING: POLITICIANS, RENT EXTRACTION, AND POLITICAL EXTORTION* (1997).

is willing to make a contribution purely to secure access only if the provision of such information is likely to prove influential with respect to that decision. Further, if lobbyists' information can be influential and legislators care about which decision they make, then such information must be valuable to the legislator.<sup>40</sup>

Austen-Smith emphasizes that "there is no possibility in the model of a quid pro quo with respect to legislative decisions and contributions: money at most influences who gains access, and any policy influence is exerted only through informational lobbying conditional upon being granted access."<sup>41</sup>

Various conclusions follow from these assumptions. I cannot review them in detail here. It is enough to say for now that as a view of the political world, the "information-access" paradigm seems to have two virtues: it fits at least some observed facts, and it generates interesting, testable hypotheses.

A great deal of hard empirical work would be required to test these theories in detail. It is intriguing, nevertheless, that the information-access paradigm fits so well with much of the economic theory of property rights. In particular, Douglass North has described the gains to political sovereigns that accompany shifts in property rights specifications.<sup>42</sup> Empirical research confirms that economic development and growth is associated with stronger property rights.<sup>43</sup> A more elaborate version of this theory was described by renowned political scientist William Riker and co-author Itai Sened. Riker and Sened assume that the sovereign has accurate information that economic conditions are ripe for stronger property rights.<sup>44</sup> This literature represents a first step on the way to flesh-

40. David Austen-Smith, *Allocating Access for Information and Contributions*, 14 J.L. ECON. & ORG. 277, 277-78 (1998) (references and footnotes omitted).

41. *Id.* at 294-95.

42. See NORTH, *supra* note 30, at 139 (describing same sovereign bargain in context of wider theory of institutions); Douglass C. North & Barry R. Weingast, *Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England*, 49 J. ECON. HIST. 803, 817-19 (1989) (detailing ways in which British sovereign benefited from "credible commitment" to various institutional reforms, including "secure property rights").

43. See Stephen Knack & Philip Keefer, *Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures*, 7 ECON. & POL. 207, 223 (1995); DAVID DOLLAR & AART KRAAY, GROWTH IS GOOD FOR THE POOR, 21-22 (World Bank Dev. Research Group 2000), available at <http://www.worldbank.org/research/growth/pdfiles/growthgoodforpoor.pdf>.

44. William H. Riker & Itai Sened, *A Political Theory of the Origin of Property Rights: Airport Slots*, in *EMPIRICAL STUDIES IN INSTITUTIONAL CHANGE* 283, 287 (Lee J. Alston et al. eds., 1996). The authors set out to explain "rulers' motivations to grant property rights." *Id.* at 283. According to Riker and Sened, "property rights increase efficiency by encouraging owners to use assets most productively. Efficiency makes for prosperity, which re[d]ounds to politicians' credit." *Id.* at 300. A comprehensive version of the theory is set forth in ITAI SENED, *THE POLITICAL INSTITUTION OF PRIVATE PROPERTY* (1997). The 1997 volume makes explicit the importance of

ing out the early "naive" economic theory of property rights, which was woefully vague on how political systems actually go about re-specifying property rights in response to opportunities for economic efficiency.<sup>45</sup>

Juxtaposing Riker-Sened with recent research on lobbying, we can see a potentially interesting link between property rights theory and contemporary work on political economy: lobbyists pushing for stronger property rights may at the same time assist legislators by describing changes in the economic landscape. This makes some sense. There is a particular need for high-quality information in the IPR area, where the assets underlying the property rights, as well as the rights themselves, are exceedingly complex. From all indications, this is becoming ever more true.

This view of things finds support in the few detailed accounts we have of IPR legislation. Consider a comprehensive account of the Semiconductor Chip Protection Act ("SCPA") of 1985, co-authored by former Congressman Kastenmeier, chairman of the House subcommittee that drafted and championed the Act. According to the account:

The semiconductor chip industry has been threatened by the problem of chip copying. Congress, before deciding to provide protection to a particular enterprise, must necessarily consider alternative ways in which the industry can or is protecting itself. Knowledge of the industry gained in such an inquiry can indicate whether proposed legislation will involve costs or benefits for the industry; in addition, the analysis can provide a frame of reference from which to consider costs and benefits of protection for society as a whole.<sup>46</sup>

The article reveals a detailed knowledge of the technical and economic backdrop of the semiconductor industry, circa 1985. It is evident from the article that legislators (and their staffs—the co-author was a chief staffer) have extensive contact with industry representatives.<sup>47</sup> Industry terminology abounds, for example. Fa-

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information transfer by "political entrepreneurs," who supply information to political actors about the costs and benefits of changes in property rights. *See id.* at 133.

45. *See supra* note 28 and accompanying text. For some exceptions, see KANTOR, *supra* note 30, at 62 (noting the expected increase in value of land within district predicted the order in which local districts in Georgia adopted a "closed range" rule for livestock); LIBECAP, *supra* note 19, at 29-50 (detailing case of hardrock mineral rights in California, where property rights were progressively better specified as economic conditions changed).

46. Robert W. Kastenmeier & Michael J. Remington, *The Semiconductor Chip Protection Act of 1984: A Swamp or Firm Ground?*, 70 MINN. L. REV. 417, 452 (1985).

47. *See id.* at 432 ("[Congress] had to become familiar with the technological features of the chip and the process by which chips are manufactured."); *id.* at 434 ("Several distinct marketing and executive stages . . . are generally involved in bringing a new semiconductor chip to market."). *See generally id.* at 430-38 (describing the semiconductor industry).

miliarity with industry conditions is apparent throughout. Detailed information transmission lies behind this congressional expertise.

Another telling passage describes legislators' (or at least this legislator's) dependence on lobbying as a source of information:

The lack of opposition to the chip protection legislation may be a good indication that its costs are low. In a democracy, when the costs of legislation are expected to be high and a large number of people are potentially adversely affected, then political resistance to a statutory change will occur as a natural course. The Chip Act was virtually unopposed; not a single negative vote was cast in either the House or Senate. The virtual unanimity which surrounded the Act allows speculation that the new law will entail relatively few costs.<sup>48</sup>

In many other cases, of course, there is tremendous opposition to new proposals. Proposed legislation frequently confers "clear and present" benefits, but also imposes identifiable costs on well-organized interest groups as well. These groups rise up in opposition, producing the sort of "legislative balancing" described by pluralist interest group theorists.<sup>49</sup> A recently proposed database protection bill is a prime example.<sup>50</sup> Partly as a result of a Supreme Court opinion limiting copyright protection in factual compilations,<sup>51</sup> database owners have pushed legislation creating special protection for databases. But they have been opposed (successfully, so far) by other interest groups. In addition to the "usual suspects"—research libraries and consumer groups—the forces of opposition have included some large firms that rely on free access to information for their products and services.<sup>52</sup> Bloomberg News Service is a prominent example. Concerned that the new legislation will make it expensive or impossible to freely disseminate financial information such as stock and commodity prices, Bloomberg has

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48. *Id.* at 457. To be fair, this passage is also consistent with theories centered on the costs of political organization and collective choice; it may show no more than that it was difficult for a widely dispersed group to organize opposition to legislation that imposed small costs on each member of the group.

49. For an excellent description of public choice theory versus the theory of interest group pluralism, see WILLIAM N. ESKRIDGE, JR. et al., *LEGISLATION AND STATUTORY INTERPRETATION* 81-97 (2000).

50. For background, see J.H. Reichman & Pamela Samuelson, *Intellectual Property Rights in Data?*, 50 *VAND. L. REV.* 51 (1997).

51. See *Feist Pubs., Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 363-64 (1991) (holding telephone white pages did not meet constitutional or statutory requirements for copyright protection).

52. The implied skepticism of the phrase "the usual suspects" is not meant to disparage these lobbying groups. It indicates only that they are usually outgunned in legislative debates in terms of money and human resources. Cf. KAY LEHMAN SCHOLZMAN & JOHN T. TIERNEY, *ORGANIZED INTERESTS AND AMERICAN DEMOCRACY* 74-87, 111, 128, 387-89 (1986) (reciting statistics that show consumer groups accounted for only 10% of all interest groups in 1980).

hired lobbyists and actively opposed the legislation.<sup>53</sup> It has been successful so far.<sup>54</sup>

Database protection is not an isolated instance. Industrial designers have long sought a new form of industrial design protection to replace the current ineffective system of design patents. They have been thwarted every time by the auto insurance industry, however, which is concerned lest legally protected auto body parts eliminate the insurers' practice of buying less expensive replacement body parts from third parties.<sup>55</sup>

As these examples demonstrate, the specter of wholesale capture is not always present. Countervailing forces may prevent it. Or, viewed through the lens of information/access theory, many interest groups are presenting conflicting information and elected officials feel too uncertain to act with confidence. Either way, the notion that strong interest groups have captured IP policy is too simplistic in many cases.

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53. See Shawn Zeller, *From the K Street Corridor: Raw Data*, 30 NAT'L J. 3028, 3028 (1998), available at 1998 WL 21794685.

With the battle over copyright legislation set to heat up again in January, Bloomberg, the electronic publisher of financial news, has jumped into the fray and hired two lobbying firms, Royer & Babyak, and Parry and Romani Associates, Inc. Bloomberg joins a long list of legal publishers, research libraries, and consumer groups who argue that proposed copyright legislation would give too much protection to databases, which in many instances are merely collections of facts. Bloomberg is particularly concerned that the legislation could hinder its ability to publish, on its Web site, financial information gathered from other sources. "It could kill electronic commerce," the Bloomberg spokesman said.

*Id.* Bloomberg and its allies are squaring off against a number of information sellers, such as the Thomson Corp. Those companies and their allies have formed the Coalition Against Database Piracy. See *id.*

54. Cf. Reichman & Samuelson, *supra* note 50, at 84-95 (criticizing European Directive creating special database protection regime in Europe, equivalent to the one envisioned in proposed U.S. legislation).

55. See William S. Thompson, *U.S. Design Protection: Discussion of Status and Suggested Proposals*, 24 AIPLA Q.J. 393, 395-96 (1996).

[I]n the past ten to fifteen years, *sui generis* design protection has been vigorously and effectively opposed by a well financed lobby representing the auto insurance interests. Such lobbyists have not only defeated legislation in the United States, but created a virtual standstill to similar initiatives in the European Community. The motivation of the auto insurance lobby is straightforward: by requiring an insured client to use cheaper offshore crash parts, the companies cut costs on replacement parts used to repair vehicles. Setting aside such questions concerning quality of the parts used and who benefits from the cost reduction, effective design protection is viewed as an impediment to this initiative. It is interesting to observe that there is nothing in the current design patent system which precludes granting protection to auto crash parts. Thus, this lobby obviously doesn't oppose design protection for crash parts—as long as it is the current ineffective design patent system.

*Id.*

## IV. JUDICIAL RESPONSE?

Research into the political economy of IPRs is especially important now. Such studies are important in determining whether and to what extent federal courts ought to more actively police IP legislation. Recent calls for a more active “constititutionalization” of IP law<sup>56</sup> track the arguments of some prominent public choice theorists.<sup>57</sup> In this view, courts are a necessary counterweight to inevitable rent-seeking on the part of special interests who lobby Congress. A copyright term incapable of serving as an incentive at any plausible discount rate; a private patent bill tucked into an unrelated piece of legislation granting a long extension for no justifiable reason;<sup>58</sup> in these and similar cases, an inquiry into the legislative process seems a relevant consideration. Many now argue that the Constitution should be invoked to invalidate rent-seeking statutes. In an age of increasing “statutorification” in intellectual property law, the system needs a counterweight where the legislative process is skewed. The intellectual property clause of the Constitution, long dormant, seems the best candidate.

There is broad consensus that industry groups have unusually broad input into the drafting of IPR-related legislation.<sup>59</sup> While this has often been decried,<sup>60</sup> the information/access paradigm sug-

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56. See, e.g., Paul Heald & Suzanna Sherry, *Implied Constitutional Limits on Congressional Power: Construing the Commerce Power in Light of the Intellectual Property Clause*, 2000 U. ILL. L. REV. (forthcoming).

57. See J. Gregory Sidak, *The Petty Larceny of the Police Power*, 86 CAL. L. REV. 655, 667 (1998) (reviewing MCHESNEY, *supra* note 39).

If one accepts McChesney's thesis that rent extraction is endemic to the legislative and regulatory processes, then the Supreme Court must reconsider the function and scope of judicial review from the ground up. If the extraction of privately created rent is an illegitimate purpose of legislation or regulation, then, as applied, any statute or regulation that produces such extraction should evoke the most demanding level of judicial scrutiny under the Due Process and Takings Clauses—if, indeed, the statute or regulation is not presumed to be unconstitutional *ab initio*.

*Id.*

58. For a critique of this particularly clear form of rent-seeking and an application of the constitutional approach sketched here, see generally Robert Patrick Merges & Glenn Harlan Reynolds, *The Proper Scope of the Copyright and Patent Power*, 37 HARV. J. ON LEGIS. 45 (2000).

59. See, e.g., Jessica Litman, *Copyright Legislation and Technological Change*, 68 OR. L. REV. 275, 277 (1989) (noting that “copyright legislation in this century has evolved from meetings among industry representatives”).

60. See, e.g., William F. Patry, *Copyright and the Legislative Process: A Personal Perspective*, 14 CARDOZO. ARTS & ENT. L.J. 139, 141 (1996).

Copyright interest groups hold fund raisers for members of Congress, write campaign songs, invite members of Congress (and their staff) to private movie screenings or sold-out concerts, and draft legislation they expect Congress to pass without any changes. In the 104th Congress, they are drafting the com-

gests a more benign interpretation. What appears to be industry dominance in the formulation of "specific, heavily negotiated compromises"<sup>61</sup> may in fact be—at least in part—a process of information transmission.<sup>62</sup> Recent empirical work shows that lobbyists are particularly interested in shaping the content of legislation, which may explain why they spend an inordinate amount of time with natural legislative "allies" who presumably require no further expenditure to "capture."<sup>63</sup> At a minimum, then, the information/access paradigm supplies an alternative hypothesis. It must be explored before we adopt a uniform "capture theory" in this area of legislation.<sup>64</sup>

### CONCLUSION

This brief Paper states some simple facts. Intellectual property rights are property rights. Firms exchange them and litigate over them, and, to some extent, property rights influence the activities and boundaries of firms. IPRs, like all property rights, are

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mittee reports and haggling among themselves about what needs to be in the report. In my experience, some copyright lawyers and lobbyists actually resent members of Congress and staff interfering with what they view as *their* legislation and *their* committee report. With the 104th Congress we have, I believe, reached a point where legislative history *must* be ignored because not even the hands of congressional staff have touched committee reports.

*Id.*

Despite this general picture, however, the article goes on to describe how the congressman on whose staff Patry served, Rep. William Hughes (D-NJ), committed "a shocking display of congressional independence" by introducing legislation he had drafted himself and "rejecting an industry draft." *Id.* at 142. Patry's own story thus provides evidence that IP legislation may be more complex than a simple "capture" story. In addition, Patry adds statements that can be read as supporting the importance of industry information in legislative drafting: "Industry must be involved in the legislative process . . . Industry understands far better than Congress the 'real world' of how its businesses work." *Id.* at 143.

61. Jessica D. Litman, *Copyright, Compromise, and Legislative History*, 72 CORNELL L. REV. 857, 859 (1987).

62. *See id.* at 871.

Members of Congress worked very hard on the copyright revision bill. They held repeated, lengthy subcommittee hearings, attended numerous executive sessions, and drafted a flood of committee reports. More important, they encouraged, cajoled, bullied, and threatened the parties through continuing negotiations. They mediated disputes and demanded that combative interests seek common ground. Viable compromises emerged from the interminable negotiations largely because of congressional midwifery.

*Id.*

63. *See generally* Marie Hojnacki & David C. Kimball, *Organized Interests and the Decision of Whom to Lobby in Congress*, 92 AM. POL. SCI. REV. 775 (1998).

64. Nevertheless, some IPR legislation is best described as pure rent-seeking. *Cf.* Merges & Reynolds, *supra* note 58, at 53-56 (describing "private" IP legislation, bills aimed at extension of specific patents on the verge of expiration); Patry, *supra* note 60, at 139-44 (describing instances of rent-seeking).

granted by governments. Changes in property rights, like all legislation, are lobbied over, negotiated, and otherwise subject to the political process. Ultimately, courts define property right boundaries. Courts may also be called on to review property rights legislation.

Property rights, firms, institutions, governments: all of these are the subject of extensive study by social scientists operating within the NIE framework. It is time to integrate the study of IPRs into this framework. Those unsullied by exposure to traditional (microeconomics-oriented) law and economics will find it a natural fit. Those who have been frustrated in their efforts to apply the traditional approach to IPRs will be heartened. For here, finally, is an economics literature that makes thorough sense for our field.

